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Lectures.

CLINICAL LECTURES ON ORTHOPÆDIC SURGERY.

Delivered at Bellevue Hospital, New York.

BY LEWIS A. SAYRE, M. D.,

Professor of Orthopædic Surgery and Clinical Surgery in Bellevue Hospital Medical College.

[Reported for the Journal.]

I. POTT'S DISEASE OF THE SPINE.

GENTLEMEN. — As I have several very interesting cases of Pott's disease to show you to-day, I shall devote the hour almost exclusively to a consideration of that subject.

CASE I. The first is one of a child which was kindly sent me two or three days ago by my friend, Prof. Alfred C. Post, of the university, whom it gives me great pleasure to have present with us on this occasion, and who will now give you a brief history of the case.

(Professor Post spoke as follows: The little patient now before you, gentlemen, was brought to my clinic several months ago with disease of the bodies of the dorsal vertebrae, which it had had for about two years previously. For several months before I saw it the child had also suffered from a large abscess in the lumbar region. This I determined to open in the manner proposed by the late Mr. Callender, of St. Bartholomew's Hospital, whose death has been so much regretted on both sides of the Atlantic, and it was followed by complete success.

In the first place, I evacuated the contents of the abscess by means of a small opening, and then with a syringe, passed in through this, distended the cavity with a solution of carbolic acid of the strength of one to thirty. The latter was now drawn off and reinserted three or four times, until the fluid came from the cavity entirely free from pus. Finally, a compress and bandage were applied for the purpose of keeping up moderate pressure, a drainage tube having first been inserted into the opening; and notwithstanding the fact that this slipped into the cavity by accident, and remained there two or three days, there was never the slightest febrile reaction, or any other unfavorable symptom whatever, succeeding the operation. From this date the patient's general health steadily improved, and in a comparatively short time the part had perfectly healed. This method is certainly a very great advance, for in former times we expected hectic fever as a matter of course after the evacuation of such an abscess, in consequence of the blood-poisoning which was so apt to result. Of course the Pott's disease here still remained the same, and it is in consequence of this that I have sent the child to Professor Sayre.)

Dr. Sayre resumed: It is well known that before this admirable method of Callender, which he terms "hyperdistention of the sac," had been devised, death from septicæmia very frequently followed the opening of these chronic abscesses. Here you see the most splendid result that could possibly have occurred in such a case, and I am happy to show it to you to-day as an example of what has been accomplished by the wisdom and skill which so markedly characterized the great and lamented surgeon who was so recently in our midst. For the treatment of the Pott's disease

extension and the application of the plaster-of-Paris jacket are now required; but as this would not be a satisfactory case for class demonstration, on account of the cries and struggles in which the little one would be almost certain to indulge if it were done here, we will postpone the application of the dressing until after the lecture, when it can be done in the ward.

CASE II. The next case is one of the most marvelous that I have ever seen, on account of the terrible character of the disease, and the perfect cure, with almost no deformity whatever, that has been effected. This little girl was sent to me some time ago by one of the physicians connected with the Hospital for Ruptured and Crippled, on Lexington Avenue, on account of a large tumor that had become developed in the lumbar region. When I first saw her she was wearing one of the "braces" employed in that institution in the treatment of spinal disease, and the iron bar of the instrument divided this tumor in the centre. On removing the apparatus and making a careful examination of the parts, I found that the tumor was an enormous abscess, and there was also a large fluctuating tumor in the groin. Knowing full well the dangers attending the ordinary way of evacuating such abscesses (Mr. Callender's method by hyperdistention of the sac not having then been made known to the profession), I determined to lay it completely open in order to give the freest possible escape to the pus, and so made an incision, of some six or seven inches in extent, the line of which you can still very readily see across the back. I then completely filled the cavity with Peruvian balsam, which acts as an antiseptic by reason of the creosote which it contains, and packed it with oakum, and placed the child in the "wire cuirass." The most marked improvement followed the operation, which gave rise to no unfavorable consequences, and as soon as practicable the plaster jacket was applied, which enabled the child to take exercise in the open air. To-day, I am happy to say, the Pott's disease is entirely cured, and I think I have never in all my experience seen such a good result in so severe a case. I have thought it well to bring it before you, therefore, as an instructive illustration of what nature will accomplish when a fair opportunity is afforded her.

CASE III. Now, to show you what nature does when no assistance is given her in the way of appropriate means for avoiding or overcoming deformity, I introduce this young girl, sixteen years of age, who has long been the subject of Pott's disease, and in whom I think we shall find that complete consolidation has already taken place. You see at a glance how short is her stature, and what marked deformity there is in both the anterior and posterior portions of the chest, there being both the "chicken breast" and the protuberance of the vertebra at the seat of the spinal disease so commonly met with in these cases. In order to determine positively whether there is a chance of securing any improvement, however slight, here (which would be the case if complete consolidation had not yet taken place), we will first mark the curve described by the protuberance at the back as she stands upon the floor, and then, suspending her by the axillæ and head, note whether any difference occurs in this. On applying this test we find, unfortunately, that no change whatever is produced in the curvature at the seat of disease (although a little difference is observed in the compensating curves, as they are called), and hence we conclude that it would be altogether useless to attempt

any course of treatment or apply any apparatus for diminishing the deformity in this patient.

CASE IV. The next case to which I would call your attention is one which is still under treatment, although it is now practically well. This little girl, aged six years, I first saw about eight months and a half ago. When fifteen months old she received a fall, and she complained more or less for two years after this, when a projection upon the spinal column was first noticed. At the time that she was brought to me she was unable to stand or to walk, or even to sit up alone. After extension and the application of a plaster jacket, with a head-rest (the seat of disease being in the upper portion of the spine), she at once began to improve, and in a short time showed a tendency to creep. By two months more she was able to creep all about, and a new jacket and head-rest were now applied. In the mean while the respiratory and other functions greatly improved. The apparatus then applied was worn until just two months ago to-day, when it was again removed. For some time the child has been walking by holding on to some object, but it is now beginning to walk without assistance. This is certainly very gratifying, when we remember that seven months ago it could not even stand. Yesterday a new jacket and head-rest were put on.

This case is a very good example of the advantages of the method of rest in the treatment of this affection. Dr. Post, I know, will agree with me in saying that it was formerly an exceedingly rare thing to get a cure in Pott's disease within a year, yet this child is now to all intents and purposes well, though it has been deemed more prudent to continue the use of the dressing for a short time longer. This is by no means an isolated instance, for I have seen quite a number of cases perfectly cured, without any deformity whatever, inside of twelve months. In old times, on the other hand, the treatment always occupied several years, and, despite our best endeavors to prevent it, there was always deformity resulting.

Pott's disease is simply an inflammatory affection of the vertebral bodies and inter-vertebral disks, and it may occur in any individual whatever, whether in a strumous condition or in robust health; of course, it would be more readily developed in the strumous than in the healthy; but even in the strumous I believe that it is of traumatic origin, and may arise from a blow, a concussion, a wrench, or other injury, which in some instances is so slight as to be entirely overlooked. Whatever may be its origin, however, the disease is nothing but an inflammatory process, which goes on until we have softening and caries or necrosis of the bone and disintegration of cartilage resulting. There is, consequently, retention of pus and a vitiated state of the whole system.

Among the characteristic symptoms of the affection is a peculiar grunting respiration, and all the movements of the patient are very significant. The latter are also eminently suggestive of the plan of treatment which we ought to adopt, since every one of them is made with the idea of keeping the affected parts as perfectly at rest as possible. This the patient accomplishes by means of muscular rigidity, and it is in imitation of nature that we must proceed in our treatment. There is one thing in addition, however, which has been found to be of very great service in facilitating a cure, and that is the removal of the weight of the head and upper part of the trunk, which in a

marked degree tends to increase the disintegration. This indication was formerly carried out by keeping the patient confined to bed; while at the same time scotous, issues, and various forms of counter-irritation were employed locally, which, unfortunately, only had the effect of still further reducing the strength and vitality of the patient.

The great advantage of the modern method of the treatment of Pott's disease is that, while the affected parts are kept perfectly at rest by means of an appropriate dressing, the patient is able to take all the exercise in the open air that is necessary, and thus, by steadily building up his general system, greatly hasten his recovery.

The signs of the presence of the disease vary to a certain extent in accordance with its location. Thus, if it is situated high up in the spinal column, there will be more or less cough, sneezing, and difficulty of swallowing, while, if it is a little lower down, there will be cough and pain in the chest, so that in the early stages the trouble is apt to be mistaken for simply bronchitis; if it is further down, symptoms of indigestion will exhibit themselves, which in a large number of instances are attributed to the presence of worms; and if it is still lower down there will be disturbances of the urinary function and pain in the bowels. In fact, the trouble experienced by the patient is primarily at the peripheral extremity of the nerves passing out from the spinal cord at the point affected, and not at the seat of disease itself; and so, whenever our attention is called to any of the above symptoms, and the cause thereof is not perfectly apparent, we should at once make a careful examination of the spine. If there is Pott's disease, the child will show it in his carriage and in the manner of picking objects from the floor, the spinal column all the time being kept in as rigid a condition as possible. If you ask him to jump, you will find that he comes down in a very gingerly manner upon the toes, and not squarely on his heels. I should put you on your guard, however, in reference to one exceptional form, or rather location, of the disease. What I have just said is true of the affection, provided it is situated in the anterior portion of the bodies of the vertebrae; but if it is confined to the sides of the vertebrae, as occasionally happens, the ordinary symptoms are not produced, and we can cause concussion of the spinal column to be made without causing the patient any inconvenience. We should not rest satisfied in any case, therefore, until we have carefully examined both sides of the spinal column.

CASE V. In the person of this young man I will now exhibit to you each detail of my method of treating Pott's disease by means of the plaster-of-Paris dressing. In the first place, we carefully mark out, by a narrow strip of lead fitted accurately to the part, the amount of curvature while the patient is standing upon the floor, so as to compare it with that which is noticed after suspension. Then, having put on him an elastic shirt, which fits like the skin itself, we suspend him by the head and axilla by means of the apparatus with which you are all now so familiar, and note the difference in the line of the curvature which is thus produced. Before commencing the application of the plaster dressing, a pad should be placed on either side of the projecting spinous processes. The plaster bandages should be made of some material having coarse meshes, such as crinoline, cross-barred muslin, or cheese-cloth, into which recently burned and perfectly dry plaster of

Paris should be thoroughly rubbed. If the weather is damp, it is better to put them in an oven for an hour or two before using, so as to evaporate all the moisture from them.

In making the suspension, the consideration of greatest importance is, *never to carry it beyond the point where the patient is perfectly comfortable.* When the point of greatest comfort to the patient has been reached, we must secure him permanently in the position that he then occupies by means of the plaster bandages carefully rolled around the trunk. As the bandages are being applied, an assistant presses each fold as closely as possible against the body, so as to accurately adapt it to the conformation of the surface, expel all air, and make the dressing perfectly smooth and even. If the patient has recently eaten a hearty meal, it will not be necessary to employ a pad over the stomach and abdomen; but if this is not the case, one should be placed in this position until the plaster has set, so as to allow space for a more distended condition of the parts. In the case of women, and especially of young girls approaching the age of puberty, pads should also be placed over the mammae during the application of the plaster, so as to avoid all pressure upon them by the completed jacket.

In order to facilitate the drying process, I used formerly to employ a hot iron rolled over the surface; but more recently, at the suggestion of Professor Post, I have made use of simply a fan for this purpose, and with equal advantage. The great principle in this method of treatment, let me repeat, is simply to suspend the patient until he is entirely comfortable, and then keep him in this position by means of the plaster jacket, applied as I have described. If you will attend to these two points with the greatest possible care, you can always command success.

When I was in Cork, on the 16th of October last, I saw, in consultation with Mr. McNaughton Jones and Dr. R. De La Cour Corbett, an officer of the British army who had been suffering for two years from Pott's disease, and who had just come home from Bengal in order to sell his commission, as he felt that he was utterly unfit for any further service. Just as he was about to be dismissed from the service, it was suggested to him by Dr. Corbett to try Sayre's plan of treatment by suspension and the plaster-of-Paris jacket. Dr. McNaughton Jones, of Cork, was called in consultation, and assisted Dr. Corbett in applying the jacket on the 4th of May, 1879. At that time he was unable to stand without support, and suffered constant and severe pain even when in the horizontal position, and had a sharp, angular posterior projection in the lower dorsal region. In two days after the application of the jacket he could walk, and in less than one month he was actually able to do full duty as an officer of cavalry, to which branch of the service he belonged.

In this case, the patient was literally rescued from ruin by the plaster jacket; for if it had not been for that, he would have been obliged to sell his commission, and, being a younger son, he had nothing else to depend upon for support. I found that he had continued to do perfectly well from the first, and that there was now every prospect of a speedy and complete cure in his case. He was anxious for me to put a new jacket upon him, but as the one applied by Drs. Corbett and Jones still fitted him in the most admirable manner, there was not the slightest necessity for making any change. Of

course, in the case of growing children it is advisable to renew the dressing more frequently.

But now to return to the case in hand. The patient tells us that he feels perfectly comfortable, the application of the bandages having been completed; and you observe that before the plaster gets firmly set I go in front of him, and with the palms of my two hands press the casing more closely in to the body at the iliac fossae, in order that there may be no pressure upon the bony prominences. This, you will remember, I have already guarded against in part by the adjustment of the pads, to which I previously called your attention. It is on attention to such little details that the success of this treatment in a great measure depends; and if you will only bear them in mind I am confident that you will be able to secure better results by means of it than by any other that has yet been devised.

My usual practice is to place the patient on an air-bed as soon as the dressing is completed, and to keep him there until the plaster has hardened perfectly; but as there is no such bed at hand here, and this patient has stated that he did not feel fatigued, I have allowed him to remain suspended until this hardening has taken place. Before taking him down, we turn the knit shirt over the jacket, at the top and bottom of the plaster casing, and apply a single turn of the plaster bandage over it, so as to make a cleaner and neater finish, and then our jacket is complete. The patient is now able to walk about in a perfectly natural and easy manner, and also to raise himself upon his toes and come down on his heels with a jar, — a thing that was altogether impossible for him to do before the apparatus was applied. Now, however, it gives him no pain whatever.

Original Articles.

DIFFICULT DENTITION.¹

BY EDWARD M. BUCKINGHAM, M. D.

THE subject of the following paper was presented to me by my having the care of a case which, while in its main features not unusual, presented certain points of interest, one of which, I think, has not been much discussed, and another, though a matter on which every one has an opinion, depends for its understanding upon certain physiological facts, which I have not seen grouped together.

A boy of one year, having two teeth, and never having fully recovered his strength since being sick with cholera infantum, six months before, had been ill for some days. His diet was a thick mixture of Ridge's food and water, with an equal amount of milk. He had diarrhoea, meal and cheese being mixed with the feces, vomiting, and cough, for which examination of the chest gave no explanation. Milk and water, equal parts, were ordered, with the addition of an alkali. Ridge's food was omitted.

Second day. No vomiting after the second meal, and diarrhoea ceased. Tympanitic abdomen and much rigidity of legs. Fingers in mouth and swollen gum over the middle superior incisors. I cut the gum.

Third to eighth day. Skin of extremities red, shining, swollen, and tender, but without fever. These appearances ended in a sharp line toward the trunk, advanced over the whole surface, faded without desquama-

¹ Read before the Boston Society for Medical Observation, December 1, 1879.

tion, and completed their course in three days. Once only, a little cheese in the dejections. Appetite improved, and in eight days he was well, but the teeth had not appeared.

Thirteen days later I learned that directions had been followed for two days only, during which time he was well; then the proportion of milk had been increased, and cheese had appeared in the faeces. In consequence the alkali had been abandoned and Ridge's food substituted. Matters not improving, milk had been repeatedly reduced, so that for two days the diet had been merely Ridge's food and water. During these days the dejections had been mostly meal, the child had been crying, and the fingers had become rigid. The same diet was ordered as before. He stopped crying on getting it, and had a comfortable night.

The next morning the gums were rather swollen, nowhere much so, and he was cross and restless. At midnight he began breathing with a grunt, and early in the following morning the head was hot, fontanelle throbbing violently, pupils contracted and not reacting, lips livid, jaws set tight, and abdomen tympanitic; the gums were swollen, especially at the site of the old cut. He having been in a warm bath without effect, I again cut in the same place, but owing to the contraction of the jaw, or my own clumsiness, without hitting the tooth. There was more bleeding than usual. During the next fifteen minutes the child got his first sleep in twenty-four hours, and the fontanelle ceased throbbing. On waking at the end of that time, he received an injection, evacuating wind and a little faeces of good appearance. About noon, Dr. C. P. Putnam saw him with me, and made some incisions crossing mine. The pupils were then reacting much better than in the morning, but there were fever and rales in the chest. 6.30 p. m. Had taken food, and had a green dejection. Temperature higher; gums more generally swollen and red, and had bled repeatedly. I cut over four teeth of the lower jaw, and he was bathed and oiled. Three hours later, the temperature still rising, I cut two more teeth, thus completing the incisions wherever the swelling was marked, and he was again bathed. Rigidity continued, and an hour after midnight he died.

An autopsy was made fifty-seven hours after death, Dr. Draper being present. The fontanelle was much sunken. The brain was very much injected; not much serum in the ventricles. No pathological changes. Kidneys and liver normal. Lungs engorged in lower lobes, but crepitant. Calvarium cartilaginous. Heart, bladder, and intestines not examined.

Although the case is, excepting for the continued bleeding, by no means uncommon, it illustrates certain points in the treatment of children, notably gum cutting, the use of starch, and the difference in physiological age. Twice during my attendance the gums were cut. On the first occasion there seems to have been no effect, the improvement being remote, and after much trouble. On the second, the effect, though only temporary, seemed for the moment to be brilliant, the more or less comatose condition of several hours disappearing at once in sleep, the violent throbbing of the fontanelle diminishing from the first, and the pupils, which were greatly contracted and altogether irresponsible to light, being, when next examined, much better in both respects. It remains to be proved that the relief was consequent upon the incisions, but the con-

nection was certainly interesting. That this one cut was not the only thing wanting is shown by the death, which may or may not have been owing, in part, to the delay in completing the incisions. It should be stated, however, that the swelling of the seat of the later incisions was but slight until late in the day.

I have cut into swollen gums on twenty-one different occasions. Of course, this number is altogether too small to be regarded as affording anything more than a slight contribution to the study of the subject, and yet the study of these cases may not be without interest. Of them, one may, I think, be fairly subtracted, because the indications for it were not very marked, and the failure of what had been done as giving a bare chance of relief ought not to be compared with cases in which there was positive expectation of it.

Of the remaining twenty occasions, in one, the first incision in the reported case, the cut entirely failed. In one, the group of cuts on the last day of this patient's life, the incisions, at first promising well, finally utterly failed. The remaining eighteen were all followed rather closely by a certain amount of improvement.

In a few of these cases I have delayed cutting, hoping to reach the desired end by regulating diet, and this may somewhat alter the value of the statistics. It is, however, my impression that in those cases in which I have not been allowed to use the gum lancet improvement has been less rapid. In another group of these eighteen cases, gum cutting has constituted the whole treatment, and in three at least of these last, the fretful child of the previous twenty-four hours has recovered its temper and spirits within an hour, and has had an improved appetite for its next meal, or the next but one.

Two cases seem worthy of especial mention. One, a little girl, still walking and speaking with difficulty, apparently remembering the relief given on a similar occasion with another tooth, asked me to cut her gum. That this was a request, and not an exclamation, was made clear by her coming toward me as she spoke. The other, whose gum I had cut at fourteen months, during the absence of his physician, who had afterward repeated the cut, came to his father, when suffering from a later tooth, with a knife from the dinner table, and a request for the operation. These two cases I allude to because in them the relief to suffering must have been considerable and immediate.

The case we have been considering has for its one unusual, not unique, feature bleeding from the gum, and the cause of this bleeding seems worth investigating. There was an unusually great, but by no means very great, loss of blood at once, and during the afternoon the cut repeatedly oozed, though in the opinion of the nurse to no great extent. This had the effect, when I decided in the early evening to extend the cuts, to make me do it half at a time, in order that I might not have too great a bleeding surface to do with in case of accident, there being still two molar teeth over which I then thought the gum needed cutting, which was done a few hours later. Now the one positive thing shown by the autopsy was that the brain was overcharged with blood, and it has since suggested itself to me that anything that would have helped to restore the natural condition of things there, and anything that would have diminished the uneasiness in the gum, and so lessened the grinding, would have lessened

the probability of bleeding; that is, that there would have been less chance of bleeding had the incisions been finished at once. I offer this as a possible explanation of this case of bleeding, not of all cases, and to ask for criticism.

Then the question of the diet of this child is an interesting one. I hope we shall learn from some one present if teething never causes disturbance in nervous children who are properly fed and cared for. But it is certain that ill-fed children have the reputation of suffering most. Still we hear of so many children who eat all sorts of things and are well, that the question of starch digestion is interesting, and especially so in view of the fact that many children get it in small quantities as an adjunct to milk, and are reported as thriving. In consequence, I have searched for reports of experiments bearing on the subject.

Although the saliva, even of very young children, has been reported to have the power of turning starch into sugar, yet the food must be in contact with it but a very short time before passing into the stomach, and in the stomach of adults at least its diastatic action seems to be hindered.¹

Prospero Sossino,² of Florence, found that the fresh infusion of the pancreas of five young sucklings, dogs, rabbits, and a cat, had no diastatic action upon starch even after a long time, while the similar infusion made from adults transformed it almost immediately. He made similar experiments on the enteric juice, though with less satisfactory results, but some of them appeared to show him that the intestine transformed starch at an earlier age than the pancreas. Sossino himself raises the question how far we may reason here from analogy.

Korowin,³ at the children's clinic at St. Petersburg, made examinations that, in connection with those of Sossino, appear to be of more value than either alone, inasmuch as both reached somewhat the same result, the one through children who had died sick, the other through animals who had died well. Korowin tried to turn starch into sugar by means of the pancreas of children who had died of different diseases, mostly of the chest and intestines, and who were examined at different periods after death. He found no diastatic action during the first month, a little during the second, enough for quantitative analysis at the end of the third, and the quality fully developed at the end of the first year. His report, which is valuable, would, I think, be more so if he had divided his intestinal and non-intestinal diseases into two groups.

I am indebted to the note-book of Dr. G. M. Garland for an account of examinations by Dr. Hans Wegschneider, who succeeded in converting starch into sugar by means of the fresh faeces of sucklings. He sometimes got a reaction in an hour, a strong one in twenty-four hours. These experiments agree with those of Sossino on the infant intestine. The value, however, of Sossino's experiments on the intestine is diminished by the observation of Paschutin,⁴ that the mucous membrane of other organs in dogs has diastatic power.

Beside these experiments in cooking starch in sections and in infusions of organs, there remain those

made directly upon the intestinal contents of young starch-fed children. In twelve autopsies, made by M. Guillot, of children dead from different diseases, he found that both the small and the large intestine contained starch, as shown by a deep blue with tincture of iodine. I believe that there is a fuller account of these autopsies than I have been able to find, but that the children were quite young appears probable from their being quoted by Valleix⁵ in an article based on observations on the newly born. Zweifel⁶ examined the body of a seven days' child, born at term, and fed exclusively on Nestlé's *kindermehl*. The contents of the stomach were slimy and swollen, containing sugar and especially starch, which through its swelling had pressed the stomach out of place. The large intestine contained only unaltered starch. It would seem from this report that the child must have been liberally supplied with it, but it is to be observed that the remaining parts of the diet were disposed of. One analysis⁷ of the *kindermehl* shows sugar, fat, salts, etc., and thirty per cent. starch and dextrine. Other analyses give little starch.

Of course, in any experiments made at an autopsy, we are dealing with the organs of the sick, and it is always a fair question how much the sickness has altered the conditions. While we may have to wait a long time for the combination of a group of early autopsies in starch-fed babies, dead from violence, yet meanwhile we can examine the faeces of living children.

Prospero Sossino made ten such examinations, as follows:⁸ (1.) Sick child of three months. Nestlé's *kindermehl*. Starch shown in faeces by iodine and microscope. (2.) Enlargement of glands of neck, atrophy and diarrhoea at six months. Diet lactose. No starch in faeces. (3.) Well except for club-foot. Three months. Lactose. Strong blue color with iodine. (4.) Condition not stated. Fifteen months. Beef tea and lactose. No starch in faeces. (5.) Convalescent from pneumonia. Five years. Starchy food. A trace of starch in faeces. (6.) Erythema and rickets. Three years. Milk and starch. Faeces afford strong evidence of starch. (7.) Condition not stated. Three months. Mother's milk and bread. Faeces contain starch. (8.) Condition not stated. Twelve months. Milk and flour. No starch in faeces. (9.) Condition not stated. Age four and one half months. Groats, corn flour, and milk. Starch abundant in faeces. (10.) Condition not stated. Ten months. Beef tea, yolk of egg, milk, and twice a day one teaspoon of arrowroot. Faeces contain a little starch.

It is interesting to notice that the pneumonia-convalescent and the patient with empyema and rickets did not digest all their starch, though far beyond the age at which Korowin's examinations would lead us to expect that they would; also that the ten-months' child, health unknown, failed to dispose of two teaspoons of arrowroot, half at a time, and to observe that he was taking not merely arrowroot, but a mixture of four different articles.

The most valuable cases of the series, as bearing on digestion under ordinary circumstances, are the five-

⁵ Cliniques des Maladies des Enfants nouveaux nés, page 491, Paris, 1838.

⁶ Klinik der pädiatrik Studien und Vorlesungen, L. Fleischman, Vienna, 1875, s. 141.

⁷ Klinik der pädiatrik Studien und Vorlesungen, L. Fleischman, Vienna, 1875, s. 142.

⁸ Practitioner, x. 11.

¹ Dalton, pages 113, 114, edition 1867.

² Practitioner, ix. 155.

³ Centralblatt für die medicinischen Wissenschaften, No. 17, 1873, s. 261.

⁴ Centralblatt für die medicinischen Wissenschaften, 1870, s. 560, 577.

months' boy, well but for club-foot, who passed unaltered starch, and the three children of twelve to sixteen months, of whom one at least was ill, who digested it.

During the past two weeks I have tried to repeat these experiments, but being unwilling to be the means of making young children eat starch, and not caring to experiment except with well children, have but one case to report. This is a perfectly healthy boy of eleven months, having five teeth, and eating Indian and oat meal, bread, cracker, and milk. I have repeatedly examined his feces with iodine, always with a negative result.

It seems to me that in examining feces for this purpose, either sick children should be rigorously rejected, or at least they should be arranged in a separate group. Such statistics, though less numerous, would be more valuable. It seems to be shown by this group of experiments that while there may be some question as to what is the earliest age at which starch is digested, it certainly is, in some children, in very small amount before the third month, and that as a rule children cannot digest it before the second year, perhaps later, to the same extent that adults can. These results seem to be reached most definitely by the experiments of Korowin. We may get still more definite ideas with increased knowledge of the infant intestine. The examination of recent infant feces seems also a promising field of inquiry. But we can never arrive at exact results owing to what has been called "the difference of physiological age" in children at the same period after birth,—a difference perfectly well recognized. Compare, for instance, the case with which this paper was begun; a year old child, with two teeth, who passed Ridge's food unaltered through the bowel, with the other boy of eleven months, who had five teeth, and whose feces gave no reaction with iodine, in spite of bread, cracker, and meal. It is well known that many physicians are in the habit of ordering starch in small quantity with milk, and getting good results, and it has been shown by Dr. Putnam¹ that starch so given may make milk more digestible without being itself digested. It seems to be desirable, where this practice is followed, to have it thoroughly understood by the attendants that they are dealing, not with a food, but a drug, and a powerful drug, in order to hinder such abuse from ignorance as in the reported case in which starch was not recommended at all.

SLIGHT LACERATIONS OF THE PERINEUM.²

BY G. H. LYMAN, M. D.

FOR some years past I have been more and more impressed by the frequency of perineal ruptures,³ and with the added experience there has come an increased sense of the importance of the complex symptoms,—the serious derangements in the health of females, induced by these diseases, even when they are apparently but trivial,—and I therefore am glad of the opportunity offered me to ask the attention of the society to the subject.

The question of the need or the propriety of sutures for incomplete lacerations at the termination of labor is often raised in our societies and journals. Many excellent and experienced obstetricians believe that it is only necessary to tie the patient's knees together, and the rent will heal; and so it does; but after many years of observation, in private and hospital practice, I am sure that I have never seen a single instance of union by first intention where sutures had not been used, but always have found the healing to be by granulation, with more or less extensive cicatricial surfaces. It will be claimed by no one when the rupture is of any extent, through the perineal body, for instance, that it is unimportant; but the belief is quite common that a slighter laceration is really of no consequence whatever, and that neither patient, husband, nor physician is ever the wiser for it. As to the last of the three, this would seem to be pretty generally true; but there are few husbands who are not aware of the difference, though they may not proclaim it publicly, and fewer wives who are not sufferers from it. It is, indeed, a fundamental error, and one which, like many others connected with obstetrical practice, it is of great importance to have corrected. No laceration extending beyond the fourchette sufficiently to leave a recognizable cicatrix is unimportant, for no such lesion is without injurious results in many ways, and it really is high time that the practice now so generally considered satisfactory should be reviewed. The remedy for the lesion is so simple, and the consequences of its neglect often entail so much suffering, that to me it appears absolutely criminal for any obstetrician to leave his patient without applying it.

It may seem that I am attaching altogether too much importance to a lesion which by many is regarded as the normal condition of women who have borne children; but a very little reflection, certainly if fortified by more of practical observation, will, I feel confident, induce such to change their views. I say practical observation, and here comes in the very difficulty, the real reason, as I believe, for the indifference and disbelief. I would ask gentlemen, especially those engaged in extensive obstetric practice, how often they are permitted, or even if permitted how often they think it worth their while, to examine the perineum a month or two after labor. The answer of most of them will doubtless be, never. The so-called trifling aches, ails, and discomforts which so often follow ordinary childbirth are supposed by most women to be the necessary results of the trial which they have recently undergone; and even when, after the lapse of a considerable period, their medical adviser is consulted, the chances are very great that the cause of the reflex symptoms is either overlooked or ignored; the patient is comforted with the assurance that she is only a little run down, and only needs a little tonic treatment. Those, however, who, either because of special attention given to gynecology, or from the opportunities which large hospital practice afford, have daily occasion to examine freely know full well how much of discomfort and even positive suffering may be traced directly to this cause, or, if disposed to doubt, will, I am sure, soon confess their error, after their attention is more decidedly directed to it.

What is the use of the female perineum? Manifestly to give support as a floor to the contents of the pelvis, the bladder, the rectum, the uterus, and ovaries. This would seem almost too absurdly elementary to re-

¹ Boston Medical and Surgical Journal, August 1, 1873, page 81.

² Read before the Boston Society for Medical Improvement, December 8, 1879.

³ Estimated by Schroeder as occurring in over one third, and by Olshausen in over one fifth, of all parous women.

peat here, until the farther question arises, How much of this floor may be weakened or destroyed without injurious results? My answer to which is, *Not a single line.*

If the rupture extends into the rectum, no one thinks of questioning the unfortunate results; if it extend only through the sphincter vaginae, a certain number content themselves with the idea that the woman is lucky that it went no farther, and that no great difficulty need be apprehended; if the rupture be still more trifling, involving either none at all or only a portion of the fibres of the sphincter, hardly any one of those I have mentioned would give it a second thought.

It is this tendency to ignore the importance of these slighter ruptures which I would especially protest against. The unpleasant results are of course proportionate to the extent to which this barrier to the pelvic outlet is weakened; but what I wish to insist upon is that no part of that support, however slight it may seem, can be removed without weakening in a corresponding degree the floor itself, and thereby originating nervous and circulatory disturbances. The general relaxation of the vulvar orifice and subinvolution of the vagina which are present after the most perfectly normal labor are in themselves quite sufficient; but when to these there is added a rent which has healed not by union, but by cicatrization, the difficulty is increased to a manifest degree.

The more common results which may ensue, if enumerated somewhat in the order of their gravity, and more or less likely, in proportion to the extent of the laceration, are, primarily, septicæmia, and, secondarily, sterility, cystocele, rectocele, and prolapsus, with consequent derangements of the pelvic circulation, as shown by endometritis, cervicitis, cystitis, and leucorrhæa; imperfect coition, pruritus, vaginal flatus, and extensive reflex neuralgic irritation from the cicatrices. This is a formidable list, but it might be extended without exceeding the reality. Of course, all do not occur, or many of them, perhaps, in every case, but in the majority of cases one or more of them are sufficiently common. In many patients a very trifling laceration, as may be readily demonstrated by placing the patient upon her back with her knees flexed, will allow both anterior and posterior vaginal walls to prolapse sufficiently to separate the labia and expose the whole length of the urethra, without any manual interference. This of course cannot happen without more or less of dragging upon the uterus; any descent of the uterus must involve interference with the pelvic circulation, and its sequences of endometritis, cervicitis, and leucorrhæa. If the laceration involves the vaginal sphincter, coition is necessarily imperfect, the seminal fluid is less likely to be retained, the muscular depression of the clitoris upon the male organ is interfered with, to the annoyance and disappointment of one of the parties at least, from unsatisfied excitement of a nervous system already sufficiently hyperæsthetic. In the slighter lacerations, the most common difficulty results, perhaps, from the presence of cicatricial tissue at the posterior commissure. In simple lacerations of the cervix uteri, this has been proved to be the cause of intense neuralgia from the strangulation of nerve fibrils in the cicatricial tissue, by the prompt relief which has followed the excision of the cicatrices for the closure of the separated lips of the cervix. Every surgeon is familiar with similar cases of reflex action. Even deep etherization will sometimes fail to subdue

entirely the spasmodic movements caused by the pressure of a Sims's speculum upon these cicatrices at the posterior commissure, as I have often had opportunities to observe. This being so, it is not to be wondered at if the unfortunate subjects of even a slight neglected laceration should suffer at times from reflex neuralgia of one or all of the pelvic viscera.

The subject might be elaborated much farther, especially in the direction of its mental phenomena, but my object has been simply to call your attention to the subject. That object will be attained if I succeed in awakening any interest in what I am forced to believe is a very serious mistake,—the frequent neglect of obstetricians to inspect thoroughly the perineum immediately after labor, and if there be found any laceration, however slight, to introduce deeply a sufficient number of sutures to retain the edges in contact, exclude the lochial discharges, and allow the parts to heal by first intention instead of by granulation, with its necessary sequel, cicatricial induration. It is but the work of a moment, from the benumbed condition of the parts almost painless, and may save one of the parties much severe suffering, and both of them much of subsequent annoyance.

Elsewhere this subject is attracting a good deal of attention, and those who may care to pursue it farther will find an admirable paper by Dr. Reamy, of Cincinnati, in the last volume of Transactions of the American Gynecological Society.

RECENT PROGRESS IN OBSTETRICS.

BY W. L. RICHARDSON, M. D.

Pilocarpine in Obstetric Practice.—During the past two years obstetricians have been using pilocarpine quite extensively in obstetric practice. The results have been in some cases very marked, often times to the advantage, but occasionally to the disadvantage, of the patient. Among the most valuable experiments which have been reported are those of Dr. Marti, who has arrived at the following conclusions¹ after many experiments on pregnant women and animals. He has found that subcutaneous injections of pilocarpine have had only negative results when used on pregnant women or animals. In cases, however, in which the female or animal is already in labor or near labor, subcutaneous injections of this drug have had the power of setting up uterine contractions. When such contractions have occurred, they have usually appeared very soon after the injections were made. At first they increased in frequency, but the contractions soon became stationary, and then suddenly altogether ceased. He was convinced that pilocarpine was powerless to produce premature labor, but did have more or less influence on the contractility of the uterus when administered subcutaneously at the end of gestation or during labor. He found, however, that the contractions produced by the use of pilocarpine were not very strong, and in some cases failed to effect a delivery of the fetus.

Dr. Bidler² has seen most favorable results follow the use of pilocarpine in cases of marked œdema of pregnancy, while prescribing it for patients suffering from œdema of the face, extremities, and labia; he has

¹ Le Progrès méd., May 10, 1879.

² Medical Times and Gazette, September 6, 1879.

never seen uterine pains excited by its use, although the oedema very rapidly subsided.

Dr. Sönger has reported¹ three cases in which he ordered injections of pilocarpine for the relief of puerperal eclampsia. The convulsive attacks were relieved, but almost immediately after the injection there were observed most marked symptoms of suffocation, owing to the patient's inability to swallow the amount of saliva and mucus resulting from the use of the pilocarpine. He has come, therefore, to the conclusions that while this drug is most valuable at the outset in cases of eclampsia, and when the convulsive seizures are slight, it is unquestionably contraindicated in all cases in which there are symptoms of impending coma.

Anatomical Proof of the Existence of the Cervix Uteri during Pregnancy.—Dr. Sönger (Leipsic) has contributed a most valuable paper² on the existence of the cervix uteri during pregnancy. After going carefully over the previous discussions on this subject by other writers, and especially criticising the views of Küstner and Bandl, Dr. Sönger gives the detailed account of an autopsy made on a patient who had died suddenly during an eclamptic seizure at nearly the end of the ninth month of her pregnancy. Caesarean section was at once performed by Professor Credé. The plicae palmatae of the cervical mucous membrane were intact, and the fetal membranes, covered with the decidua, ran down close to the edge of the mucous membrane of the cervix. There was a well-defined line marking where the cervix ended and where the lower segment of the uterus began. No intermediate space could be found, such as Bandl and Küstner insist lies between the inner os and the ring of Müller. The anatomical appearances in this case supported strongly the view that the cervix uteri persists during the whole of pregnancy, or at any rate until towards the very end. A careful microscopical examination in this case subsequently confirmed this view, and positively contradicted the old theory that the cervix is gradually taken up towards the close of pregnancy, and in that way helps to enlarge the lower segments of the uterus. There was, however, found in this case no elevated ring at the junction of the cervical mucous membrane and that of the lower uterine segment, but the two merged directly the one into the other. The dimensions of the vaginal portion of the cervix were, namely: anterior wall, 1.5 centimetres (.6 inch); posterior wall, two centimetres (.8 inch); breadth of the upper part of the cervix, 2.5 centimetres (one inch).

Dr. M. Thiede (Berlin) claims that his observations have shown conclusively that the ring of Müller and the inner os uteri are really identical. He has observed in autopsies the decidua vera attached along the line of the upper edge of the cervical canal. Microscopically examined, he believes that it is always possible to distinguish the lower uterine segment from the cervical mucous membrane.

Ligation of the Umbilical Cord.—The question as to the proper time for ligating the umbilical cord, which Dr. Buchli raised in 1875, has given rise to a great deal of discussion and some very valuable and practical experiments. Exactly how much extra blood the fetus gains, if the ligation of the cord is delayed, is still a disputed point, Professor Zweifel, of Erlangen, claiming that the loss amounts to one hundred grammes,

while Meyer, of Copenhagen, gives as the result of his experiments a loss of only sixteen grammes. The truth probably lies between these two extremes, as the observations of Dr. Hofmeier, of Berlin, would lead us to believe. By means of a carefully adjusted weighing machine he was enabled to observe the gradual gain in thirty-two cases, the infants being placed on the scales the moment they were born, and the balance being carefully watched until the cord ceased pulsating. He gives as the result of his experiments an average gain of 63.6 grammes.

Schüicking claims that this surplus blood is needed by the child, inasmuch as by the first inspiration of the child the blood is drawn into the thorax, and the blood-vessels outside of the thorax are necessarily left empty. With this idea he strongly deprecates allowing a hæmorrhage from the funis with a view of relieving the asphyxia of a new-born child.

It is well known that children at first lose weight after birth. Hofmeier, of Berlin, found that children whose cord was tied late lost one per cent. less of their weight than other children, and that they also began to gain in weight from one third to one half a day sooner. Meyer, however, claims that these results only obtain in children weighing over three thousand five hundred grammes.

Riehemont agrees with Schüicking as to the value of the blood contained in the placental vessels for the perfect establishment of the infantile circulation, and therefore deprecates strongly the advice given by some writers who favor the permitting of hæmorrhage from the funis with a view of relieving the threatening asphyxia. In such cases the flow of blood from the placenta towards the child should be encouraged, and any cutting or ligation of the umbilical cord should be delayed as long as possible. He also claims that by so doing the subsequent removal of the placenta is facilitated.

Dr. Porak, in an admirable article on the jaundice of new-born children, takes the ground that the affection is, as a rule, of hæmic origin, and that those children are more apt to have it in whom the funis has been tied late, — a fact which he thinks strongly corroborates his idea of its being due to a hæmic origin rather than to its being dependent on any hepatic obstruction or on any peculiar condition of the hepatic circulation.

Dysuria in Childbed.—Engle gives³ the result of his study of 1325 cases in which there was a retention of urine after delivery which lasted for a longer or shorter time. Of these, 600 were primiparae and 725 multiparae. In 35.3 per cent. of the primiparae it was necessary to use the catheter, while in only eight per cent. of the multiparae was it necessary thus to draw off the water. This dysuria he ascribes to the presence of lacerations which so frequently occur in first labors. No matter how slight the laceration, it will give rise to an inflammatory process which extends to and irritates the sphincter fibres, and thus causes a tonic spasm. Later, when the inflammatory stage is passed and the laceration has become an ulceration, the spasm ceases. In ninety per cent. of the cases examined he was able to trace a direct relation between the spasm and a laceration. In 212 cases of primiparae the laceration was near the urethra in 28; in the bubi of the urethra in three; the urethra and perineum

¹ Archiv für Gynækol., xiv, 3.

² Archiv für Gynækol., xiv.

³ Centralblatt für Gynækol., 1878, 25; Archives of Medicine, April, 1874.

were together affected in 16; there were ruptured perinaei in 103; condylomata and syphilitic ulcerations were seen to be more or less torn in 10. In only 22 could no laceration be found. Among the 54 multiparae 16 had a lesion near the urethra, 23 a laceration of the perineum, five condylomata or syphilitic ulceration, and in 10 nothing could be seen.

The treatment was such as would tend to reduce the spasm. Pieces of ice were introduced into the vagina, and the meatus was irrigated with douches of warm water. The passage of large-sized bougies into the urethra was often very useful. While investigating these cases Dr. Engle observed that a distended bladder had considerable influence on the involution of the uterus, and also predisposed to secondary hemorrhage. In the 278 cases of dysuria examined there were 52 in which there was more or less secondary hemorrhage.

Condition of the Uterus at the Placental Site.—Dr. George Roper calls attention¹ to the fact that, no matter where the placenta is attached, there is always an induration and thickening of the uterine tissue at the site of its attachment. In cases of placenta previa there will be found a well-marked induration around the entire circumference of the internal os uteri. In cases where there is only a partial placenta previa the obstetrician can easily detect this induration by comparing the feel on the side to which the placenta is attached with that on the opposite side. The result of this induration is to render that part of the uterus unyielding; and hence Dr. Roper calls the notice of the profession to the necessity of using great care in effecting any forced delivery in such cases of placenta previa, the tissue being much more liable to serious lacerations than in other cases where there is no low placental attachment, and no induration of the tissues.

Hospital Practice.

BOSTON CITY HOSPITAL.

CASES TREATED BY THE LISTER METHOD: SERVICE OF DR. GAY.

REPORTED BY W. H. HOLMES, M. D., HOUSE SURGEON.

Buboes.—CASE I. Samuel W. entered the hospital August 22, 1879, with an indurated mass in his left groin the size of a hen's egg. There was a creamy discharge from the urethra; there was no sore to be seen on the penis, nor could any history of infection be obtained. A blister was applied over the bubo, but with no beneficial effect. August 31st, Dr. Gay made an incision four inches long and removed a mass of indurated and enlarged glands. Full "Lister" precautions were observed, except that on one occasion a non-disinfected hand was brought into contact with the wound. Then carbolyzed silk sutures were put in, a drainage tube inserted, and a Lister dressing applied. On the fifth day after operation, the scrotum and penis were attacked by phlegmonous erysipelas, which lasted about two weeks. At no time did there appear to be any erysipelas about the edges of the wound. Sutures and drainage tube were removed on the tenth day. No pus was seen until the seventh day, and there was only a very small amount during the progress of the case.

The Lister dressing was omitted on the fifty-sixth day, having been changed seventeen times. On four or five occasions only were the dressings stained through when they were changed. The wound had healed at the end of the eighth week.

CASE II. Nicholas Q., aged twenty-three, was admitted to hospital August 25, 1879, with a bunch of indurated glands in the left groin. Three weeks before entrance he had had suspicious connection, but gave no history of any sore on the penis. October 5th, Dr. Gay made an incision three and a half inches long over the bubo and removed a mass of suppurating glands. The surrounding tissues were boggy and infiltrated with pus. The operation was done strictly according to Lister's method, and carbolyzed gauze dressings were applied. On the evening of the same day, the patient had a chill, and the temperature reached 106° F. The dressings were changed, and the temperature fell to 100° the next morning, going above that point only three times in the progress of the case. The sutures and drainage tube were removed on the fifth day, as the discharge, which had been very slight, had nearly ceased. Lister dressing was omitted on the fifteenth day, as at that time there existed only a small superficial ulcer, which had healed on the twentieth day. The dressings were changed eight times, being stained through only once.

CASE III. Edward M., aged thirty-four, entered hospital August 26, 1879, with a hard chancre on the left side of the prepuce, and a large indurated bubo in the left groin. The patient last had sexual intercourse three months before admission. September 5th Dr. Gay made an incision four inches long, and removed a large mass of indurated glands under full Lister precautions. On the seventh day, the wound was nearly healed, and the sutures and drainage tube were removed. A long narrow sinus remained, which did not head till the twenty-second day, when the Lister dressing was omitted. Dressings were changed sixteen times, being stained through only two or three times. Secondary syphilitic symptoms appeared on the twentieth day after admission, and were successfully treated by the protiodide of mercury, half a grain *ter die*.

In all the foregoing cases the dressings were kept in place by means of elastic webbing applied as a spica bandage.

Abscesses.—CASE I. Dennis C., aged thirty, entered hospital September 22, 1879, with a large fluctuating tender swelling in the left lumbar region. September 26th Dr. Gay made an incision one and a half inches long into the swelling under carbolic spray, which gave exit to about a pint of thick creamy pus. The finger entered the abscess its entire length over the crest of the ilium backward and downward toward the lumbosacral articulation. A diagnosis of periostitis of the crest of the ilium and perhaps of the transverse processes of the lower lumbar vertebrae was made. A Lister dressing was applied, which was stained through on the fourth day after operation and was then renewed. There was scarcely any discharge of pus after the first emptying of the abscess. The Lister dressing was omitted on the thirtieth day, having been changed nine times. No fever followed the operation, nor any constitutional symptoms. November 30th, a probe passed three inches into a sinus. A dressing of carbolyzed gauze wet in carbolic acid, one to forty, applied without spray, was put on about every fifth day. There was very little discharge and that perfectly healthy.

CASE II. Timothy D., aged thirty-five, entered hos-

¹ London Lancet, October 25, 1879.

pital November 1, 1879, with a large, red, tender, fluctuating swelling, just above Ponpart's ligament, on the right side. November 2d, Dr. Gay made an incision under spray and with antiseptic precautions, evacuating nearly a pint of pus. A drainage tube was inserted and gauze dressings were applied. A probe was passed in for ten inches. No dead bone was discovered. On the twenty-eighth day the dressings were omitted, as the opening had healed; they were changed nine times. The discharge at first was very profuse, necessitating two dressings daily, but became much less after the fourth day. On the second day, the temperature reached 102°; on the third day, it fell to the normal point and did not again rise. At present (November 30th) there is no fluctuation over the seat of the abscess, and the resonance or percussion is tympanitic. The wound remains closed.

Amputations. — CASE I. On October 16th, the left arm of Francis F. was drawn between two rollers, which crushed the forearm, and the lower third of the upper arm. The same day Dr. Gay amputated about four inches below the shoulder joint. After the removal of the tourniquet there was considerable capillary oozing, which was checked by the application of hot water. During, and after the operation, the stump came several times into contact with the sheet, and with the patient's shirt. With these exceptions the operation was performed with full antiseptic precautions. A drainage tube was inserted and carbolized gauze dressings were applied. The sutures were removed at the end of the first week; the dressings were omitted at the end of the second week, having been changed six times; at this time the stump was healed with the exception of a small sinus. There was some discharge of pus during the first fortnight, and it had at times a disagreeable odor. On the thirtieth day the sinus mentioned above had entirely healed, and the stump was a good one.

[The amputation was made through tissues which had been much damaged at the time of the accident, yet no sloughing followed. The hemorrhage had been so profuse, before the patient's arrival at the hospital, that his pulse was weak and irregular, his countenance pale, and he was becoming restless. An eighth of a grain of morphine was given subcutaneously, and in an hour he had rallied sufficiently to justify the operation.]

CASE II. In October, 1878, Frank S., aged twenty, froze both his feet and ankles so badly that spontaneous amputation took place in the right leg about one inch above the malleoli, and in the left at the junction of the middle and lower thirds of the leg. Patient entered hospital September 29, 1879. The tibia on each stump projected an inch beyond the skin, and was covered by pale, flabby granulations. October 3d, Dr. Gay amputated both legs by the skin-flap method four inches above their ends. A drainage tube was inserted into each leg, and the details of the antiseptic method were observed. The right stump had healed on the nineteenth day, and the dressings were omitted, having been changed ten times. There was only a slight amount of pus from this stump. The dressing on the left leg partially slipped off the afternoon after operation, and on the third day there was an abundant discharge of pus. The Lister dressing was continued, being changed daily. The left stump was healed on the thirtieth day. The temperature was 100.5° the second day, but did not again rise so high, and after

the sixth day was normal. The stumps were of excellent shape, and firm.

Hæmatocele. September 4, 1879, Timothy C., aged twenty, presented himself at the hospital with a hydrocele of the right tunica vaginalis, which was tapped in the usual manner. When the sac was nearly evacuated, blood began to show itself in the stream of liquid, the canula was withdrawn, and rest in bed advised. The flow of blood continued into the sac until there was a swelling in the right side of the scrotum two inches in diameter. On the eighth day after this accident, Dr. Gay made an incision one and a half inches long into the tunica vaginalis, and let out about ten ounces of fluid blood and clots. The operation was done under carbolic spray, a drainage tube inserted, and gauze dressings were applied. The dressings were retained in place by a gauze bandage snugly applied about the base of the scrotum, and by a double T bandage. The wound was healed at the end of the second week. No pus was present during the healing. The dressings were changed daily. The drainage tube was removed on the ninth day.

Floating Cartilages in the Knee Joint; Removal. — Frank D., aged twenty-six, entered hospital September 19, 1879, to receive treatment for floating cartilages in his knee joints. In his right knee was one of these bodies of large size which had never given any trouble; no operative interference was advised. In the left knee there were three, which occasionally gave rise to much pain. There was considerable effusion in the joint, and the patient was lame. The left leg was put upon a ham splint and the patient put to bed. At the end of a week Dr. Gay made a small valvular incision, an inch and a half below the inner and lower angle of the left knee joint, and by pushing a narrow Sims knife up underneath the skin, made an opening into the synovial cavity sufficiently large to enable him to press out three loose cartilages, the largest of which was three fourths of an inch in diameter, and the smallest about half of this size. They were smooth, irregular, and very hard. The operation was a thorough "Lister." Three sutures were inserted, and the limb was replaced upon the ham splint. There was union by first intention; no pus; no pain; no opiates required; dressings changed twice. The patient was well in ten days. The knee joint was of nearly the normal size, had good motion, and there was no lameness.

[*Remarks.* In addition to the above cases, many minor operations were performed under antiseptic precautions with very satisfactory results. Although supuration was not wholly avoided in all of the cases, yet practically it was slight or moderate, never profuse; oftentimes there was no constitutional disturbance whatever; the wounds were usually sweet and free from any disagreeable odor; and recovery was reasonably quick.

During a recent visit to London, I was surprised at the boldness with which certain operations were performed under the Lister method. At Guy's Hospital, I saw Mr. Bell cut down upon a recently fractured patella, saw off the rough surfaces, and wire the fragments together. It was by no means an easy matter to bring the fragments into apposition, even after freely dividing the rectus muscle subcutaneously about four inches above the joint. Mr. Lister and Mr. Henry Smith have both performed this operation, and claim to have got good results.

We saw the following cases in Mr. Lister's wards, all operated on and treated successfully by himself under antiseptics, and all free from suppuration or general disturbance: Amputation at the hip joint; knee joint laid open for acute suppuration, the wound healed, and some motion remaining in the joint; excision of the wrist; iliac abscess following peritonitis, a most desperate case; lumbar abscess due to Pott's disease; section, through free incisions of the right tibia and fibula and the left femur for rachitic deformity, making a double compound fracture.

Another case was shown of a man whose knee joint was torn open by an injury. Ten hours after the accident Mr. Lister syringed out the cavity of the joint with a solution of carbolic acid (one to twenty), and washed the dirt and gravel from the wound with carbolic acid and rectified spirit (one to five), and treated it antiseptically. The patient did well, the wound was healed, and at the end of seven weeks there was little swelling and some motion.

We were assured that the rule in Mr. Lister's operations was no pus, except, perhaps, a little from superficial granulations, and no constitutional disturbance of any consequence. He claims that the blood-clot becomes organized, and that the processes of granulation and cicatrization take place without suppuration.

I saw no unfavorable cases in his wards, and the house-surgeon said that the antiseptic cases were never attacked with erysipelas, but that patients in the other wards, treated by the old methods, not infrequently suffered from this disease.

All wounds in Mr. Lister's wards, except of the head and rectum, are treated strictly according to his method, and he is very careful to have all minutiae properly looked after, as it is the little things that make the system perfect. The spray is large; carbolized solution used in abundance; hands clean, thoroughly disinfected, and kept so, as well as the instruments; drainage tubes everywhere; gauze bandages instead of the cotton roller; elastic webbing to retain dressings in groin and perinaeum; and the dressings are changed as soon as the discharge stains through, or every week at the farthest.

Whatever may be thought of Mr. Lister's plan, certainly no one can visit his patients and listen to his most interesting remarks without catching something of that enthusiasm, and sharing somewhat in that faith in antiseptics which has so justly made his name famous all over the world. (G. W. G.)

Reports of Societies.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

T. M. ROICH, M. D., SECRETARY.

SEPTEMBER 27, 1879. Fifty-two members were present. DR. CALVIN ELLIS in the chair.

Cystocele.—DR. WILLIAM H. BAKER read a paper entitled *Cystocele, its Causes and Treatment*. He first defined the lesion, and then spoke of the diagnosis and causes of the disease, stating that the cases met with from other causes than childbirth were rare, and that the prime factor in the production of cystocele was the want of integrity of the perinaeum, caused either directly by rupture, or gradually by a loss of

tone of the vagina and perinaeum from repeated parturition. In speaking of the treatment, which he divided into operative and non-operative, he stated that the operation was contra-indicated (1) when the case was acute or of recent origin; (2) when there was any inflammatory action present (as peri-uterine cellulitis or peritonitis); (3) when there was renal disease, for this operation almost invariably occasions some temporary cystitis, which in such instances is very likely to extend to the ureters and pelvis of the kidneys, thus greatly increasing the danger of the operation; and (4) when the patient was too old. He also said that the operation for cystocele could not, however, be considered complete until the integrity of the perinaeum was insured. Where operative procedures are uncalled for, he mentioned the treatment of those acute cases which are caused by excessive muscular effort by rest, astringent injections, and care that the bladder was not distended. He also spoke of the inadequacy of pessaries, either the ring pessary or Hodge's, but favored in certain cases the use of Emmet's Hodge pessary with septum, remarking that it acted by means of its suction power.—DR. WING inquired if the operation needed the use of a supporter afterwards.—DR. BAKER replied that it did when the uterus was not of normal size.—DR. WING remarked that in his experience cystocele often came from subinvolution of the uterus, and that in six cases which he had seen during the past year it had been relieved by supporters; in three of these cases there existed cystocele, rectocele, and procidentia, all of which the supporter appeared to relieve. Where there is absence of the perinaeum the patient can remove and replace the supporter, while if the perinaeum is sewed up sufficiently to act as a support she cannot accomplish the removal.—DR. BAKER said that it was difficult to apply a Hodge pessary when the perinaeum was weak, as the action of the pessary depends on the integrity of the perinaeum.—DR. WING replied that he could not agree with Dr. Baker on this point, as we often see the successful action of the Hodge pessary where the perineal body is absent. Dr. Wing also remarked that he did not believe in the suction power of the pessary spoken of by Dr. Baker as giving support, as the suction power is downwards.—DR. GARLAND said that he did not understand how the pessary in question could support the parts above it by virtue of any suction. When two bodies are held together by atmospheric pressure the resistance which they offer to any force striving to separate them is called suction. The suction force, however, comes into play only when an attempt at separation is made. Thus in the case of Dr. Baker's illustration of the boy's sucker,—a piece of leather on a brick,—the suction becomes evident only when the boy tries to remove the leather from the brick. Dr. Baker thinks that suction is demonstrated by the non-protrusion of the bladder when the patient bears down. Bearing-down efforts, however, do not tend to separate the bladder from the pessary, but they crowd the former down upon the latter, and therefore no resistance of suction can be called out in this way. If the pessary under these conditions still holds the parts in place it must do so in the same manner and on the same principle as a Hodge's pessary. Indeed, suction between the pessary and soft parts would actually tend to drag those parts down by reason of the weight of the instrument, if the latter were not otherwise supported. Dr. Garland said that if the brick, previously men-

tioned, were placed in the ceiling of the room he could not see how the piece of leather underneath could prevent that brick from falling merely by virtue of the suction between them. — Dr. C. P. PUTNAM thought the theory of atmospheric pressure, which is what is meant by suction, was applicable to this case. The soft walls of the bladder tend to bulge at the middle part, while the sides are sustained by firmer tissues. If this bulging part is replaced and a flat plate applied against it, the bulging is prevented so long as no air can get in between the edges of the plate and the bladder. The weight to be overcome is the middle part of the bladder, which tends to fall, and it is held up because fixed by atmospheric pressure to the edges, which are held up by other parts around.

Registry for Nurses. — Dr. PUTNAM also spoke in regard to the registration of nurses, and mentioned how important it was to have a reliable directory. He requested members to send the names of such nurses as they considered proper for the purpose to the library, to Dr. F. C. Shattuck, or to himself.

THE RHODE ISLAND MEDICAL SOCIETY.

THE regular quarterly meeting of the Rhode Island Medical Society was held in Providence, on Wednesday, December 17th, the president, Dr. E. T. CASWELL, of Providence, in the chair.

Dr. FULLER, surgical interne at the Rhode Island Hospital, exhibited to the society several microscopical sections prepared by himself from cases occurring at the hospital. They included specimens of sarcoma, fibroma, epithelioma, and the head of a tenia.

Dr. Sylvanus Clapp. — The secretary read a biographical sketch of Dr. Sylvanus Clapp, of Pawtucket, who died in June, and who was at the time of his death one of the leading physicians of the State. He was elected to membership in this society in 1842, and served as its president from 1864 to 1866. He was a member of the board of censors at the time of his decease, having been re-elected to that office a few days before his death. He was one of the consulting surgeons of the Rhode Island Hospital from the first establishment of that institution, and served as visiting surgeon during the last quarter of the year 1874. He was appointed consulting physician to the Butler Hospital for the Insane in 1878. He took an active part in establishing the Pawtucket Dispensary, and was president of its board of directors. In 1870 he received from Brown University the honorary degree of Master of Arts.

Scarlatina. — Dr. C. H. LEONARD, of Providence, read a paper upon the treatment of scarlatina. He believed in the propagation of the disease by contagion, and advocated a rigid isolation of patients and thorough disinfection of the premises and of all articles used about the patient. For treatment he would rely upon abundant nourishment, perfect quiet, good ventilation, and skillful nursing. He recommended tonic remedies, and spoke strongly in favor of the inhalation of oxygen gas.

New Members. — Upon recommendation of the board of censors, the following persons were admitted to membership: Dr. Henry Stillman, of Cumberland, and Dr. Harriet G. Belcher, of Pawtucket. The latter is the third female physician who has been admitted to the society.

Medical Law. — The committee upon the registration of physicians presented a report recommending that a committee be appointed by the president to petition the legislature to enact a law regulating the practice of medicine and surgery in this State. After some discussion the report was so amended as to provide that the committee shall submit to the society at its next meeting a draft of the proposed law. The president appointed Drs. Job Kenyon, H. E. Turner, and L. F. C. Garvin to serve upon this committee.

Library. — Dr. NEWELL, of Providence, from the committee on the establishment of a medical library, made a verbal report, stating that nothing definite had yet been accomplished, although several promises of money and of books had been obtained. — Dr. JAMES R. CHADWICK, of Boston, who was present, gave, at the request of the president, a very interesting account of the establishment of the Boston Medical Library, showing from what humble beginnings it has arisen to its present satisfactory and useful condition. He explained the details of its work in its various departments, and recommended that a course be pursued in this State similar to that which has made the Boston Medical Library so complete a success.

Inebriety. — Dr. W. E. ANTHONY, of Providence, read a paper upon Inebriety considered from a Medical Stand-Point. He recognized two forms of drunkenness, one of which is a vice to be punished, the other a disease which should be subjected to medical treatment. In the one case, the person drinks for the pleasure derived from the effects of the drink; in the other, because the craving and desire is so strong that he cannot help it. The real source of prevention is in an appreciation of what inebriety really is, namely, a form of disease. If domestic effort, professional care, and religious teaching were based upon the theory of disease, and made consistent therewith, a much greater amount of good might be accomplished. The popular idea that in all cases intemperance is a vice must be overthrown, and shown to be fallacious. Between violated law, on the one hand, and domestic sorrow, on the other, the medical profession should stand as a recourse to which both law and the family should be able to refer to procure light and aid.

Sewerage. — Dr. ROBERT F. NOYES, of Providence, read a paper upon The Proper Disposition of Excreta of the Intestines and Kidneys. He considered the amount of excrement discharged daily in this city, the importance of its proper distribution, and the various methods of disposing of it. He spoke of the sewer systems of other cities and of this city. He called attention to the mode of connecting with sewers and of plumbing houses, matters in regard to which much indifference prevails. He proposed the following remedies for imperfect sewer connections: Place two traps in the drain, with a ventilator between, which shall open into the continuation of the drain at a point above all other connections. Never connect a water conductor with a drain. Continue the drain of large size to the highest practical point. The top of the main should invariably be open. Continue a ventilator from just below each small trap placed under water-closets, sinks, set bowls, etc., to the top of the chimney, or end it in the main, above all other connection. Legislation is required, compelling the connection of all estates with the sewer, where practicable, and the doing away with all cess-pools upon such estates. But if cess-pools must

exist, they should be properly built, properly ventilated, and properly taken care of.

The meeting was then adjourned, after which the members were sumptuously entertained by the president at his house.

Recent Literature.

Guide to the Examination of Urine, with Special Reference to the Diseases of the Urinary Apparatus.

By K. B. HOFMANN, Professor at the University of Graz, and R. ULTMANN, Docent at the University of Vienna. From the Second Edition. Translated and edited by F. FORCHHEIMER, M. D., Professor of Medical Chemistry at the Medical College of Ohio, Cincinnati. With Illustrations. Cincinnati: Peter G. Thomson, 1879.

This book of Hofmann and Ultmann, as may be inferred from the title, is not intended to supply the place of the larger and more exhaustive works on the urine. After a chapter on the histology of the urinary organs and a short chapter on the function of the kidneys, the physical characters and chemical constituents of the urine are separately treated, so far as they seem to the authors important for the practicing physician. Then follows in order a description of the various urinary sediments, a chapter on the quantitative determination of the various urinary constituents, and finally an account of the simple, uncomplicated diseases of the urinary organs, in so far as they give signs that can be made available for their diagnosis.

The original requires but little adverse criticism. We do not agree with the authors when they say, speaking of the indican test, that if no violet color is perceived in one or two minutes the indican is not increased; or when they say that waxy (meaning amyloid) casts are characteristic of an amyloid kidney. In speaking of chronic parenchymatous nephritis, the authors mention the presence of granular epithelium in the sediment, but make no mention of distinctly fatty epithelium or fatty casts. The book, however, is a very valuable one, and one that every medical student needs for use in the laboratory, and one that every practicing physician will at some time find of service.

A large majority of medical students and physicians are unfamiliar with the German language. When, therefore, this translation was brought to our notice, our first thought was one of pleasure that so valuable a book had been rendered accessible to all. We are sorry, however, to be compelled to say that we have found much unfavorable criticism necessary. The errors in punctuation are too numerous to mention, and wholly inexcusable. In many cases the meaning of a sentence is made doubtful; oftentimes the true meaning is entirely changed; and in not a few instances a sentence is deprived of all meaning simply through errors in punctuation. Again, no one in reading over this book can fail to notice the carelessness with which the translation has been made. We give a few illustrations as proof of this statement. On page 108 we find the following sentence: "Of the greatest importance for the diagnosis of kidney disease are those structures, disclosing their origin by their form—the uriniferous tubules, and called casts." We think every student would naturally conclude, from

reading the last sentence on page 153, that "pemphigus" is a disease of the kidney, and not a disease of the skin. On page 173 we are told that "we sometimes find pyelitis in *echinococci*;" on page 181 we are told of drawing off urine, "a quantity of which probably has remained for years in the bladder." The following sentence, on page 129, shows either ignorance or the greatest carelessness on the part of the translator. Speaking of obtaining the final reaction in the quantitative estimation of urea, he says, "Add to this mixture a drop of sodic carbonate. If a rusty zone is produced, where the fluids meet, continue to add the test fluid; if, however, this is pale, cease, for the work is completed." We might give other examples, but we forbear.

We also notice a want of that system and preciseness in chemical nomenclature that one would naturally look for in a book of this kind. We find "sodium carbonate" spoken of as "soda," "sodium," and "natrum carbonate" almost in the same breath; we find "calcium chloride" instead of "calcium hypochlorite" or "chloride of lime;" "ammonium, potassium, and sodium," instead of "ammonia, potassa, and soda;" "lead" instead of "lead acetate;" a precipitate composed of "lead," in connection with the test for uroerythrine, etc. We find many errors in printing which a proper revision of the proof-sheets would have rectified. They are too frequent to notice. Errors in the grammatical construction of sentences are also frequent. The use of the word "would" for "should" is noticeable, while occasionally we are treated to a new word, as when the translator says that the "kidneys functionate." The expression to "fish out" in reference to the removal of sediments seems to us an unusual one. The illustrations are mainly good. Those representing casts, however, are not of much value. They do not illustrate properly the appearance of these bodies, and had better have been omitted.

Considering all things, then, this translation has been very carelessly done, and we cannot recommend it. Hofmann and Ultmann is worth translating, and as a consequence is worth translating well. Should the book before us reach a second edition, it is hoped that it will previously receive that careful revision which it requires, and which will render it valuable to every student and practitioner of medicine. W. E. H.

American Health Primers. Eyesight, and How to Care for it. By GEORGE C. HARTLAND, M. D., etc. Philadelphia: Lindsay and Blakiston, 1879. 16mo, pp. 139.

"The object will be to place before the reader such elementary knowledge as is necessary to enable him to understand the conditions under which the eyes must do their work; and to place this knowledge within the reach of all the explanations will be made as simple as possible and the use of 'technical language,' that lion so much dreaded in the path of the general reader, will be carefully avoided."

The author has accomplished his task with a very large measure of success; he has made an interesting and instructive book, and has nowhere fallen into the temptation which seems to beset writers for the laity,—that of trying to increase the popularity of a work by making it in fact a "household prescription book."

Seldom is warning more needed than that given on

page 103: "The fallacy of supposing that the glasses that are most pleasant for three minutes are necessarily the best to use for years is not so general now as formerly. Experience has taught the public much in this respect; but there are still many people who would scorn to buy a ready-made suit of clothes, but who still do not hesitate, in the infinitely more important and delicate matter of selecting glasses, to make their purchases without a measurement."

We read on page 114, "Bright white paper, particularly if its surface is glazed, is dazzling and irritating." This point is not unimportant, and it is to be regretted that the publishers of the book have not heeded it; the type, however, is very good.

Proceedings of the Association of Medical Officers of American Institutions for Idiotic and Feeble-Minded Persons. Sessions: Syracuse, June 8-12, 1878; Lincoln, Ill., May 27-30, 1879. Philadelphia: J. B. Lippincott & Co. 1879.

This report is well worth the perusal of any one interested in the study of mental disease and deficiencies. It contains several papers read at the last two meetings of the association. These papers are of varying degrees of scientific value, but all show an earnest effort on the part of the members to advance their specialty to its rightful position among the sciences. The effort should be commended, for the same causes conspire to prevent good literary and scientific work from them which prevent the superintendents of a majority of our lunatic hospitals from adding anything valuable to current medical literature. They are simply overworked and crushed by the necessity of attention to details of management. Legislatures and trustees demand, first of all, that superintendents shall devote their time to the economical administration of their institutions, while science must look out for herself. Nevertheless, the article, *par excellence*, of this report is by Dr. H. B. Wilbur, of Syracuse, superintendent of the New York State Asylum, one of the largest in the country, one of the most economically managed, and one wherein the friction of the machine is reduced to a minimum by a superintendent whose presence is felt in every corner of the institution.

This paper is upon the relation of speech, or language, to idiocy, and is a statement of the author's inferences from his observations and from an experience equalled only by his discretion in the selection of illustrative cases. He admits, at the outset, that articulate speech, or fluency of speech, is not the test of human intelligence, yet confesses, later on, that we are obliged to use it, for want of a better test, in estimating the degree of idiocy. He omits all theorizing as to conditions or lesions possibly causing the defective speech of idiots, and makes no mention of the lesions and many curious symptoms constituting the disease called aphasia, and which point so strongly to a definite location of the faculty of speech. He presents his paper merely as a contribution to the study of the interesting phenomena of speech. He disarms all criticism of his classification of idiots by saying that the special mode (of classification) adopted in any case is to be tested by the purpose it is meant to subserve. We wish some general classification might be adopted which would serve its purpose as admirably as Dr. Wilbur's classification serves his special object. Such papers as this can but prove a great incentive to other members of the association to

take time from their routine duties for the preparation of papers worthy of publication.

An interesting part of the report is an appended statement of the condition of the various American institutions, their development and progress.

We notice that Dr. George Brown, of Barre, while distinctly disclaiming ability to speak for the Massachusetts school, devotes rather more space to it than to the institution over which he presides, and takes his own *peculiar* method of complimenting the present management of the school, and the marked improvements brought about during the two years of most successful administration by Dr. Tuck. To any of his hearers or readers who were acquainted with the school, his disclaimer would seem at least superfluous.

Manual of the Dissection of the Human Body. Edited by LUTHER HOLDEN and JOHN LANGTON. Fourth Edition. Philadelphia: Lindsay and Blakiston. 1879.

Mr. Holden is the happy possessor of the faculty of writing interesting works on anatomy. A part of the charm consists in the frequent references to practical points, and in the explanation of the advantages and objects of details of structure. The fact that this is the fourth edition of the work before us attests its popularity. Manuals of dissection are of two kinds: one contains merely a short account of facts, — statements of the origin and insertion of muscles, of the chief relations of vessels and nerves. The student relies on his larger work for details, the manual being merely a guide-book for reference at the dissecting table. The other kind somewhat resembles a treatise on topographical anatomy, arranged, however, to assist the dissector rather than the general student. We do not propose to discuss which of these plans is the better; suffice it to say that this work is an admirable example of the second class. It is clear, interesting, and, in the main, correct, though we think we could point out some inaccuracies. We are particularly pleased with the diagrams of arterial anastomoses. It annoys us to notice the common error of describing the lateral sinuses as formed by the bifurcation of the longitudinal sinus. We imagine it would give Mr. Holden much trouble to find a head in which the arrangement corresponds with that in his diagram. We are very tired, also, of the stereotyped error, perpetuated in the wood-cut, of a section of the female pelvic organs. The author gives the old account of the course of the fibres in the optic chiasma without mention of newer views. Other criticisms might doubtless be made, but the book, as a whole, is a good one. T. D.

Clinical Lectures on Diseases of the Urinary Organs. Delivered at University College Hospital. By Sir HENRY THOMPSON. Fifth Edition. London: J. & A. Churchill. 1879.

The fifth edition of this valuable work will be read with unusual interest, now that so much attention has been attracted to this specialty by recent innovations. These have, however, received but slight attention, owing, probably, to the time of preparation of the work, an omission which will doubtless be corrected in the next edition. Sir Henry has also failed to keep pace with American views on the treatment of stricture. Notwithstanding this tinge of conservatism, these lect-

ures cannot fail to prove a source of pleasure as well as instruction to our readers, for they represent the matured views of a great teacher, and are prepared by a master's hand.

A Manual of Examination of the Eyes. A Course of Lectures delivered at the École Pratique. By DR. E. LANDOLT. Translated by SWAN M. BURNETT, M. D. Revised and enlarged by the author. Philadelphia: D. G. Brinton. 1879. 8vo, pp. 307.

The book presents a careful, accurate, and well-written account of the methods of examination of the eyes. Without superficiality, the subject is treated in a manner to meet the practical needs of the physician, while the reader who desires to master the more strictly scientific problems involved is referred to other sources of information.

The material is divided as follows: the objective general inspection of the eye; examination of the lids, conjunctiva, lachrymal passages, and all other portions of the organ accessible to the naked eye; determination of the distance between the two eyes, their height and protrusion; the movements of the eyes, particularly in their relation to strabismus; intra-ocular tension; acuteness of vision; refraction and accommodation; perception of colors; limits of the visual field, and indirect vision; ophthalmoscopy, including examination of the dioptric media by means of the oblique light.

While we heartily commend the book, one or two errors may be noticed. Donders is given (page 131) as authority for the statement that "for the higher degrees of hypermetropia strabismus becomes the rule." The original reads "*presque la règle*." Even this is not correct, nor does Donders assert it. What he does say is, "Strabismus is met with chiefly in mean degrees of hypermetropia." "In the highest degrees of hypermetropia strabismus is rarely observed."

Again, when examples are given to illustrate the selection of glasses in presbyopia (page 143), a glass is advised which will just bring the patient's near point to the distance at which his work must be kept. But this would not enable continued work with comfort; the near point should be brought somewhat within the distance for habitual work.

Such faults are, however, very few. The translator has accomplished his part of the work well.

Nature Series. Seeing and Thinking. By the late WILLIAM LANGDON CLIFFORD, F. R. S., etc. London: Macmillan & Co. 1879.

Of the four lectures which make up this little book, the first three contain a popular account of the various steps leading from the emission of light by a luminous body to the evolution of that complexity which we call thought. The method of presentation appears very well adapted to a general audience, and if the first two lectures are now and again marred by passages which, in one or two instances at least, are strangely tangled, this, to judge from a prefatory note, may be attributed to the fact that the lectures were printed from the notes of a short-hand reporter. It is somewhat odd that the third lecture, though dealing with that part of the subject not susceptible of so simple treatment, is yet free from the defects mentioned. The fourth lecture is an admirably simple and lucid exposition of the geometrical conceptions of a point, line, surface, and solid.

Eye-ball-Tension: Its Effects on the Sight and its Treatment. By W. SPENCER WATSON, F. R. C. S. Eng., etc., etc. London: H. K. Lewis. 1879. Pp. 70.

"Intending my little book to be mainly devoted to the treatment of eyeball-tension, I have only briefly alluded to the theories of its causation." Eyeball-tension the author proposes to substitute for the term glaucoma, "as being more expressive of the acknowledged condition of the eye in the disease in question." In a monograph on a subject so much studied and on which so much has been written as glaucoma one has a right to expect more than superficiality, but that is all that is to be found here. Though the book is "mainly devoted to the treatment," we quite agree with the author when he says, "The tables do not give any very clear evidence as to the efficacy of the different modes of treatment adopted."

Observations and Comments on Certain Convulsive Disorders. By HENRY DAY, M. D., F. R. C. P. London. Pp. 28.

This paper, read before the Medical Society of London, and selected by the council for publication in its transactions, presents, as the author justly claims, no facts nor explanations of especial value. The following observation alone, which occurred under his own eye, is worthy of special notice as illustrating an occasional cause of chorea. While riding along the road, Dr. Day saw a boy of his acquaintance in a dangerous position upon a neighboring tree. He called to him to come down, whereupon the boy, alarmed, let go his hold, and fell suddenly to the ground. On being picked up he gasped a few times, then began to scream as if in terror, and "then and there" the movements of universal chorea made their appearance, not passing away entirely for a month. J. J. P.

The Medical Register for New England. By FRANCIS H. BROWN, M. D. Boston: Houghton, Osgood & Co. The Riverside Press, Cambridge. 1880.

There are probably few who have not learnt the value of this little volume, which we cordially welcome for the coming year. Its contents and, where possible, its usefulness have again been largely added to. It has, in a comparatively few years, made itself a necessity for physicians, dentists, and pharmacists, at least in New England. The author and the publishers deserve credit for a result which could be reached only by much painstaking.

Consumption, and How to Prevent it. By THOMAS J. MAYS, M. D., etc. New York: G. P. Putnam's Sons. 1879. 12mo, pp. 89.

After calling attention to the fact that consumption is more destructive to human life than any other disease, and to the indifference and complacency with which we have come to view it, the author says, "that consumption is preventable is a reasonable as well as practical idea." He then gives brief hints to the laity on general physiological principles, on the general nature of consumption (which in one place he aptly describes as a low and miserable variety of inflammation), on the influence of food, air, soil, clothing, light, physical exercises, diseases, etc. The book is printed and bound in the Putnam's usual good style.

Medical and Surgical Journal.

THURSDAY, JANUARY 1, 1880.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly by Houghton, Osgood and Company, Boston. Price, 15 cents a number; \$5 00 a year, including postage.

All communications for the Editors, and all books for review, should be addressed to the Editors of the Boston Medical and Surgical Journal.

Remittances by mail should be sent by money-order, draft, or registered letter to
HOUGHTON, OSGOOD AND COMPANY, BOSTON, MASS.

INTRODUCTORY.

IN presenting the JOURNAL once more in a new form to our readers, we feel called upon to explain in a measure the various changes it was thought necessary to make during the past few years, — the process of evolution by which it has reached, we think we may venture to say, its present more or less perfected state. During the greater part of its existence the JOURNAL has preserved the form which we have just finally abandoned. A few years since, the double column was substituted, and was maintained through several volumes. When the present management assumed control it was thought that a monthly periodical might eventually prove better suited to the wants of New England, and a return to the old style of single column was decided upon to facilitate this change should it at any time be thought necessary. It was also supposed to be, among other advantages, a style better suited for the preparation of "reprints," a form of publication thought indispensable by authors who are wont to take pride in the production of their pens. Further experience has shown that, as the field of its labors has expanded and the limits of its old circulation have been outgrown, in order to keep pace with the leading periodicals of the day a form must be adopted which, although perhaps not the most ornamental, is certainly the most useful, and also undeniably, at the present time, the most popular. The modern "weekly" is able to present fresh from the author's pen material of all kinds, from the ponderous "quarterly" article to the latest item of professional news. There is a compactness which invites the attention of the reader.

The day of quarterlies and monthlies seems to be passing away, the demand of the present time being for small quantities at frequent intervals. We trust also that the modern spirit of enterprise will favor the patronage of a few active journals of this description, which will thus bring together on common ground the vast resources which the profession of this country is able to supply. As our announcement has shown, the editorial staff has been materially strengthened. We may mention more particularly in this connection the contributions of Dr. George B. Shattuck during the past year, who will have special charge of this department, and will be assisted by the other members of the staff. With the return of financial prosperity throughout the land we look forward with confidence to a more active support from the profession, which, like all other classes of the community, has felt the depressing influence of the "hard times,"

now happily a thing of the past. We feel justified, therefore, in expressing the hope that a prosperous and happy new year is in store for us all.

THE BELLEVUE TRAINING SCHOOL FOR NURSES.

THE annual meeting of this excellent institution was held on the 11th of December at the Nurses' Home, adjoining Bellevue Hospital, New York. Mr. William E. Dodge, Jr., presided, and a considerable portion of the visiting and house staff of the hospital were present in the large audience. Mr. Dodge read the annual report, in which it was stated that the hope entertained at the commencement of the work in December, 1872, that the school might become a college for the training of nurses and one of the recognized institutions of the country, had been realized. The pupils on entering were required to pass a preliminary examination in reading, writing, arithmetic, and English dictation. At the end of the first year they passed a second examination on the practical and theoretical duties of a nurse, and at the completion of the two years' course a final examination, of similar character, before a board composed of distinguished physicians and surgeons. Since the regular establishment of the school in May, 1873, ninety nurses have been graduated from it. Of this number two are in responsible positions as heads of training schools or matrons of hospitals, two are nurses among the poor, two have entered sisterhoods, and fifty-nine are still professional nurses. From this record, the report continues, it will be seen that the school has given an honorable, self-supporting occupation to a class of women whose intelligence and disposition have proved them to be fitted for it, while the continued and increasing demand for their services in hospitals and private families speaks favorably for the quality of the service they render.

All the female wards of Bellevue Hospital, two male wards, the Sturgis Pavilion, and the lying-in department are now nursed by the pupils of the school. In the Lying-In Hospital there have been one hundred and thirty-three births, and only one death from puerperal fever has occurred during the year. In the words of one of the visiting physicians, "The patients confined within its walls have enjoyed as great an immunity from infectious puerperal diseases as in the best private practice. The accomplishment of such results has been rendered possible only by the faithful, conscientious, and intelligent care rendered by your nurses, to whom I am glad to present my grateful thanks." The building appropriated to this hospital, having originally been an engine-house, was in many respects unsuitable for its present uses, but in consequence of the liberality of Mrs. Wm. H. Osborn such additions and alterations were made that it is now as comfortable and convenient as could be desired. To the same benevolent source Bellevue owes the erection of the Sturgis Pavilion, for the treatment of acute surgical cases. A record is kept by the superintendent of the conduct and efficiency of

each nurse during her two years' training, and after she leaves the school, if she wishes to continue her connection with the society, and obtain employment through its means, she is required to report at stated periods, in order that her diploma may be renewed.

In the original plan of the school was included the work of nursing among the poor, and it has never been lost sight of, though the managers have not yet been able to carry it to the extent that they desire. They report, however, that the work has been successfully begun by the female branch of the New York City Mission, and by the Society of Ethical Culture, presided over by the Rev. Dr. Felix Adler. There is appended to their report a letter from Dr. Adler on the beneficial results of trained nursing among the poor, and this contains the following extract from the report of one of the district physicians of the Demilt Dispensary in regard to the services of the nurse working under his direction: "She has a quick perception of what is needed, and she readily and cheerfully does it, no matter how repulsive the task may be. She visits patients intrusted to her care at unexpected times, that she may see them as they are from the beginning to the end of their illness. One must take time to win the confidence of these people, and find out the secrets of their poverty and distress, and so know how not only to alleviate but often to prevent misery. This work the nurse is doing steadily and faithfully, and the information she brings me is invaluable. The only wonder to me now is how I got on with these cases without a woman's help. She visits from morning to night, seeing that my medicines are given as directed, inaugurating and enforcing much-needed sanitary measures, often making with her own hands articles of clothing for the sick, while she distributes with judgment the articles so generously supplied by your society. Surely the blessings of many ready to perish will be hers, for not one of them speaks of her but with the kindest expressions of gratitude and regard."

The good health that the pupils of the school have enjoyed proves that their occupation, when properly conducted, is not injurious. Only two deaths have taken place in seven years, and during the past summer there was not a case of illness in the school. Care is taken that the nurses shall not be overworked, and that the diet shall be generous and good, while the bright and comfortable home in which they live when not engaged in the hospital no doubt contributes largely to the maintenance of their health.

In concluding their report the managers offer their thanks to the head nurses and to the graduates: to the former for their loyal devotion to their work, not only in instructing their pupils, but in the example they set of a faithful and tender performance of painful and at times repugnant duties; and to the latter for the good work that they have done wherever their lot has been cast, among the rich or poor, in hospitals or asylums, thus reflecting credit upon the school, to which they always gratefully acknowledge their obligations.

On this occasion diplomas were awarded to twenty-

three graduates, twelve of whom were from New York, two from New Jersey, one from Massachusetts, one from Maryland, one from North Carolina, one from Tennessee, one from Ohio, one from Michigan, one from Connecticut, one from Canada, and one from Holland. Each graduate was also presented with a pocket-case of instruments. The annual address was delivered by Dr. William M. Polk, professor of obstetrics in the University Medical College, and in the course of it he contrasted the present condition of hospital nursing and the advantages for obtaining good nurses with the state of affairs that existed when he entered the medical profession, only a few years ago.

It is expected that during the next year there will be one hundred and fifty pupils in the school, applications for admission having been received from all parts of the country.

MEDICAL NOTES.

— In an obituary notice of the death of Soelberg Wells, M. D., F. R. C. S. Eng., the *London Lancet* says: "Scarcely a month has passed but we have been called upon to announce and to make publicly known the loss of a distinguished front-rank man in our profession. The mortality has been especially great among metropolitan practitioners. The removal of such men as Murchison, Tilbury Fox, Maunder, Black, Leared, Callender, and Harry Leach must for a time, at least, materially weaken us. And now we have to add to this black list the name of Soelberg Wells, the eminent and skillful ophthalmologist, who died on the 2d inst. at Cannes, whither he had resorted for the winter in quest of health, and where he was buried on Friday last.

"The story of Wells's illness and failing health is a sad one. Tall, handsome, and of splendid physique, he enjoyed excellent health and spirits until about four years ago, when he somewhat suddenly broke down, and was compelled to leave his work to spend some months in the south of France and in Italy. From that time, with a few deceptive intermissions of apparent health, it was painfully evident to all his friends that he was smitten with a mortal malady, though he himself, up to within a very short time of his decease, cherished the hope that his symptoms were chiefly functional, and that rest and a genial climate would restore him to health and strength, and enable him to return to the work on which so much of his best time and energies had been spent. During the past summer he resided with benefit at Aix-la-Chapelle, and returned to London in October. He attempted to resume his public and private duties, but only to relinquish them at once. The severe weather at the end of October proved seriously prejudicial to him, and he was ordered by his medical advisers to start without delay for Cannes. This he did about the beginning of November. The weather, however, seems to have been as unpropitious at Cannes as in London, and within a week of his death he stated in a letter to the writer of this notice, 'My progress to

convalescence has been greatly retarded by the bad weather here, which, instead of being beautifully warm and sunny, is rainy, cold, and very tempestuous, owing to a very severe mistral which has been blowing for the last ten or twelve days, confining me to the house.' A week later he succumbed to an obscure disease of the liver.

"It is not easy to assign to Wells his proper place as an ophthalmologist. German blood ran in his veins, and much of his education and training, both general and professional, was conducted under the guidance of German teachers. His early professional education was begun at Norwich, and finished at Edinburgh, where he graduated in 1856. Though possessed from the first of ample and even independent means, he preferred to follow an active career, and was induced to devote time to the study and practice of diseases of the eye. In furtherance of this pursuit he went to Berlin to work in the famous clinic of the late Professor von Graefe, to whom he soon became a valued assistant, and with whom he formed a firm and life-long friendship. Under the superintendence and supervision of Von Graefe, Wells was carefully trained in every department of the science and art of ophthalmology. Indeed, his special training was, perhaps, unique in its range and completeness.

"In 1860, when Wells returned to England, he was appointed clinical assistant to Mr. Bowman at the Royal London Ophthalmic Hospital, Moorfields, which post he held until his appointment as assistant surgeon in 1867. In 1873 he was promoted to the rank of surgeon, which office he continued to hold at the time of his death. Besides this he was professor of ophthalmology in King's College, and ophthalmic surgeon to King's College Hospital. None of these advantages and opportunities were lost on Wells. In spite of the temptation to ease and dilettanteism to which a large fortune exposed him, Wells, as long as his health allowed him, discharged his duties punctually, and was zealous alike as a worker and teacher. He was a first-class specialist of the best type. His special acquirements were laid on a good foundation of general medical knowledge. One of his chief merits was that, by his writings and teaching, he familiarized English students and practitioners with the best clinical and scientific investigations of the eminent ophthalmologists of Berlin, Vienna, and Utrecht. His treatise on Diseases of the Eye, and his book on Long, Short, and Weak Sight, the former of which has reached a third and the latter a fourth edition, are the best works in our language on the subjects of which they treat. Their appearance inaugurated a new era in English ophthalmological literature, and they will long retain their place among the surest and safest guides. As a practitioner Wells was shrewd and sagacious, cautious in difficulties, and possessed a strong faith in local remedies. He was trusted and respected alike by patients and practitioners, and before his health failed he possessed a rich and select *clientèle*. Wells leaves no near relative, but his loss is keenly felt and deplored by a large number of friends and colleagues."

— We have several times alluded to the necessity of making the city registrar's department subordinate to the Board of Health. Last year a petition asking for such a change was sent to the city council of Boston, signed by over three hundred physicians, including all the leading members of the profession. Owing, however, to the pressure brought to bear by the friends of the registrar's department, the movement failed. This year an appeal is to be made direct to the legislature, asking for such legislation as shall place the duty of registering all returns of deaths and of granting burial permits in the hands of the Board of Health in all cities and towns having such a board. By the census of 1870 the number of cities in this country of over fifty thousand inhabitants was twenty-four, and in all of these, with the single exception of Boston, the local boards of health have entire charge of the registration of births and deaths. It is high time that such a change was made in Boston, and we hope the profession will aid the movement, so far as their influence as petitioners will go.

— The inhabitants of the Connecticut, Ammonoosuc, and Passumpsic valleys, from Massachusetts to Canada, have been unusually free from typhoid fever, diarrhoea, and dysentery during the year 1879. Diphtheria has prevailed fatally in many localities. Piermont, Haverhill, Lisbon, and Franconia in New Hampshire, Barnet, Newark, and some other towns in Vermont, have each had more or less fatal cases.

— A human skeleton was recently discovered beneath a barn near Woodsville, N. H., over which was written for the daily papers a very pathetic story of beauty, love, parental objection, seduction, abortion, and death. The fact is that there was nothing to indicate positively the sex, the pelvic bones being much decayed; the wisdom teeth were fully grown; the molars were much worn; all the long bones were fully developed. There was one condition of interest to physicians: the first and second lumbar vertebrae were firmly ankylosed. Everything would indicate that this beautiful "maiden" may have been about forty years of age, and *may* have been a man.

— The *Medical Press and Circular* calls attention to a case of anuria, reported in the *Union médicale*, November 4th, in which the patient lived for seventeen days without passing a drop of urine. Death occurred on the seventeenth day. There was no autopsy.

— The same journal mentions the fact that the classical work on Diseases of the Chest, by the late Dr. William Stokes, of Dublin, is to be reprinted by the New Sydenham Society.

PHILADELPHIA.

— At the last meeting of the Biological and Microscopical Section of the Academy of Natural Sciences, Prof. J. Gibbons Hunt expressed dissatisfaction with the results obtained by the present methods of making and mounting preparations, and stated that the character of the work exhibited at the meetings had not been up to what the critical student would desire. No matter how carefully preparations are made, they

lose much of their true character by the methods in general use among microscopists. He condemned Canada balsam, and said that he had never seen even as common a thing as a human hair mounted in balsam which would enable the observer to study the details of its structure. Alcohol for hardening specimens, previous to making sections, he declared to be even more objectionable, on account of the considerable changes produced in the structures to be examined, giving students very often erroneous views. He preferred solutions of chromic acid for hardening specimens, and recommended watery fluids for mounting, of which glycerine should form the basis. In this way sections of soft tissues are made with the least change, and may be readily preserved.

Dr. Carl Seiler, in commenting upon the above communication, said that he thought that Dr. Hunt had overrated the objections to Canada balsam, as in his own opinion in many cases it answered sufficiently well. He also commended the use of carmine for fine injections, in opposition to the lecturer, and said that these injections are not made for the purpose of showing the structure of the walls of the capillaries, but in order to demonstrate their relations to surrounding structures.

At the same meeting, Mr. J. A. Ryder stated that a small fish had recently been brought to him from New Jersey, which had very large white cysts or sacs imbedded beneath its skin in the muscles. These cysts were much of the shape and size of a grain of wheat, about twenty in number, in a fish one and a half inches long. The contents of these sacs was a thick, whitish material of the consistence of cream. This material, when brought under a power of nine hundred diameters, was found to be composed of a vast number of very minute oval bodies with a long tail. There were, without exaggeration, not far from half a million of these bodies in this one little fish. They are to be found as parasites in almost all classes of animals, even in man, and are known under the name of *psorosperms*. They are supposed to be entirely harmless when taken as food; indeed, Dr. Cobbold, a great authority on parasites, says that in eating of the heart of a bullock infested with them he must have taken in at least eighteen thousand of them. The case described is of interest, because they have not, as far as known to Mr. Ryder, been recorded as being found in this rather rare and curious little pike-perch (*Aphododerus*), a fish quite peculiar to the United States.

—A series of clinical conferences by the students of the graduating class (somewhat on the Harvard plan) has been inaugurated this winter, by Professor DaCosta, at the Jefferson Medical College, and has been entered into with considerable zest by those interested; they will undoubtedly prove very popular and valuable. Professor Gross continues his genial conversational method of quizzing the students, frequently calling upon the class for a diagnosis or for obvious suggestions as to treatment. At his clinic the operation of lateral lithotomy has been performed eight times this session, with one death.

ST. LOUIS.

—The monthly meeting of the St. Louis Obstetric and Gynecological Society was held on the 18th of December. The evening was devoted to the discussion of Dr. Maugh's paper on Puerperal Fever, a synopsis of which has been published in the JOURNAL. Drs. Cole, Barret, Prewitt, Engelmann, Ford, Moses, and others took part in the discussion. The points considered were, first, May puerperal fever be produced by mental causes acting upon a constitution in a puerperal condition, or is it always a septicæmia or pyæmia? Most of the members thought that mental conditions were capable of causing puerperal fever. Some, however, represented by Dr. Prewitt, took the view that it was always due to the absorption of septic material. Another cause, not given in our synopsis, was spoken of, namely, hæmorrhage, which, by depriving the blood of its red corpuscles, destroys its power of oxidizing the septic material taken into the system from the lacerated uterine surface.

The next point considered was the relation of puerperal fever to small-pox, scarlatina, and erysipelas. The society seemed to agree upon the practical point that when a physician was treating one of these diseases he should avoid puerperal cases, though they did not think small-pox or scarlatina was likely to produce child-bed fever, and many thought this impossible. In proof of this, Dr. George Engelmann cited two cases. In one, during pregnancy, the mother had small-pox, and at seven months miscarried; the foetus was dead and pock-marked; the mother's recovery was slow, but there was no evidence of puerperal fever. In the other, a domestic, who was pregnant, nursed some children, ill with scarlet fever. She took the disease, and, while the rash was at its height, was taken in labor and was delivered. The scarlatina ran its usual course, but there was no appearance of puerperal fever.

With regard to erysipelas, on the other hand, Dr. Barret cited two cases of puerperal fever in his practice which appeared traceable directly to it. Dr. Maugh's stated that he had also seen many cases in which the two diseases seemed related as cause and effect, where, the mother dying of puerperal fever, the child died of erysipelas, and a pregnant woman who nursed the child died of puerperal fever, and her child again in turn died of erysipelas. Some of the society thought that the cause was the decomposing tissues produced by the disease, and not the erysipelas poison. In respect to the treatment, but little faith was placed in veratrum viride and opium; but the very free administration of quinine, muriated tincture of iron, and whisky was regarded as the most promising course to pursue.

—On the 11th of October, two very interesting monsters were exhibited to the St. Louis Medical Society by Dr. Maugh's. One was given to him by Dr. Schmidt, of Cairo, Ill. It was supposed to be an eight months' foetus. At its birth it was so hideous that it frightened the mother terribly; it howled fearfully, and she imagined that it barked like a dog. The eyes were imperfect, the ears scarcely raised above the

surface of the head, the fingers contracted, the mouth large, wide, and gaping, and the skin was striped like that of a zebra. The doctor attributed this appearance to an intra-uterine disease of the epidermis, which resulted in the laceration of the skin, the fissures sometimes extending through the skin, and even into the muscles. With the exception of these peculiarities the child was well formed. Six or eight similar cases were reported up to 1843. These freaks of nature are popularly attributed to mental conditions. In this case, in the second month of pregnancy the mother accidentally stepped on a dog in the dark, and was very much frightened; this accounted to her for the peculiarities of her child. The doctor also spoke of a case in his own practice, where a pregnant woman dreamed that she gave birth to a hermaphrodite, and afterwards talked about the dream considerably. When the child was born, strange to say, it was as near a hermaphrodite as humanity ever comes. Fortunately it died at the age of three years.

The second monster was still more interesting; the head and arms had been amputated in utero; the left arm at the junction of the middle and lower third of the humerus, and from this stump there had grown a perfect and most beautiful hand, there being four fingers and a thumb with their nails. This amputation and attempt at reproduction must have occurred when the embryo was low down in the scale of organization, on a par with the salamander. The monster was born at full term, and a twin. The other child was perfect and healthy.

Correspondence.

LETTER FROM PORTLAND.

THOUGH nothing particularly startling has occurred in medical circles in Maine during the year now so near its end, there have been a number of events of sufficient interest to the profession of the State to seem to be worthy of a record in the JOURNAL.

The annual meeting of the Maine Medical Association, held in this city in June, was one of the most successful in the history of the society, as regards not only the numbers in attendance, but also the character of the discussions, and the harmony of feeling which prevailed. In the last-named respect, it afforded a marked and grateful contrast to the session of last year, which will long be remembered for its stormy debate concerning the punishment of a member who had been tried by the censors and found guilty of conduct unworthy and unbecoming a gentleman and member of the association. It is very probable that the tranquillity of this year's meeting was largely due to the fact that the constitutional right of the society to regulate its own membership was definitely settled by the protracted and exciting discussion in 1878 on the question of expulsion. Everybody seemed to feel that there would be no further necessity of devoting time to that subject, and, as no other portion of the organic law or the regulations demanded interpretation, the whole of the time of the association could be freely devoted to its legitimate objects.

The president, Dr. M. C. Wedgwood, of Lewiston, made a number of valuable recommendations in his in-

augural; but that which attracted most attention was the suggestion that the association have an annual dinner. Until quite recently it has been usual for physicians in this city to entertain the visiting doctors with a collation on the evening of the second day of the session; but the enjoyment which was experienced at these offerings of toothsome edibles was not so intense as to make it an object to continue them, and for several years no portion of the session has been even ostensibly devoted to social intercourse. The proposition of the president gave voice to an almost universal feeling in the society, and the only difference of opinion arose with regard to the best way of executing the design. All favored a good dinner; but, while some wanted it paid for from the funds of the association, others thought it would be wiser for each person attending to purchase his own ticket. The latter method was finally adopted, and a committee was appointed to take charge of the entertainment.

A good number of well-written papers were presented, the topics treated embracing all departments of medicine. The essay which called forth the longest and most animated discussion was on The Use of the Obstetric Forceps, by Dr. H. N. Snell, of Portland, an entire evening being consumed in the debate. With few exceptions, the speakers agreed as to the desirability of employing these instruments much more frequently and at an earlier point in labor than the older authorities advise or sanction.

The annual oration was pronounced by Dr. C. A. Packard, of Bath, who discoursed most interestingly on The Physician an Educator, taking the ground that there is great need among the people of instruction on matters which physicians alone can properly impart, and that it is the duty of the profession to make its influence emphatically felt in educational matters. In this way only can the community be protected from the baneful impositions of quackery, which in numberless forms trifies with the lives of the people, and from the insidious influences which at present are to be found in almost every household.

In the line of business, quite a number of applicants were admitted to membership, and a few were rejected; the third Tuesday in June was selected as the time for holding the next meeting; and steps were taken with reference to the publication of the records of the first ten years of the association's existence. It is to be regretted that action was not taken concerning the adoption of the metric system. The failure to do so was an oversight on the part of a committee, and at the next meeting the association will probably array itself on the side of progress in this matter, as it already has in most others. The opportunity of calling attention to the convenience of the metric system in writing prescriptions was not altogether lost, however; and every member was supplied with tracts on the subject, which cannot fail to make some impression upon even the severest conservative.

The principal officers for 1880 are Dr. S. C. Gordon, president; Dr. C. O. Hunt, secretary; Dr. A. S. Thayer, treasurer; and Dr. G. F. French, chairman of the censors.

The Maine General Hospital is enjoying unexampled prosperity. In spite of the malicious attempts to defeat an appropriation from the state treasury, the legislature voted five thousand dollars, as usual; and in January a subscription was started to extinguish the debt which for years had been impeding the

progress of the institution. In a short time, the whole amount needed, nearly twelve thousand dollars, was raised in Portland, thus affording new evidence of the high esteem in which the hospital is held by those who have the best opportunity to observe its management and its work. The invested fund is as yet small, as is generally the case with young institutions; but it is increasing every year, and it is hoped that before long it will be sufficient to enable the hospital to dispense with legislative gifts. The proportion of surgical patients is naturally very large, and most of them require operative treatment. Recently the antiseptic method has had an extensive trial, and the results have been very gratifying.

Affairs at the Maine Insane Hospital, at Augusta, have been somewhat unsettled all this year. In the general official proscription which followed the inauguration of the present governor, the trustees of the asylum were included, with the single exception of the venerable Dr. John T. Gilman, who remains on the board as an example of executive clemency. It is deplorable that such offices should not be kept free from all taint of partisan politics. No change in the superintendency has as yet been effected, though efforts in that direction have been made, it being commonly understood that Governor Garcelon has requested the resignation of Dr. Harlow, who for many years has been at the head of the institution.

While so many of the States are establishing Boards of Health, Maine stills lags behind, and, if one might judge from the amount of apparent interest in the subject, is no nearer the adoption of sanitary measures than it was a decade ago. Year after year a committee of our association goes before the legislature, and presents the case in all its bearings. But, while our law-makers, as individuals, very generally admit the force of the arguments in favor of the board, when the question is put to vote, there is always an overwhelming majority against it. It is said, in opposition, that there is no such amount of preventable disease as the medical men allege; that the doctors only want to get their hands into the money-chest of the State; that the movement is solely in the interest of the cities, especially Portland, and so forth and so forth,—all the hostility which frames itself in open speech being equally creditable to the intelligence of the legislature. One bucolic orator assumed an attitude of charitable regard for our profession, and objected to measures which would diminish the amount of sickness, because, as he said, not half the doctors are able to get a living now. All such talk appreciably influences the men who are usually sent to our capital to construct laws, and so we are still without a board of health. But we are not entirely discouraged, and next year intend to try again, though with no very flattering prospect of immediate success.

Health matters have had a good deal of attention in Portland since last spring. The subject has been forced upon the attention of our citizens by the condition of the cove which lies on the northern side of the town, and receives the sewage from fully half of our area. On hot nights the stench from this region was often appalling, frequently awakening people from sound sleep, obliging them to close their windows, and apparently causing much illness, as well as discomfort. The complaints were so numerous and from so respectable a class as to demand some attention, and in August the mayor appointed Dr. F. H. Gerrish and Dr.

C. A. Ring a commission to investigate the causes of the nuisance, and report measures for its suppression. After several weeks of work, the commissioners reported at great length to the effect that they found many causes which combined to produce the mephitic odors in question, of which the most prominent were the discharge of sewage in places whence it could not be removed by the action of the tide; the bad condition of the sewers, and especially of their culverts; the very common employment of accumulative privies, many of which were found to be in a condition of almost incomprehensible filthiness; and the method of emptying privies, which is by bailing. They recommended the construction of an intercepting sewer on the northern shore of the city, by means of which the sewage might be conducted into deep water and swept out to sea by the tide; the drainage of certain morasses into which unauthorized sewers have been emptied; the systematic and frequent cleansing and flushing of the culverts; the ventilation of the sewers; and the utter abolition of the system of accumulative privies. This report was published in both the morning papers, and received the approval of the physicians of the city, as well as that of the citizens in general; but nearly three months have now elapsed since it was made, and the city government has not taken the smallest official notice of the subject. The people are not much annoyed with foul odors in the cold seasons, and seem to have forgotten what sufferings they endured last summer; but when spring opens, we shall have the old smells back again in full force, and half the adult population will be cursing the inefficiency of the city council. It has been suggested that our only way out of the difficulty is to elect our municipal officers on a strictly sanitary platform, pledged to reform these hygienic abuses. This plan might work very well, if the election came in June or July; but as it occurs in the early part of March, when we have been for six months without such trouble from our unhealthful conditions as the non-medical mind can easily see is productive of disease, it is highly improbable that such a movement would meet with any considerable encouragement. A frightfully devastating epidemic of diphtheria or typhoid fever might possibly startle our people into a recognition of the necessity of doing something; they are apparently waiting for some such stimulus to mental activity in this direction.

The class in the Medical School of Maine was large this year, in spite of the entrance examination. The institution is keeping up its reputation for severity at the final examination, over sixteen per cent. of the applicants for a degree being rejected. The vacancy in the chair of pathology and practice, occasioned by the resignation of Professor Palmer, has been filled by the election of Dr. Israel T. Dana, of this city, who, after the interval of a decade, returns to the position which he filled for a long series of years so acceptably to the school and the profession. GAMMA.

PORTLAND, December 12, 1879.

GRITT'S SUPRA-CONDYLOID AMPUTATION OF THE THIGH.

MR. EDITOR, — Under the above heading, in a late number of the JOURNAL, I find a communication from William Child, M. D., defending the claims of the late Dr. Van der Kieft as the first to propose and execute

the new method of management of the patella in amputations at the knee-joint. In this connection, I wish to place on record two cases. On the 13th of August, 1872, I was called to see Harvey Pierce, who had just sustained a compound fracture implicating the knee-joint, caused by the kick of a horse. The case being one that demanded amputation, I proceeded, with the assistance of Dr. Wilson, of Lockport, New York, to operate in the usual way. In making my flaps, I cut the posterior one too short, so much so that if I had removed the patella I should have lacked sufficient tissue in my anterior flap to bring it into proper apposition with the posterior. In this extremity I decided to excise the condyles of the femur. This having been done, my flaps came nicely together, bringing the patella over the end of the femur. The patient made a speedy recovery, riding out to church four weeks from day of operation. In a subsequent case of excision of the knee, followed by sloughing of the foot, rendering amputation necessary, I operated as in my first case, the condyle having been removed in the first operation by excision, with good result. The patient died a year after, and upon post mortem examination of the stump I found the patella firmly united to the end of the femur by bony deposit. The only difference between the operation performed by Dr. Van der Kieft and the one executed by myself is that I did not remove the inner structure of the patella. In the *Peninsular Journal of Medicine*, of Detroit, November, 1875, the reader will find a more detailed account of my cases.

J. H. EVANS, M. D.

ELK RAPIDS, MICH., December 9, 1879.

MASSACHUSETTS DENTAL SOCIETY.

THE following resolutions were adopted at the last meeting of the Massachusetts Dental Society:—

Whereas, serious charges against Dr. George F. Waters, a member of the Massachusetts Dental Society, in connection with the death of Mr. George A. Gardner, of Brooklyn, have been published in the papers of the country, *Resolved*, that from the published reports and our own investigation the Massachusetts Dental Society consider Dr. Waters entirely innocent of any unprofessional or injudicious conduct in this case, and that his treatment was wise, cautious, and safe. *Resolved*, that the charge that Dr. Waters used arsenic in this case is entirely and wholly false. In such a case no man possessing the rudiments of a dental education would use arsenic. *Resolved*, that the course of the *New York Times*, in first publishing this sensational report without taking proper means to investigate the charges, is an outrage upon truth and the rights of citizens, and that its subsequent conduct in not making correction and reparation, as far as possible, was not fair and honorable, and as this charge has seriously affected the business of Dr. Waters, by unjustly undermining the public confidence in him, we consider that that paper is peculiarly liable for damages. *Resolved*, that we know Dr. Waters to be one of the best informed and most intelligent investigators in the profession, and entirely worthy the fullest confidence of the community.

Unanimously passed December 12, 1879.

L. D. SHEPARD, president, DWIGHT M. CLAPP, secretary.

ERUPTION FOLLOWING THE USE OF SALICYLATE OF SODA.

MR. EDITOR,—I send you this note on the action of salicylate of soda. Mrs. W., aged forty, consulted me December 5th for pain and swelling of the left ankle-joint. Diagnosing acute rheumatism, I prescribed salicylate of soda in fifteen-grain doses every three hours. Two days after I was called to see her on account of an eruption; this was confined to the inner surface of the fore-arms and the outer surface of the thighs, and was a hybrid between lichen and eczema, or lichenoid eczema. She also complained that the medicine nauseated her, but her ankle was better. The medicine, therefore, was discontinued, and in a few days the rheumatism became worse, implicating both ankles. The medicine being resumed the eruption reappeared in full bloom with the same gastric phenomena as before.

Whether this is to be explained on the *post hoc*, *propter hoc* theory I am incompetent to determine. Has any one any light to shed on this question?

C. S.

NORTHAMPTON, December 15, 1879.

COUNTRY PRACTICE.

IN the practice of Dr. N. C. B. Haviland, Bath, N. H., R. S. had the right wrist severed by the "beater" of a threshing machine. All the metacarpal bones were carried away; the carpal bones were dislocated or fractured; the ends of the radius and ulna were crushed off; the back of the hand was wholly denuded of soft parts; the soft parts of the palm were uninjured; the fingers were untouched; the hand remained connected with the forearm only by the tendons, a few shreds of muscle, and a narrow isthmus of skin. Amputation was performed by Drs. Child and Haviland of Bath, and C. H. Boynton of Lisbon, N. H. Sulphate of ether and elastic bandage were used. The patient did well.

In the practice of Dr. William Child, S. C. was caught by a rapidly revolving shaft; right arm wholly torn away from near the shoulder-joint; right thigh fractured at the middle; left leg and foot bones were crushed nearly to the knee, though the skin was not broken, the patient having on rubber boots. Amputation of arm was performed by Drs. Child and Boynton. Sulphur of ether and chloroform employed. Legs not amputated. Patient died of nervous shock in about thirty-six hours.

In the practice of Dr. Gibson, Woodsville, N. H., S. C. had the right foot crushed by the wheel of a locomotive. Chopart's amputation was performed by Drs. Gibson and Child. Sulphate of ether and elastic bandage used. Recovery rapid and good.

INFANTILE CONVULSIONS.

MR. EDITOR.—Five weeks ago I was present at the birth of a robust and healthy child. When twenty-one days old, while in apparent health, it was seized with convulsions. A teaspoonful of castor-oil had been given it by the mother the night previous, and I learned that it had been fed by hand very irregularly; also that anise and catnip had occasionally been given,

the latter the day before. The spasms were clonic on the left side and tonic on the right; face congested and convulsed towards the left; muscles of respiration acting synchronously with those of the left side; arms more convulsed than legs; pupils widely dilated, eyes injected; thumbs in palms. The attack lasted five minutes, and as it ceased the child screamed violently, and drew up its legs, while the abdominal muscles were quite firmly contracted. Twenty drops of paregoric were given, stupes were applied to the abdomen, the lower part of the body was immersed in mustard water, cool lotions were applied to the head, and a soap suppository was inserted, which soon came away in a mass of green and white curds. In five minutes, and after a scream or two, convulsions of like character recurred, followed by screaming. Thirty drops of paregoric were now given, and another suppository. A spasm followed in the usual time; face purple, pupils dilated to the utmost, and while terribly convulsed the child screamed most piteously, when the noise of a stool was heard, and very soon it became quiet, and seemed to sleep; breathing, pulse, and muscles natural. The respite was of short duration. Chloroform was now administered by inhalation, and during the succeeding forty-eight hours the babe was carefully kept under its influence, with intervals long enough to know that when it was suspended for five minutes the convulsions reappeared, but with less violence. On

the morning of the fourth day a perfectly healthy-looking stool appeared, the child for the first time began to take milk, and until date has been in a natural condition.

A. S. McCLEAN, M. D.

SPRINGFIELD, December, 1879.

ABSENCE OF AMNIOTIC FLUID.

MR. EDITOR.—I was called early in the morning of October 27, 1879, to see Mrs. B., primipara, aged nineteen years, whose health was good, and had been during the whole term of pregnancy; there was nothing peculiar in the case, except that lactation had begun in the third month, and to such an extent as to keep her clothing constantly wet. After a tedious labor of twelve hours she was delivered of a male child weighing ten pounds. It was "a dry labor,"—the liquor amnii was absent.

One year before the above case I attended Mrs. F., aged twenty-eight, and mother of two children. Labor lasted seven hours, and she gave birth to a female child,—eight pounds. This case, like the former, was without the amniotic fluid. I do not think that I could have been mistaken. In the first case I ruptured the membranes, and was alike attentive to both. Let us hear from the readers of the JOURNAL on this subject.

S. N. HAMILTON, M. D.

EVERTON, IND., December 4, 1879.

REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 20, 1879.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Deaths under Five Years.	Percentage of total Deaths from				
				The Principal "Zymotic" Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.
New York.....	1,085,000	499	191	16.43	22.24	6.21	2.00	.80
Philadelphia.....	901,380	261	76	12.64	6.90	7.66	1.15	2.30
Brooklyn.....	564,490	209	85	22.96	15.79	17.70	1.44	.96
Chicago.....	—	—	96	—	—	—	—	—
St. Louis.....	—	119	45	11.76	12.65	4.22	—	2.53
Baltimore.....	393,796	155	62	27.10	7.10	14.30	8.39	3.23
Boston.....	360,000	151	62	19.87	11.92	11.92	.66	1.32
Cincinnati.....	280,000	99	28	20.20	7.07	5.05	6.06	5.05
New Orleans.....	210,000	111	45	13.51	7.21	2.70	—	2.70
District of Columbia.....	170,000	79	32	8.86	21.52	1.27	3.80	1.27
Cleveland.....	160,000	60	28	26.67	8.33	15.00	6.67	1.67
Pittsburgh.....	—	46	23	36.96	19.57	30.43	4.35	—
Milwaukee.....	127,000	27	15	29.63	7.41	25.93	3.70	—
Providence.....	101,500	45	14	44.44	11.11	6.67	33.33	4.44
New Haven.....	60,000	15	9	20.00	6.67	6.67	—	—
Charleston.....	57,000	31	15	9.68	6.45	—	—	3.23
Nashville.....	27,000	17	5	29.41	5.88	5.88	—	5.88
Lowell.....	53,300	22	11	9.09	18.18	9.09	—	—
Worcester.....	52,500	18	6	11.11	—	—	—	5.56
Cambridge.....	50,000	22	6	22.72	13.64	13.64	—	4.55
Fall River.....	48,500	25	12	36.00	—	—	32.00	—
Lawrence.....	38,200	6	3	33.33	33.33	33.33	—	16.67
Lynn.....	34,000	16	7	6.25	18.75	6.25	—	—
Springfield.....	31,500	8	2	50.00	—	37.50	—	—
New Bedford.....	27,000	14	6	38.71	7.14	28.57	7.14	—
Salem.....	26,400	9	3	44.44	—	33.33	—	—
Somerville.....	25,350	7	2	28.57	14.28	28.57	—	—
Chelsea.....	20,800	6	2	16.67	16.67	16.67	—	—
Taunton.....	20,200	7	2	—	14.29	—	—	—
Holyoke.....	18,200	10	4	40.00	10.00	10.00	30.00	—
Gloucester.....	17,100	7	4	57.14	—	42.86	—	—
Newton.....	17,100	—	—	—	—	—	—	—
Haverhill.....	15,300	10	3	60.00	—	40.00	—	—
Newburyport.....	13,500	2	0	—	—	—	—	—
Pittsfield.....	12,650	—	—	—	—	—	—	—
Fitchburg.....	12,500	1	—	100.00	—	100.00	—	—
Milford.....	9,800	—	—	—	—	—	—	—

Two thousand one hundred and fourteen deaths were reported; 904 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 415, consumption 345, lung diseases 279, diphtheria and croup 206, scarlet fever 73, typhoid fever 33, diarrhoeal diseases 30, measles 21, whooping-cough 16, malarial fevers 12, erysipelas eight, cerebro-spinal meningitis six, small-pox four. (In addition, Chicago reports 41 deaths from diphtheria and croup, lung diseases 21, scarlet fever 11, consumption 10, typhoid fever and malarial fever three each, measles and erysipelas two each, — total deaths not given.) In the cities excluding Chicago, from *measles*, New York 20, New Haven one; from *whooping-cough*, Boston seven, Cincinnati two, Brooklyn, Baltimore, District of Columbia, Cleveland, Pittsburgh, New Haven, and Gloucester one; from *malarial fevers*,

New York four, Brooklyn and New Orleans two, St. Louis, Baltimore, Charleston, and Nashville one; from *erysipelas*, Brooklyn three, New York two, Fall River, Springfield, and Salem one; from *cerebro-spinal meningitis*, New York, Philadelphia four, St. Louis, and Haverhill two; from *small-pox*, Philadelphia four. Diphtheria continues far the most fatal of the "zymotic" diseases, and caused 20 more deaths than in the preceding week; whooping-cough and erysipelas were less fatal, lung diseases more so. In Massachusetts, the small-pox in Worcester and Fall River seems to be entirely under control; scarlet fever, diphtheria, and whooping-cough were increasing in fatality in 17 cities and towns reporting.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.		Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.						
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.				
Dec. 14	30.235	36	41	28	79	100	100	93	C	SE	E	0	24	28	Hail.	R	R	C	—				
" 15	29.595	38	43	34	90	91	54	78	C	NW	W	2	5	13	G	O	C	F	1.39				
" 16	29.956	33	37	29	51	45	50	49	W	W	W	13	16	4	H	C	C	F	.14				
" 17	30.001	33	42	26	70	45	57	57	W	W	W	2	22	10	O	C	C	F	—				
" 18	30.396	19	27	11	64	47	54	55	W	NW	S	16	12	7	C	C	C	C	—				
" 19	30.350	26	29	18	88	88	75	84	C	NE	NW	0	6	8	S	O	O	O	.10				
" 20	29.995	35	41	22	75	31	63	56	C	W	N	0	6	7	O	F	O	O	.03				
Week.	29.933	31	37	24				67	West.													28.40	1.66

¹ O, cloudy; C, clear; F, Fair; G, fog; H, hazy; S, snow; R, rain; T, threatening.

For the week ending November 29th, in 146 German cities and towns, with an estimated population of 7,592,985, the death-rate was 23.2 against 23.4 of the previous week. Three thousand three hundred and eighty-one deaths were reported; 1511 under five years of age; pulmonary consumption 466, acute diseases of the respiratory organs 374, diphtheria and croup 156, diarrhoeal diseases 143, scarlet fever 80, typhoid fever 67, measles 58, whooping-cough 46, puerperal fever 16, small-pox (Dantzic and Berlin) two. The death-rates ranged from 14.0 in Hanover to 36.0 in Dortmund; Dantzic 25.2; Breslau 23.1; Dresden 19.3; Berlin 22.1; Leipzig 23.2; Hamburg 25.7; Bremen 23.1; Cologne 23.8; Frankfurt 17.7; Strasburg 28.8. In the same week, Vienna 26.7; Prague 31.2; Paris 24.4. In the 20 prominent Swiss cities and towns, diarrhoea, scarlet fever, and diphtheria were most prevalent of the acute diseases, although diminishing. There were two deaths from small-pox in Geneva.

For the week ending December 6th, in the 20 English cities and

towns, with an estimated population of 7,383,999, the death-rate was 27.4 against 25.2 of the previous week. Three thousand eight hundred and eighty-three deaths were reported: diseases of the respiratory organs 612, scarlet fever 162, measles 150, whooping-cough 94, fever 54, diarrhoea 45, diphtheria 24, small-pox (London) five. Scarlet fever is epidemic in London, Liverpool, Manchester, and Sheffield; measles in London, Liverpool, and Leeds; small-pox is increasing again in London, and lung diseases are very wide-spread and fatal. The death-rates ranged from 18.2 in Salford to 43.8 in Wolverhampton; London 27.2; Brighton 29.6; Bristol 28.3; Birmingham 27.8; Liverpool 37.3; Manchester 28.0; Leeds 25.6; Sheffield 23.4. In Dublin (scarlet fever and small-pox the most fatal of infectious diseases) 37, Edinburgh 23, Glasgow 25. In the 20 Swiss cities and towns there is a considerable increase in diphtheria, other infectious diseases declining; no deaths from small pox, scarlet fever, or whooping-cough; lung diseases very prevalent and fatal. Geneva 19.4; Zurich 22.2; Basle 27.9; Lucerne 27; Vevey 11.5.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting will be held Monday evening, January 5th, at eight o'clock, at the hall of the Medical Library Association, 19 Boylston Place. Reader, Dr. Bush.

FREDERICK C. SHATTUCK, M. D., Secretary.

BOOKS AND PAMPHLETS RECEIVED. — Lectures on the Diseases of the Nervous System. Delivered at La Salpêtrière by J. M. Charcot. Translated from the Second Edition by George Sigerson, M. D. With Illustrations. Philadelphia: Henry C. Lea, 1879.

The Physician's Hand-Book for 1880. By William Elmer, M. D., and Albert D. Elmer, M. D. New York: W. A. Townsend, Publisher.

Medico-Chirurgical Transactions. Published by the Royal Medical and Chirurgical Society of London. Vol. LXII. London: Longmans, Green, Reader, and Dyer. 1879.

The Brush System of Electric Lighting. By C. F. Brush, M. E. Cleveland, Ohio. 1879.

Thirty-Second Annual Report of the Trustees of the Massachusetts School for Idiotic and Feeble-Minded Youth at South Boston, for the year 1879.

A Lecture Introductory to the Eighty-Third Course of the New Hampshire Medical Institution at Dartmouth College. July 31, 1879. By Oliver P. Hubbard, M. D., LL. D.

Osteocephaloma of the Thigh. Report to the Wisconsin State Medical Society by J. G. Meachen, Jr., M. D. (Reprinted from the Transactions of the Wisconsin State Medical Society.)

Original Articles.

SANITARY ORGANIZATION OF NATIONS.¹

BY HENRY I. BOWDITCH, M. D.

SANITARY science, though of such recent growth, is now fast becoming a most important branch of preventive medicine. I have therefore thought that I could not choose a subject more important than sanitary organization in its widest sense. I give it as my quota of work towards inaugurating the new and excellent plans adopted by this society.

And let me here say that I not only do not shrink from, but I court, the severest criticism upon what I shall advance. I like nothing better than the honest and free expression of opinion. It proves that the matter has attracted some attention. So far, however, as animated discussion in Boston societies is a criterion, one would think that no topic is thought worthy of being discussed at all; for even those subjects universally admitted to be of the most interesting character are usually received with a dead, funereal silence on the part of a Boston medical audience.

Sanitary organization, in its widest sense, would begin with man as an individual and terminate in international law, or his relations with his fellows of the whole race. I intend to throw out a few hints only upon each one of these topics.

Perfect health should be a matter of profound interest to every human being. Without it few of the relations of this life can be fully sustained. It should therefore be constantly sought after by each man and woman; by the state for its citizens; by a nation for the states and communities of which it is composed; and, finally, by every sovereign power in its relations with any and all other civilized or uncivilized sovereignties. The fine Latin maxim "*Salus populi lex suprema*" is peculiarly appropriate in any discussion of these questions.

I propose to submit a few thoughts upon them, beginning with the international relations, and concluding with man as an individual member of the community, but upon the basis of whose perfect health the idea of all sanitary legislation is primarily founded.

INTERNATIONAL SANITARY LAW.

Although upon the question of quarantine every nation has felt that it had the right summarily to deal by law, or by force if need be, with any other nation, it cannot be said that heretofore the various sovereignties of the earth have succeeded in bringing the subject of health within the domain of international law, although there have been a few international medical congresses. All these, though imperfect, in their results have tended to open the whole subject now before us.

At the seventh annual conference of the Association for the Reform and Codification of the Law of Nations, held August, 1879, at Guildhall, London, Sir Sherster Baker, Bart., of Lincoln's Inn Fields, barrister at law, delivered an address on International Rules of Quarantine. From it I glean the following historical memoranda on the subject. Holland has little or no quarantine. Austria has a very severe one. In England a bill was passed in 1825, but it is not called

into requisition, except in epidemics of plague, yellow fever, and cholera. The Port Sanitary Authority, according to a bill passed in 1875, is all that is deemed necessary. But a general law, applicable everywhere, is needed. It should be so uniform as to be capable of international adoption. The writer then gives the following account of various efforts to bring about such an international result. In 1838 France proposed a meeting of delegates from nations bordering on the Mediterranean. Austria opposed the plan, and it was given up. In 1843 Lord Aberdeen sought to bring about such a meeting, but again it failed, owing to the opposition of Austria. In 1851, on invitation of France, an International Sanitary Congress met at Paris, in order, if possible, to obtain a uniform code of quarantine law. France, Great Britain, Austria, Russia, Sardinia, Tuscany, Papal States, Naples, Turkey, Greece, Spain, and Portugal had representatives. All had territory or interests on the Mediterranean Sea. Plague, yellow fever, and cholera were defined and international sanitary regulations were adopted. But only France, Sardinia, Tuscany, Portugal, and Turkey adopted them, because the conference tried to introduce a procedure, which was inconsistent with the laws of some of the countries taking part in the conference. At the end of five years the five named nations also gave up the plan. In 1859 France again made an effort, but failed. In 1865 cholera appeared. In 1866 France suggested a meeting at Constantinople. It was held. All the European states, with Egypt and Persia, were represented. This did much for the prevention of cholera. Finally, the Austro-Hungarian government called a congress at Vienna in 1874. This was not successful, although it tended to promote more cordial union in certain ways. But they all failed because of interference with the rules of quarantine adopted by different nations. The writer lays down certain rules which he deems proper, and which are included under forty articles.

I take the ground that the time is fast approaching, if it be not already at hand, when it becomes the duty of every civilized sovereignty to initiate measures looking to a definite inauguration not only of a national, but also of an international, sanitary code. Each sovereignty should establish its own national board of health. This should have a certain power over the sanitary arrangements of all the states and nations included under that sovereignty. While carefully overlooking its own domain, it should jealously guard its nation from all dangers of infection or contagion from abroad. It should also be prepared, so far as it can do so consistently with the interests committed to its charge, to cooperate with other nations for the promotion of a common public health law. I hold that as civilized states combined to put down buccannery, piracy, and the slave trade, so nations may rightly unite in mutual defense against violently infectious or contagious diseases. They should also exercise the right of compelling uncivilized states to submit to that amount of sanitary law, which may be deemed necessary for the health of mankind. If, for example, any sovereignty allows vast numbers of human beings to collect together at fairs or holy pilgrimages, etc., which are found to be spreaders of disease over the earth's surface, there should be an international sanitary code to prevent such disasters, in the same way that laws now exist to prevent any persons from spreading rapine and plunder over other people.

¹ A paper read before the Boston Society for Medical Improvement, December 8, 1879.

BUT HOW SHALL SUCH A CODE BE COMMENCED?

This end must be brought about by consultation between representatives of various sovereignties, who, after meeting and discussing general sanitary measures, shall lay down a few simple but broad rules of conduct, mere axioms so to speak, to which all the contracting nations would readily agree. Each sovereignty would have the right to reject or adopt one or more or the whole of the propositions. If a single proposition were adopted by all, or even by a large majority, the commencement of an international code would be made which would bind all, and which would be capable of indefinite expansion under the experience of years.

To bring about this international representative meeting, one sovereignty, as has already been repeatedly done, might very properly invite others to join with it and to send representatives to such a congress. No sovereignty has a greater right to inaugurate such a movement than these United States of America. Nay, more, it seems to me that our government ought to deem it one of its highest privileges to be able to present this matter most forcibly to the nations of the earth, and I base this opinion on the following reasons:—

First. Because our government was established and is kept in existence by the people for the good of the whole people, and therefore any measure tending to the moral or physical well-being of any nation ought to be one in which our government and all its citizens should take the liveliest interest, and if need be lead other peoples. *Second.* For want of sanitary knowledge and of an efficient international sanitary code of ethics and of law, we have very many times, within the past third of a century, had our domain encroached upon by a foreign invader as horrible as if in times of peace a hostile army had crossed our borders and spread death and destruction in its pathway. Epidemic cholera, largely depending on filth and reckless disregard of sanitary rules amongst ourselves, has boldly come upon us. It has destroyed our citizens by thousands. We did nothing to prevent its coming, although we plainly saw its gradual approach. After it struck us we were powerless to meet the evil. Whether we consider yellow fever as a disease of domestic or of foreign origin, it seems undoubted that it is carried from one place to another by human migration; and how many times during the past century have we freely opened our ports, filthy in the extreme, and therefore fit receptacles for and fomenters of this terrible disease! All these horrors might have been prevented, and they will eventually be prevented when efficient national and international sanitary codes have been established and obeyed. Surely these warnings ought to arouse Congress to do something towards the prevention of like disasters by international friendly consultation, or if need be by the force of national and, if possible, by international law, so far as it can induce other civilized nations to cooperate with America. Such high contracting parties ought to be allowed to blockade, if necessary, any ports which send forth infectious and contagious diseases, as much as England and America had a right to blockade the shores of Africa to prevent the horrors of the middle passage. It may be claimed, and with justice I think, that *a priori* we should have more right to blockade Cuba than Africa, because slavery did not destroy our people, and by some was believed to give aid to us. But yellow fever cannot claim in the slight-

est degree even such doubtful praise. *Third.* Another reason why Congress should inaugurate this movement is the fact that by its generous confidence extended to the National Board of Health, at the late extra session, it enabled that board to grapple with and almost wholly to confine the late epidemic of yellow fever to Memphis, where it first broke forth in fury. Certainly the board's efforts, which were only possible when backed by the whole power of the nation, have been the main instrumentalities which have averted a wide-spread epidemic, such as swept through the Mississippi Valley in 1878. This much may be justly claimed as the joint result of the generosity of Congress and the action of the board, even while we give all praise to the various organizations and sanitarians of the valley, whose labors were immense. May we not hope that these, with other reasons that might be brought forward, will have some influence upon Congress, and induce it to take the necessary preparatory steps towards bringing the whole subject of sanitation into the domain of international law?

NATIONAL SANITARY ORGANIZATION.

A complete sanitary organization of a nation is at present unknown. England, France, the German Empire, and perhaps we may add Italy and America, are at present groping in that direction,—experimenting, as it were, upon the proper methods to be pursued. In this brief paper I can of course make a few suggestions only, born of my experience during the past few years and from watching the desultory attempts at sanitary order made by various peoples and states. The following schedule of a plan for a national organization is prepared simply as a subject for argument, although I confess I am an earnest advocate of its main principles.

A MINISTER OR SECRETARY OF HEALTH.

Without a fitting government of the sanitary matters of a nation no perfect public health can be procured. Power must be lodged somewhere, and it seems to me a self-evident proposition that a cabinet officer, the peer of all the chiefs of the various departments of government, is indicated, and that in him should be vested that power, under restrictions to be hereafter noticed. This officer should be the presiding genius of the whole movement. In theory, at least, he should be the first sanitarian of the country, and a young or at least a middle-aged man, one of its ablest and most honored citizens. He should hold his office from the national executive, whether it be a republic, kingdom, empire, or other national sovereignty. He should reside at the seat of government, and have a salary equal to that received by other officers of state. He should have the right in great emergencies to summon sanitarians from various parts of the country to consult upon the best interests of the states, territories, departments, or other divisions of the country. But this secretary or minister would be at times called to take prompt action, bearing not only upon the public health, but upon the great commerce of a part or of the whole of the country. It therefore seems to be appropriate, if not actually necessary, for him to have an advisory council, near at hand and always accessible, upon whom he could call for advice and support, and without whose active support he could take no important step. Hence arises the necessity for a

NATIONAL BOARD OF HEALTH.

The members of this board should be either residents at the seat of government, or so near to it that in a few hours they could be summoned to council. It should consist of individuals carefully selected by the sovereign executive of the country from the various departments of the government, and therefore would not receive extra pay. With them might be joined two or more citizens, one of whom at least should be a physician. It would, of course, be important that all should feel interested in promoting the public health. The citizens of the board should receive, while on duty, payment commensurate with the importance of their task and the character of the nation employing them.

In the United States the representatives of the following departments would very naturally be selected: one from the department of state, one from the army, one from the navy, one from the marine hospital service, one from the department of justice, one from the department of the interior, one from the signal service. These, with the two civilians, would make a body of nine persons representing all the various interests of the country. The secretary of health should preside at the meetings, and have full rights of voice and of voting possessed by other members. The board should have meetings quarterly, or as much oftener as it saw fit, and the secretary or minister might summon them to meet on any emergency, or as he might deem necessary for the public welfare. He should lay before them at each quarterly meeting an account of his own work and a statement of the sanitary needs and condition of the country. The board should confirm all doings of the secretary, and by a two-thirds vote of the whole board should have the power to veto any proposed action of the secretary, in which emergency an appeal to the sovereign executive should be made, who, with the secretary, should have full power, and would be held responsible by the country for the proper use of such power. In the intervals between the meetings of the board the secretary should have sway. The board might by a unanimous vote inaugurate any sanitary measures it might deem best, and direct the secretary to carry all such measures into execution; provided that in case there should be a disagreement between the secretary and the board the national executive should decide what should be done. The members of the board should hold office for six years, with the privilege of being again selected by the executive, the first terms of service being so arranged that ever afterwards one member's term of service should expire each year.

EXTERNAL RELATIONS OF A NATIONAL BOARD OF HEALTH.

One of the most pressing of these questions at the present time is the inauguration of a system of international sanitary law. The board should urge upon government the importance of taking some action in the premises. It would be the most fitting body in this country, either by itself or in conjunction with the Academy of Science, to present one or more candidates to the executive as fit representatives of the country in any international congress that might be proposed. And, generally, it should overlook all the sanitary relations of the nation in its intercourse with others.

INTERNAL RELATIONS OF A NATIONAL BOARD OF HEALTH.

It should immediately after its inauguration enter into correspondence with all state or department boards of health, urging them to a thorough sanitary organization of each township, parish, or department within their jurisdiction. It should keep a constant watch upon every portion of the country, and learn the exact sanitary condition of every locality; for by such knowledge alone could it safely guard the whole nation. It should have frequent intercourse with the various state or other large boards having control of large districts. It should call upon each State Board to nominate one of its number as its representative for a national council. If no state boards should have been legally established, it should immediately appeal to each government to establish a board of the highest character.

It is very evident that, under a wise minister of health and the influence of such a board, the intercourse between the national and state and departmental boards would become more intimate each year.

SANITARY ORGANIZATION OF A STATE OR DEPARTMENT.

Its object should be distinctly for sanitary work, and for nothing else. To mix sanitary matters with any other subject is worse than absurd; it will probably be fatal to the best interests of both. The experience of Massachusetts is full of instruction on this point. For years, the Massachusetts Board of Health consisted of seven members, one of whom was the secretary, a salaried man, but having an independent vote, as any other member. Two physicians, one lawyer, one engineer, and two business men, with this secretary, composed it. The board met quarterly, or as often as necessary, and summarily, efficiently, and harmoniously labored chiefly for two objects, namely, the sanitary education of the people, and the sanitary management of offensive trades, etc., in various parts of the State.

Last year, for political and supposed economical reasons, the boards of health and of charities were both abolished, and one board, entitled the Board of Health, Lunacy, and Charity, was substituted. In other words, two entirely new subjects were put with sanitation. One of them, charity, is wholly foreign to sanitary work. The other, lunacy, is not necessarily connected with it, although not so entirely alien as the first. The care of the charities of the State occupies nearly the whole time of the monthly meeting, and would prevent almost all sanitary work, if the board had not committed that portion of its duty to the care of three members of the former board, who now virtually constitute the whole Board of Health. But even this is not strictly true, because all the doings of the three departments of health, lunacy, and charity must be reported, discussed, and perhaps set aside by the full board.

Again, the two secretaries of the Board of Health, who have held office since its formation, have been the first sanitarians in the State, and equal to any in this or in any other country. They have been, till this new arrangement, members of the board, with full powers of voting and of speech. They felt responsible for the action of the board, and keenly alive to any and all proposed doings of the board, and they approved or opposed any measure according to the dictates of their own judgment, and without let or hindrance from any source. Of course, they added im-

mense force to the board. Strangely enough, our new Board of Health, Lunacy, and Charity deprives the secretary of all this responsibility, and makes him a mere hireling, to obey the behests of men, no one of whom knows one tittle that he does on sanitary matters. The most absurd proposition may be made, but he must be dumb, or be deemed impertinent if he gives advice to his *superiors*. He is virtually under bonds, of a salary of twenty-five hundred dollars a year, to keep silence for fear of giving offense to those who hold his office in their hands. Fortunately, the board has a secretary, at present, whom all respect and believe in. His opinion, at times, is sought for and given. But if, by any accident, a man should hold office hereafter simply for the money, sanitary science would, I think, soon lose its prestige in Massachusetts.

To sum up the whole matter, we deem the present junction of health, charity, and lunacy in one board as grotesque a combination as it would be for a physician, a lawyer, and a clergyman to be compelled to work together, and to carry on their three professions in one office, each by its own representative, but restrained and perhaps wholly set at naught by all three meeting together to vote as to all acts. This proposition doubtless seems to you absurd, but it is not a whit more preposterous than the combination called the Massachusetts Board of Health, Lunacy, and Charity.

We have dwelt longer on this experience in Massachusetts because we have felt that its evil example should be held up to the reprobation it richly deserves. It is to be hoped that under a future legislature the Board of Health will be restored to its former untrammelled position. And let every State learn from the present position in Massachusetts to avoid all such entangling alliances between sanitary and any other work, however good. And let us hope, moreover, that all governments will learn from Massachusetts to eschew any false economy in regard to the noble mission devolving upon all state boards of health in their guardianship of the public health.

As originally founded I think that the Massachusetts Board was well organized. It would be well that one of the physicians should be a practical chemist, as every year numerous chemical questions arise. Considering also the importance of the health of animals used for food, a scientific veterinarian might very properly be added to any state board.

A board should select its own president and secretary. The latter might and usually would be one of its own number, but if chosen from abroad he should, on assuming office, take all the privileges enjoyed by members of the board.

DUTIES OF A STATE BOARD OF HEALTH.

The sanitary supervision of the State should be its chief aim. It should educate the people in sanitary matters; teach them to build their houses appropriately, and how to keep them and their own bodies in a sanitary condition. It should have power summarily to abate or put under surveillance any establishment creating a nuisance, but which the smaller or town board feels unable to cope with. It should as far as possible prevent pollution and sophistication of the people's food and drink. It might issue circulars on all sanitary matters, and by having them sent broadcast over the State do an immense service. It should also by annual reports endeavor to advance the general knowledge of sanitary law and of preventive med-

icine. It should urge the organization of town and municipal boards of health throughout the State, and be in frequent communication with them, and for that purpose should have a correspondent in every town, who, in behalf of the board, should act as sanitary inspector of every locality within the limits of the township or parish. It should assist local boards, if need be, with the larger powers of the State. It might act as umpire between the sanitary authorities of two or more adjacent towns. It might organize a corps of lecturers who would discourse on sanitary matters in the various lyceums of the State. It should appoint one of its members to act as delegate when called upon by the National Board for consultation.¹ It should select a correspondent in every township, town, or village in the territory under its control. These persons should be very carefully chosen with reference to their special fitness for the sanitary inspection of a locality. Usually they would be physicians, but not necessarily so, for, at times, a layman may better serve the State. It would be the duty of a correspondent to act as general sanitary inspector of his locality. He should report all local nuisances to the local board, and in cases of a more formidable character, or beyond its powers, he should report the facts to the State Board of Health for its action. Finally, the board should perform any and all other acts consistent with the laws of the commonwealth tending to the promotion of the public health.

If we judge from the experience in Massachusetts, the sovereign power will be ever ready to increase the authority of a board which appropriately and unselfishly devotes itself to the highest sanitary welfare of the State. Almost annually since the formation of such a board in Massachusetts has some new law been enacted confiding more and more summary power to it.

COUNTY OR DEPARTMENTAL BOARDS OF HEALTH.

Still lower in the sanitary organization of a State might legitimately come a county or departmental board. I am not prepared to urge this division of labor, but it is well to meet the question whether such a division might not, at times, be of great use in some States; for example, where there are few large towns, but small hamlets are dotted all over the land. It would have the supervision of the health of a district several miles in extent, whatever kind of districts they were into which the State might be divided. It would have for its objects similar work to that of the state board, but over a less extensive field. It would tend to harmonize the various sanitary doings of the different municipalities within its limits. It would overlook and try to remove all sources of nuisance in one town causing annoyance in another. It might act as umpire in disputed points argued between two adjacent municipalities. It should consist of at least three members, selected from residents in the county or department by vote at a gathering of delegates from the several city and town boards of health. Each should hold office for six years, except that in the first selection one member should be chosen for two, a second for four, and the third for six years. Each might be reelected as long as his constituents should see fit

¹ These summonses would be perhaps infrequent, but it obviously might be deemed very important for the Health Secretary or the National Board to be able to summon experienced sanitarians from each State or department for consultation on important measures bearing upon the welfare of the nation. The traveling expenses should be paid and per diem salary should be given in this case from the national exchequer. It might be legitimately styled the "Health Council of the Nation."

to do so. The board should have close relations with the State Board of Health.

CITY OR TOWN BOARD OF HEALTH.

The number of persons necessary for this part of a state organization might depend (a) upon the number of inhabitants in a place, and (b) upon the extent of its territory. Three would seem as small a number as would be possible for the proper performance of duty in any locality. One of these should be the correspondent of the State Board of Health. The others should be chosen by the citizens or by the mayor and aldermen of a city, for a period of six years. At least one physician should be a member of the board.

This board should have absolute authority to search out and abate all nuisances, with the right of appeal to the state board. The cleaning of streets, overseeing of sewers, the suppression or regulation of noxious trades, etc., would tend to keep its eyes open to all harmful influences bearing upon the health of the municipality.

It should have a corps of inspectors to aid it in the discovering of nuisances and in keeping the city or village up to the highest level of cleanliness. It should be vigilant, and have sufficient means to carry out its plans. It should make sanitary surveys of the place as often as might be necessary, and prepare legislation, if need be, to meet obvious sanitary wants. It should make annual reports to the city or local authorities, and, if need be, ask for legislation of the state government. It should enter into close relations with the State Board of Health. They should mutually assist each other. Members should hold office six years, and one or two should leave each year, as in the county boards. In case the place were large enough to require five persons, two physicians, a lawyer, and an engineer or chemist should be selected. It should choose its president and secretary, the last of whom should be a paid officer, and, if necessary, give his whole time to the board.

THE INDIVIDUAL.

As public health is nothing but the aggregate of the health enjoyed by all the individual members of any community, this question not only is legitimate, but really is a fundamental one in the more general discussion. A man may not only be diseased himself, but he may also become the cause of disease in others. Now, then, can he keep himself in such perfect health as to avoid suffering himself, or bringing it on others?

The first and most obvious remark to be made is that as cleanliness is the most important element towards a perfect sanitary condition of a locality, so it is with the individual man. Cleanliness of body, cleanliness of disposition, and clearness and calmness of intellect comprise the chief, if not the only, elements necessary for human health.

By cleanliness of the body we do not mean a simple daily ablution of the face and hands, and an occasional full bath; but we mean a *daily bath all over the body* with pure water, sometimes using a little soap, and always using it for *certain* parts.¹

But cleanliness of the skin does not make a man clean, except in one great system. If he wish for perfect health, he must attend closely to his digestion. He should not overload his stomach, even with good things. A gourmand can hardly be said to be in a perfectly healthy condition; and any one, even a devout anchorite, who neglects to clean his internal *prime ræ*, as they are styled by the earlier physicians, is dooming himself to ill-health of body and to a disturbance of his morals and mind. The old saying, "Fear God and keep the bowels open" comprises the whole duty of man," may be objected to by some moderns as untrue. Yet there is no more sacred truth than this, namely, that a daily freeing of the body from the effete matters on the skin and in the alimentary canal is essential to individual health, and hence also to public health.

And here let us add one word on the question of beverages for man. Undoubtedly there are persons who can be water or milk drinkers all their lives, and need nothing stronger. We believe that it is rare that the young need anything like stimulants for health; hence it is wrong to use them. Some persons, later in life, find it necessary to use a small amount of wine, or beer, or other even stronger liquor. And provided these be used moderately and simply, to meet an obvious necessity, no evil ensues. But if at any age, for any purposes and under any circumstances, a person indulges to inebriation, nothing but evil can result. Every man knows this by his own feelings after a night of debauch. His clouded intellect, his laggard, non-elastic step, and his general malaise of mind—all prove this to anybody but an arrant simpleton. When the habit becomes chronic, nothing but mischief comes to the individual and to the community. Individual life becomes miserable, the family suffers cruelly, and the public health is impaired. "Total abstinence," in such cases, is the only safeguard for the man, the family, and the public, and "prohibition" to the *drunkard*, becomes the highest sanitary duty of a State, provided that any prohibitory law can meet the emergency.

We ask, then, for pure water for the majority of human beings. But in how few homesteads in this country have proper precautions been taken for securing perfectly pure wells! How many persons place their privies, their cow-yards, or their house drains so near to their wells that it is utterly impossible to avoid contamination. Some wells, in some soils, will drain a cone more than a hundred feet in diameter at the surface of the ground.

PURE AIR AND HEALTH.

When selecting a site upon which he hopes to rear a family, let a man avoid a damp soil as deadly in its influence. This law of dampness of soil and air, especially in its influence upon the production of consumption, is now as certainly proved as the law of gravity. We must accept it and avoid it, or take the consequences. Of two families, one born and reared on a damp soil will be from two to three times as liable to die of consumption as another born and reared upon a dry soil. Yet how few fathers ask about the soil! for, provided the site be agreeable to the eye, or for other reasons, the point of the healthfulness of the place in this particular is wholly ignored.

part before proceeding to bathe another, he could succeed in accomplishing a full bath daily and comfortably with excellent hygienic effect, even in the coldest day in winter.

¹ For this bath nothing more is needed than a hand-basinful of water and one towel. This, though doubtless far less fascinating than some of the fashionable Roman or Turkish baths, is the only one which can be indulged in alike by the beggar and the king. Without it we cannot reach the whole people. With it, and with his own hands to apply the water, every man, however humble, can enjoy all the real advantages of perfect cleanliness of the skin. By using the hand instead of a sponge, by thoroughly wiping and covering one

How many parents, otherwise most kind and thoughtful, allow accumulations of water in the cellars of their homesteads! They wonder at the poor health of the household, and talk about the providence of God being somehow the cause of the difficulty, whereas it is owing to their own ignorance or willful violation of health laws.

Again, how many adults and how many children are daily submitted to the rebreathing of the air that has been used many times in the school-room, workshop, store, warehouse, kitchen, or parlor?

Men seem to forget that pure air in piteous streams is needed for the perfect health of man. Go into our public assembly rooms, our courts of justice, or our churches, from the external air, and see if you are not oppressed by the noisome vapors, which the folly (or crime, as it seems to me we may sometimes call it) of our public authorities compel our people to breathe, often to their infinite injury.

The time will come when our descendants will look back with horror and disgust at the thought that such a building as the Boston Court House should have ever been built, and still more at the fact that, notwithstanding the annual and piteous complaints of sufferers, who are among our noblest citizens, and who are engaged in the most important public duties, the city authorities should steadily refuse to grant any change.

THE MIND.

A healthy mind in a healthy body is always considered the richest boon bestowed on man. When one can use his mind for real mental work, as he would a sledge-hammer in physical labor, then, and not till then, is a man in perfect health. And in order to have this stalwart condition, he must have all the bodily organs go on smoothly, and without his being aware of any of them save in their regular performance of necessary functions. How many have this delightful state of feeling?

Owing to several causes, among which may be cited as prominent our institutions, the inventions of modern times, enabling us and rather leading us to work *heroically*, and finally our exhilarating atmosphere, etc., almost all the community, young and old, *overwork*, and the result is that our children break down at school; our middle-aged finish their labors, or some have to rest for months, perhaps, when without such overwork their minds could have continued active for an indefinite period of time; others become prematurely aged.

We have thus glanced at the skin, the digestive system, the thorax, and the head, and we have hinted at some few of the evils now pressing upon us all, and causing injury to the public health. We believe that the scientific sanitary culture now going on will either overcome or greatly alleviate them. We have forborne all allusion to other tendencies, which, if followed with reason, elevate, refine, and physically improve both sexes, but which used unreasonably and immorally are likely to bring not only unutterable mischief and sorrow to the violator of law, but woe upon their descendants.

We have accomplished our purpose if we have led even a few minds seriously to reflect upon the importance of having among all nations well-devised sanitary organizations, which, beginning with the individual himself, will endeavor to teach him the rules of health, and afterwards will guard him from various dangers to

which he may be exposed from his own neighborhood, from the State, the nation, or from mankind, outside of his own people.

LITHOLAPAXY.

AN IMPROVED EVACUATOR.

BY HENRY J. BIGELOW, M. D.

Professor of Surgery in Harvard University, Surgeon of the Massachusetts General Hospital, Boston.

THE operation for the complete removal of a stone at one sitting, by crushing, has been as successful as its most sanguine advocates could have hoped. Several years may still be needed to determine precisely its relative value; but in the mean time it has been abundantly proved that the bladder tolerates long operations, provided the fragments of the stone, which are the principal cause of inflammation, be removed,—and that fragments need no longer be a source of inflammation. Although several cases of litholapaxy have terminated fatally, the cause of death was not the usual one after such operations: it was not an inflammation of obscure origin, connected with previous disease of the bladder or of the kidneys. The few deaths that have occurred were due to mechanical injury, which, with greater experience in operations of this kind, will doubtless, in the future, be avoided.

It has been remarked by more than one writer, that the new lithotripsy requires even more care than was necessary in the old method by short sittings. This is true. Each repeated act of crushing or of evacuation is obviously liable to its own casualties, and we must add to this liability any that may arise from the gradual abatement of the operator's vigilance. It was once an object, in persuading surgeons to forego their traditional prejudices, to show that the new operation was safer than they supposed; but this being now generally conceded, it is at present important to insist that it should be attempted only by practiced lithotritists, or by a beginner only after familiar practice upon the cadaver. I know no other surgical operation in which a little want of skill or of care is so insidiously liable to fatal accident. The skill here is of a particular kind; and though a surgeon may use a knife well, it does not follow that he also uses a lithotrite well. Before considering this instrument, however, let us examine the evacuator, or "wash-bottle."

It was an alteration of this instrument that made litholapaxy possible, and led to the discovery of the tolerance of the bladder. This was the enlargement of its tubes from the size of the common catheter to the largest the urethra will admit without injury. In evacuating a small stone the smaller of the new large catheters (26 or 27 French) works well enough; but in order to evacuate a considerable stone with comfort either to the surgeon or to the patient, we need a catheter of from 28 to 31, and for its introduction it is often well to enlarge the meatus, which is the narrowest part of the urethra. I cannot but think that the preference of some operators for the curved tube I at first employed is connected with their previous familiarity with curved catheters. And yet when a curved evacuating-tube is in position, its entire curve is in the bladder; and in the manipulation of the instrument there exists the disadvantage of not seeing, as readily as with a straight tube, where its point lies. The orifice, in either case, is on the side of the extremity, and

there is perhaps a quarter of an inch of tapering solid metal beyond it, necessary to make its introduction easy, and to keep the bladder from obstructing it.

The large evacuating-tube being the essential instrument in the new operation, a vacuum produced by almost any apparatus will draw fragments through it. Certain principles, however, observed in their construction, will make them more convenient and efficient.

An apparatus I early employed consisted of a stiff bulb and Clover's trap, attached to the large catheter by a short elastic tube. The combination was a good one; for the elastic tube allowed the bulb, when in use, to be bent down to the level of the bladder. The bulb could also be laid on its side, and, by further depression, reversed; which brought the catheter tube to the top. It then remained only to open a trap at its lowest point and the fragments remained where they fell.

This arrangement, placed in a stand, is practically the evacuator I still use.

A strong bulb or bottle is here a very desirable substitute for the former slender one.

In the glass trap at the bottom of the instrument, the fragments are kept out of the current at a point distant from the catheter. After entering at the top of the bulb, they settle at once to the bottom and remain there undisturbed.

If fragments are drawn through the tube with the force and rapidity that are given to the current by a strong elastic bottle, a few inches added to the length of the route are of no consequence. A short and curved elastic tube (here five inches long, but which I have varied from two inches to two feet) between the bottle and the catheter makes it possible to move one without the other. It relieves the surgeon and protects

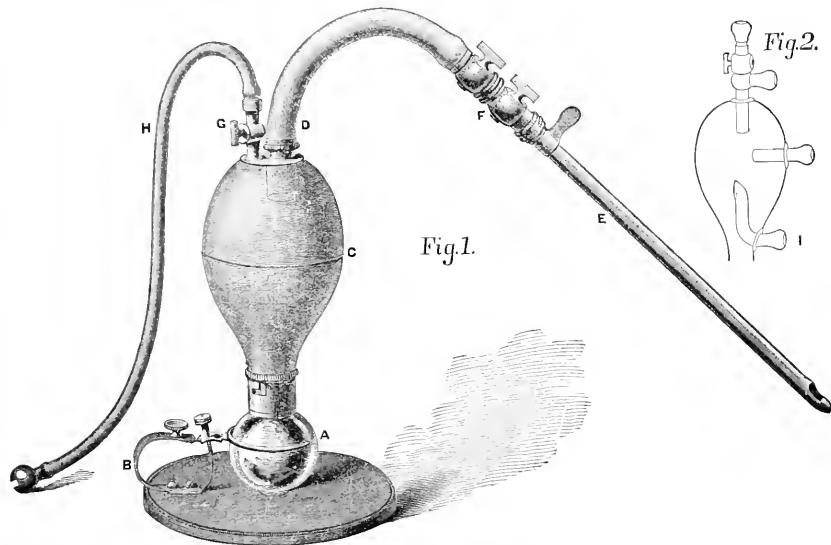


FIG. 1. — A. Glass trap, forming, with the screw-catch B, which supports it on the stand, a ball-and-socket joint.

C. Elastic bulb or bottle.

D. Elastic tube, five inches long. One end is attached to E, the evacuating catheter, and the other is continued into the bulb to form a chamber above its orifice.

F. Coupling between the cocks of the evacuating catheter and the elastic tube.

G, H. Small hose for air and water, with a movable attachment at G.

FIG. 2. — Diagram of a bulb used for experiment.

(TIEMANN & Co., New York.)

the patient. The surgeon can explore the bladder in search of fragments, without having to move the bulb which weighs a pound or two; while the jar of pumping does not reach the bladder. The discomfort to the unethersized patient resulting from this jar is a serious objection to the rigid attachment of the bulb of water to the catheter. It should have a support of its own, placed upon the table or bed between the patient's legs, which may be separated a little, as in the case of the introduction of a catheter or a lithotrite. The surgeon's hand, instead of supporting the water bottle, is then supported by it.

The bulb, when thus near the level of the bladder, acts as a siphon. This is desirable. By experiments you will find that the difficulty of suction increases as the bulb is held higher than the evacuating-tube. It is very marked in Clover's instrument. There is great

advantage in keeping the bulb low, near the level of the bladder.

The evacuator thus described works very well. I have used it in most of the operations you have seen. Its imperfections are that if, by accident, a little air gets inside the bulb, this has to be uncoupled to get rid of it, and a few drops of water may escape in coupling and wet the bed. By a simple expedient I have remedied these inconveniences. In the instrument I here show you, air can be removed, or water withdrawn from the bulb, or added to it, without a drop being spilled. Indeed, the operation would be absolutely dry, did not a sensitive bladder occasionally contract and squeeze out a little water by the side of the lithotrite or catheter, in spite of the elastic band I usually tie around the penis to prevent it. When this happens, it is perhaps best not to try to stop it.

In this instrument, the large evacuating tube at the top of the bulb extends an inch or more downward into its cavity. A space is thus formed where any accidental air collects, but cannot pass to the bladder. This space is emptied at will, through another elastic tube or hose, a little more than a quarter of an inch in diameter, placed by the side of the first. The arrangement is a very simple one. Through this small hose, which can be attached and detached in a moment, the turbid contents of the bulb may be replaced by clear water, without unfastening it from the catheter; or the contents of a tumbler can be transferred to the bladder, and hack again, absolutely without loss of water and with the elimination of all the air. With one end of the apparatus in the bladder and the other in a basin, the operator, even while he is evacuating the fragments, can vary the volume of water at will and put it where he pleases. The catheter, and the elastic tubes, large and small, are each provided with a stop-cock.

If, before using the lithotrite, the surgeon desires to add or withdraw water from the bladder, this may be done through a common sized catheter coupled with the bulb, — thus obviating the necessity for a syringe, and rendering this part of the operation as dry as the rest.

Instead of the metal ball-and-socket joint in the stand of my former instrument, I have substituted another, of which a strong glass trap forms the ball. This is supported in a metal socket, which allows all necessary motion, or fixes it upon the flat disk.

The operation is as follows. Before a catheter is introduced, its stop-cock must be closed. The urine is drawn through a small catheter and replaced by water from the bulb. The lithotrite is then introduced, and the stone is crushed. A large catheter is next passed into the bladder, to evacuate the fragments. If, during the pumping, the bladder indicates, by repeatedly stopping the catheter, that its parietes are hanging loose and acting as a valve, it should be distended by a little water injected from the bulb. This water is retained in the bladder by closing the cock of the catheter; while the bulb is replenished through the small hose.

When the empty evacuating catheter is first introduced, a few bubbles often rise from it, and are caught in the bulb by elevating it. But when the current is established, air takes care of itself, and goes to the trap in the top of the bulb. In fact, there is none, unless by accident. By opening all the cocks, and compressing the abdomen, it is easy to drive air out of the bladder through the bulb as far as the basin.

In pumping you need move only a couple of ounces of water between the bladder and the bulb, backward and forward, gently, without a jerk, once in a second or two. The tube is advantageously held just off the floor of the bladder, — a little higher at first, when the debris clog it, and lower down when only a few fragments remain.

As regards the amount of time necessary for an operation under either, take as much as you please; precisely as you do in an amputation or excision. I usually add to the evacuation a thorough sounding. This requires more time. Some operators leave a few fragments in the bladder, to make the sitting shorter, but I doubt the expediency of doing so. Great care is essential, — also practice. Learn from a good instructor how to pass instruments, large and small, curved and

straight, with absolute facility, upon the dead body, before practicing upon the living. Notwithstanding an occasional assertion to the contrary, I assure you, that, if you can introduce with ease into the bladder of a dead subject, not empirically, but with a reason for each movement, a common tin sound bent successively into a variety of different irregular curves, (and a few hours' intelligent practice, based upon anatomical considerations, will enable you to do this,) you will handle a catheter adroitly in any difficult case upon the living subject, and avoid the accidents that sometimes follow the introduction of common instruments, such as laceration of the mucous membrane and false passage; you will also be able to deal skillfully with obstructions from strictures or the irregular walls of an enlarged prostate. Certain accidents with the lithotrite, however, deserve special consideration.¹

THE COMMITMENT OF THE INSANE.²

BY BENJAMIN CUSHING, M. D.

THE public mind has lately been excited on the subject of the commitment of the insane to asylums. It was thought that personal liberty was not sufficiently guarded. An application signed by the "next friend," notice to the mayor or selectmen, and a certificate, signed and sworn to by two physicians, were enough, in Massachusetts, to warrant the superintendent of an asylum to receive and hold in custody one charged with insanity. In some States much less is required.

¹ The evaluator of Thompson illustrates the objections mentioned in the text. *Latterly* (Gazette Hebdomadaire, Oct. 31, 1879), Thompson has arranged a single cock to do the duty of two in closing the lower bulb orifices to keep the bed dry. But the instrument is virtually the same. (1.) The bulb, or bottle, like Clover's, is above the catheter, so that the water has to be drawn up into it, and, if the cocks happen to be simultaneously opened for a moment, it will all run into the bladder and distend it. (2.) Its weight must be supported by the operator, or rest upon the catheter. (3.) Being rigidly fixed to the catheter, it communicates the jar of pumping to the bladder; this old "short connection" thus retained between catheter and bulb, upon which Thompson insists, yielding, so far as I can discover, no equivalent advantage. (4.) Lastly, the mouth of the catheter enters low down, into the narrowest part of the bulb. Consequently fragments, after rising into the bulb, with the current, must, on their way to the glass trap, again crowd in front of the catheter; and thus debris are needlessly returned to the bladder. It would be better, if it be desired to connect the catheter low down, to prolong it a couple of inches inside the bulb, and to let the fragments escape at a higher point, where the cavity is wider, as is represented in the lowest tube of the annexed diagram. With such an instrument I experimented some time ago. (Fig. 2, 1.) This arrangement also keeps the contents of the trap quiet, and there is no return of fragments.

But even an imperfect or inconvenient apparatus may suffice to empty the bladder. The only feature of an evaluator absolutely essential to rapid lithotripsy is the large catheter I have elsewhere described, which Thompson has adopted without change. It is this that enables his instrument to evacuate. The want of this large catheter (in combination with good suction and a trap) was fatal to the success of previous instruments, and to all attempts at the immediate evacuation of any considerable amount of débris. With such a catheter, Clover's instrument could have evacuated the bladder slowly, and might have led, in the face of traditional prejudice, to the discovery of the tolerance of that organ, and of lithotripsy at a single sitting. But the catheter of Clover's instrument was too small, being only 21 French (12 English), beyond which the English scale did not go. Its eye was also defective. The new method was impossible to those who were using this small catheter. They could not empty the bladder of all its fragments, and therefore knew nothing of the great recuperative powers after the complete removal of this source of irritation. Authorities agreed that evacuating catheters were worthless. When Otis directed the attention of surgeons to the fact (see a paper by R. F. Weir, New York Medical Journal, April, 1876,) that the capacity of the average urethra was very nearly 33, rapid lithotripsy was made easy. Sitzings were lengthened from a few minutes to an hour or two.

² Read before the Dorchester Medical Club.

There remained the power of the superintendent to judge of the propriety of keeping the patient, and the patient himself could, theoretically, take the benefit of "habeas corpus," but practically it might be otherwise. This, by the new law, is changed, and the commitment of the insane is now a judicial proceeding.

Although, on first thought, this seems like taking these cases from the physician and giving them to the lawyer, it is not so. The new law requires a certificate, signed by two physicians, "graduates of some legally organized medical college," and of three years' practice, that the patient is insane and a fit subject for treatment in an asylum. The signers are to appear in court and give reasons for their opinion, and on this evidence and his own personal examination the judge issues a warrant to commit.

I cannot learn that much wrong has been done under the old law, but I can see that it was quite possible, and am inclined to think the new law not uncalled for. I think that I have known of commitments which ought not to have been made and, under the new law, would not be made.

I question whether in the medical certificate, the second point, namely, fitness for treatment in an asylum, has always been sufficiently considered. It is true that the insane must often be confined for the safety of the community, but it is equally true that some of them may be safely and more comfortably cared for outside asylum walls. In truth, I think certificates have sometimes been given too hastily. At any rate such is my own experience and observation.

Again, the old law said "two physicians," and gave no guarantee that the physicians were competent to give an opinion on which so much depended. The new law defines the word "physicians," and subjects the medical opinion to an examination which, if sound, it will bear; if not sound, it will need. The judge also naturally will know the character of his witnesses; and, what is important, proceedings are in open court.

But, while the new law gives new safeguards to liberty, it brings some serious inconveniences to the unfortunate insane themselves, which should be provided against. A case which came under my notice, will illustrate this.

I was visiting a patient when I was told that some one wanted me. Going to the door I found a young man waiting for me, flourishing a club in a violent and excited manner. At first, I thought that he was intoxicated, but soon recognized him as an insane man whom I had formerly known. I took him to his home and advised his immediate removal to an asylum, both for his own sake and because he was dangerous to others, being disposed to be quarrelsome. It was too late in the day to get an order from court to commit him, and I did not like to have him confined in one of the underground cells of the station. Provision was therefore made to care for him in his father's house until the following day, when he might be taken before the judge of probate. On the next morning he was taken by an officer to the city. It so happened that the court did not sit on that day, it being Decoration Day, a fact which had not been thought of, and I afterwards learned that the unfortunate young man was confined for a day and a night in one of the cells under the court-house (I believe they are called "Tombs" and well named), whence he was taken raving and hand-cuffed to South Boston.

From this may be seen what is needed, namely, a suitable place where the insane, who are too violent to be left at large for any length of time, can be detained with comfort to themselves, and not be made worse by a confinement which cannot but aggravate their malady. In this connection let me say that the lock-ups in this State, including those in Boston, are not what they should be. Many of them are under ground and infested with vermin, badly ventilated, and too far removed from the night-watch to be safe for the occupants.

It should be borne in mind that these cells are for those waiting trial, and not for convicted criminals; places for detention, not for punishment. It is a maxim of the law that all are presumed innocent until proved to be guilty. If this is anything but a pleasant legal fiction, the occupants of these cells are in the eye of the law innocent, for they have not been tried. They should not be subjected to unnecessary discomfort or danger. One arrested on suspicion is entitled to be tried and, if acquitted, returned to society in as good condition as before arrest. The State is morally responsible for so much. Under my limited observation, within a few years, several cases of death have occurred, the direct results of imprisonment in our lock-ups.

If our boards of health, state and city, would give attention to this matter and personally visit the lock-ups in Boston and vicinity, and learn their histories, they would, I think, find a field of labor large and, as yet, uncultivated.

RECENT PROGRESS IN GYNÆCOLOGY.

BY W. H. BAKER, M. D.

The Treatment of Epithelioma of the Cervix Uteri.—Dr. J. Marion Sims contributes a most valuable article on this subject to the *American Journal of Obstetrics* for July, 1879, giving the details of ten cases and a description of his method of operating. The steps of the operation are essentially as follows: The patient is etherized and placed in the left lateral semi-prone position; the Sims speculum being applied, the tumor is to be seized with vulsella, pulled forward, and held firmly, while with the curette we remove as fast as possible the soft or outer portion, this being the most vascular; when the underlying or indurated portion is reached the bleeding becomes less troublesome, and the scissors or knife should then be substituted for the curette, and the diseased tissue removed piece by piece until the healthy structure, as detected by the touch, is reached; the parts are then sponged as dry as possible and quickly filled with styptic cotton wool until the conical cavity made in the uterus is firmly packed with it, a few layers of the same dressings being tightly put in the upper part of the vagina, and the remainder of that canal tamponed with cotton wet in carbolic water. The vaginal tampon should be removed within forty-eight hours, except the styptic cotton in its upper part, which, together with that in the neck of the uterus, should be left until the fourth or fifth day; on its removal, the conical excavation of the cervix should be filled with cotton wool wet in a solution of chloride of zinc of the following strength:—

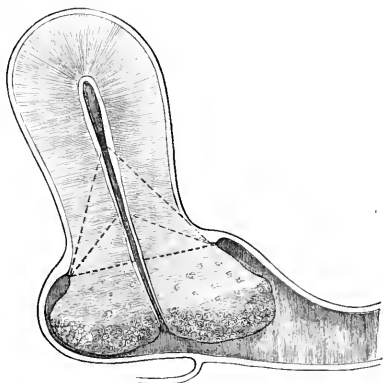
℞ Zinc chloridi	3v.
Aqua distillat.	3i.
M. Ft. sol.	

The upper part of the vagina is to be tamponed tightly with cotton wool saturated with a solution of bicarbonate of soda. The chloride of zinc produces intense pain, and it is always necessary to give morphia hypodermically to relieve it. If the zinc cotton wool be too wet the superabundant fluid runs down the vagina and inflames it.

The vaginal cotton wool may be removed in part the next day, and wholly in a day or two more. But the zinc wool in the cervix is not to be interfered with until the fourth or fifth day, or until it has freed itself by suppuration. When this dressing is all removed, a slough about a sixteenth of an inch thick will be found to line the cervical cavity, which can sometimes be taken out in one entire piece. Beneath it we should see healthy granulations, which heal in from ten to fifteen days under the use of vaginal injections of warm carbolized water.

The operation divides itself into two stages, — that of removing the diseased tissue and applying the styptic cotton for the control of hæmorrhage, and the subsequent destruction of so much more of the underlying structure by the chloride-of-zinc dressings.

One most important point in the first stage, which is strongly insisted upon and which we fear is too often neglected, is that of following up the removal of the disease, even to or somewhat through the *os internum*, instead of amputating the diseased mass at the vaginal insertion of the cervix, as will be shown by the diagram: —



The author advises the internal exhibition of arsenic (Fowler's solution) subsequently, in such doses as shall not interfere with the digestion, and also that the patient should be carefully examined each two months, that we may be sure there is no return of the disease. Should there be any recurrence the curette should be used and the zinc dressing applied as before.

The ten cases reported seem to have been selected by the author to illustrate different stages of the disease or to bring forward some important point in the treatment. This, of course, gives greatly increased force to the article.

It would be hardly fair, however, to draw conclusions from these cases as to the length of immunity from the disease resulting to the patient. But from the fact that two of the patients were doing well at the end of five years we should be encouraged to practice the

thorough removal and destruction of the disease recommended by Dr. Sims. We wish he could have incorporated in his most interesting article the analyses of all the cases of this form of disease upon which he has practiced the above-described operation, for we should then be able to reach a much more definite conclusion in regard to it. The inferences which Dr. Sims deduces from the facts set forth in his paper are: —

"(1.) Do not amputate or slice off an epithelioma of the cervix uteri on a level with the vagina, whether by the *cæteræ* or the electro-cautery.

"(2.) Excise the whole of the diseased tissue, even up to the *os internum* if necessary.

"(3.) Arrest the bleeding, when necessary, with a tampon of styptic iron or alum cotton wool.

"(4.) Be careful not to apply the tampon with such force as to lacerate the excavated cervix uteri.

"(5.) When the styptic tampon is removed, cauterize the granulating cavity from which the disease was excised with chloride of zinc, bromine, sulphate of zinc, or some other manageable caustic capable of producing a slough.

"(6.) After the removal of the caustic and the slough it produces, use carbolized warm water vaginal douches daily till cicatrization is complete.

"(7.) After the cure put the patient on the use of arsenic as a protection against the cancerous diathesis, and urge the importance of examination every two or three months for the purpose of detecting the recurrence of disease.

"(8.) Then if fungous granulations or knobby protuberances not larger than a pea are found, lose no time in removing them, and treat the case afterward with caustic, just as in the first instance.

"(9.) Almost every case may be benefited by operation, even when there is no hope of giving entire relief."

This operation, which we had learned from the personal instruction of Dr. Sims, and the value of which we have learned from our own experience to be very great, has yet certain disadvantages which others have tried to overcome by using Paquelin's thermo-cautery, removing a conical plug from the cervix, as referred to in the above article. The objections to the Sims method are: *first*, the danger of lacerating the excavated cervix in applying the tampon, or of applying it so tightly that when the tissue is very thin there is danger of a slough taking place, whereby the peritoneal cavity may be opened; *second*, that the styptic cotton, if left a few hours too long in the uterus, endangers the patient to septicæmia; and as this cotton in the upper part of the vagina is often sealed tightly in place, even when that in the uterus is free, a certain amount of old blood and pus is imprisoned in the uterus, which sends the temperature up, and we hasten to remove, often with great difficulty, the tightly-sealed portion in the upper vagina, in order to give escape to the purulent collection; *third*, the great tax upon the strength of the patient which the repeated changing of dressings necessitates; and, *fourth*, the pain caused and the damage which is sometimes done to the vagina by the chloride-of-zinc dressings.

The objection to the other method mentioned is that in using the thermo-cautery from the beginning of the operation we cannot thereby be sure that the entire disease is removed.

For the past two years in the several cases upon

which we have been obliged to operate, we have followed the Sims method up to the point of applying the styptic cotton, thereby gaining all the advantages of the sense of touch in guiding us as to the entire removal of the disease. We have then substituted the thorough application of the thermo-cautery at red heat, the patient still remaining in the Sims position, without removing the Sims speculum. By this means we have been able, in nearly every instance, entirely to check all hemorrhage and at the same time destroy a depth of tissue as great as that destroyed by the chloride-of-zinc dressings. We have, moreover, by this means obviated all the objections that we can see to the Sims method, as well as the objections to the use of the cautery for the entire operation; and, by accomplishing the whole essential treatment at one time, we can secure to the patient a degree of rest and freedom from pain, to say nothing of the absence of danger of laceration and septicaemia, which are acknowledged to be present in the Sims method entire, and this, we think, without in any way diminishing the thoroughness of the operation.

Batley's Operation.—Dr. Heywood Smith reports a successful case of extirpation of the ovaries in the *British Medical Journal* for July 12, 1879. The case shown in this report, and especially the full description of the gross and microscopical appearances of the ovaries removed, make it very interesting; and if other operators would take as much pains in the subsequent careful examinations of the specimens removed in this operation we should be able to arrive at a more definite knowledge of the causes which give rise to the necessity for its performance.

The right ovary was small, irregularly oval in shape, the surface corrugated and furrowed by deep sulci. On section, the interior was found to be hollowed out into numerous spaces filled with a transparent viscid fluid. Under the microscope these spaces were most numerous in the neighborhood of the large blood-vessels near the hilus; their shape was irregular, generally somewhat oval in outline. None of them had any distinct cyst wall. They were bounded by ovarian stroma, which in their vicinity was loose, and in some cases retiform. In no case did a cyst present any appearance of being produced by the dilatation of a Graafian follicle; all were evidently new "areolar" formations in the stroma of connective tissue. In several instances there were masses of extravasated blood in the cyst.

The left ovary was similar, only less corrugated, and containing more blood-vessels. Few Graafian follicles were found in either organ.

In his remarks on the case he explains the dysmenorrhoea as follows: "First stage, congestive, but we know not from what cause, physical or mental; second stage, vascular, the vessels becoming almost varicose, their walls thickened by some slight inflammation; the periodic hyperemia producing pressure on the stroma of the ovary and its nerves, this stage accompanied by degeneration of and cyst formation in the stroma; and, lastly, third stage, that of "cirrhosis," when the fibrous nature of the degeneration produced irregular contraction, drawing in the stroma (especially marked on the surface of the ovary), and so maintaining, if not increasing, the periodic pain by the hyperemia acting on the contracted organ not having free scope for that enlargement that would have lessened the eccentric pressure."

Hospital Practice and Clinical Memoranda.

ANTISEPTIC SURGERY.

A SERIES OF CASES REPORTED TO THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

BY H. H. A. BEACHT, M. D.,

Demonstrator of Anatomy in Harvard University, Surgeon to the Massachusetts General Hospital.

Gun-Shot Injury of the Elbow-Joint; Complete Excision of the Joint; Recovery with a Useful Arm.—R. W. P., aged twenty-five, entered the Massachusetts General Hospital three hours after receiving a charge of shot in the joint from the explosion of a gun four feet distant. The joint was torn open, the head of the radius and the external condyle of the humerus were comminuted, while the soft parts on the outer side of the joint were lacerated, blackened, and charged with shot and small pieces of bone. The wound was thoroughly carbolized, and the joint completely excised, the fragments of bone, shot, and loose shreds of muscle and skin having been removed. Sutures were not used, as the contusion to which the parts had been subjected made the probability of considerable swelling a strong one. A Lister dressing was applied, and the limb placed upon an internal angular splint. Considerable sloughing of the soft parts followed, but at the end of the first two weeks the wounds presented a bright granulating surface four inches long by five inches broad. One month after the injury, gentle passive motion was employed, and in five weeks the patient was up and about. Discharged well two months and a half after entering the hospital. Now, he can use the arm, hand, and fingers as well as he can those of the other limb, and is working at his trade, that of a machinist, from morning until night.

Fracture of both Thighs; Compound Comminuted Fracture of the Tibia, Fibula, and Tarsal Bones into the Ankle-Joint; Amputation of one Leg; Recovery with Good Union in both Thighs.—J. A., aged twenty-one, was brought to the hospital two hours after having been thrown violently to the ground by a railroad car, one wheel of which had passed over the left ankle-joint, crushing the bones and soft parts. The fall produced a fracture of both thighs at the middle. The leg was amputated at the junction of the middle and upper thirds, and dressed by Lister's method. Coaptation splints were applied to the thighs, and an extension of seven pounds was attached to the right leg. No extension applied to the left leg. In two months after his admission he had good union. Eleven days later the dressing was removed from the stump permanently, the wound having healed. He was about on crutches for another month, and then discharged well.

Lister's method was of exceptional value in this case, for, in eight weeks only six changes of the dressings were necessary. The immobility required for the repair of the fractured femur would have been seriously interfered with by manipulations of the limb incident to the ordinary daily dressings, and the patient's comfort lessened materially.

Cystic Disease of the Left Ovary; Ovariectomy; Death in Ten Days.—J. M., single, thirty years old, was in fair general condition, though she had become emaciated during the past year. Her attention was directed to the tumor about two years since by pain and swelling in the left iliac region which gradually extended

toward the middle and right side of the abdomen. She was tapped by her physician to relieve dyspnea, and twenty pounds of opaque fluid, so thick that it would not run through the canula, were drawn off through the puncture. Considerable relief followed the tapping, but the fluid reaccumulated, and though no other organic disease could be detected her health had become seriously impaired during the past six months. Her menses were regular. The girth of the abdomen on a level with the umbilicus was thirty-five inches, the parietes, tightly stretched over the cyst. The whole front of the abdomen was dull on percussion, while the flanks were resonant. The uterus was drawn up and tilted to the right side of the pelvis. A large, rounded body nearly filled the pelvic cavity, and could be felt through the vagina and rectum. There was no history of peritonitis after the tapping. Seven days after the cessation of her menses the tumor was removed, with all the precautions of Lister's antiseptic system.

A straight incision of four inches was made between the umbilicus and pubes; on reaching the tumor a firm adhesion was found at the point where she had been tapped, which permitted a partial evacuation of the cyst without introducing the trocar, or allowing any of the fluid to enter the peritoneal cavity. A thick, glutinous, chocolate-colored fluid filled the cyst, and when removed occupied half a water-pail. The incision was extended two inches above the umbilicus in order to reach some omental adhesions. To prevent any escape of fluid during its removal into the peritoneal cavity, the opening into the cyst was closed by a strong double ligature. The pedicle was secured by the Spencer Wells clamp. A few bleeding vessels were tied, and the wound was closed by deep and superficial silk sutures. The pedicle was treated with persulphate of iron, as Mr. Wells directs. A Lister dressing was then carefully applied to the wound. The patient bore the operation well. At night the pulse was 96, and the temperature 100.8° F. On the following day she complained of pain in her back, and her temperature reached 101.8° F. (the highest point after the operation). On the third day she had some tympanites and abdominal pain, from which she was relieved by passing the rectal tube. One week from the day of operation the dressing was removed under carbolic spray, and the wound found in good condition, union having apparently taken place throughout. One half of the sutures were removed, and the Lister dressing was again applied. No change of importance occurred until two days after, when she became quite restless, and complained of abdominal pain. The wound was examined under carbolic spray, and the remaining stitches were taken out. The end of the pedicle had a foul odor; it was carbolized with a one-to-twenty solution. Later in the day she had some vomiting, and a slight enlargement of the parotid gland on the right side was observed. She was restless and somewhat delirious during the night. The pulse gradually failed, and the stomach rejected stimulus. Subcutaneous injections of morphia relieved the vomiting temporarily. This condition continued during the next day, and she died suddenly in the evening.

The friends permitted an examination of the wound only, and I am unable to describe the condition of the joints and viscera. An incision was made into the abdominal cavity, parallel to the wound, and a large flap of the abdominal parietes everted, showing the wound to have healed perfectly on the peritoneal surface and

firmly adherent to the pedicle; not even the trace of a suture being visible. There were no evidences of peritoneal inflammation excepting a patch of faint redness near the line of union. The intestines were free from the anterior wall and not glued together, nor was there any abnormal quantity of serum in the peritoneal cavity. The sloughing end of the pedicle had not become detached, and extending laterally from it beneath the skin was a small pocket containing some foul pus, which might have been the source of infection.

Cystic Disease of the Left Ovary; Ovariectomy; Recovery.—The patient is twenty-six years old, and she first noticed a tumor in the left iliac region three years ago, which gradually increased until a year since, when she had what was called at the time "inflammation of the bowels" from that time the catamenia did not appear for four months. The growth of the tumor continued until nine months ago, when it was tapped and about a gallon of chocolate-colored fluid drawn off. After that, the sac slowly filled again, and she was treated by electrolysis, the needle having been inserted thirty-two different times, and after each insertion there was some pain and tenderness about the punctures for two or three days. Her abdomen was distended to the size of a woman at full term, and the tumor was evidently made up of one large cyst and several smaller ones. The uterus had been drawn over to the right side of the pelvis by the growth. No other organic disease existed.

The operation was performed under carbolic spray. A straight incision of four inches, made in the median line between the umbilicus and the pubes, opened into a chamber of thin, purulent fluid, the result of peritoneal inflammation; the sac was then reached and punctured. About five quarts of fluid were removed, having the same appearance as that evacuated by tapping. The incision was then extended four inches above the umbilicus, as without it a careful dissection of the adhesions could not be made; they were very firm, involving the intestines, abdominal wall, and pelvic viscera. The pedicle, short and broad, was ligatured securely with stout catgut and dropped into the pelvic cavity. Bleeding vessels were tied with catgut, the wound was closed by silk sutures, and a Lister dressing applied. One week after the operation the stitches were removed, and the wound was found in good condition. The dressings were renewed, and on the twelfth day discontinued. Her progress was steady, and she was sitting up twenty-five days after the operation. In two weeks more she returned to her home well.

It should be stated that both cases of ovariectomy were performed in rooms engaged for that purpose, outside the hospital grounds.

NOTES ON FOUR CASES OF CEREBRO-SPINAL MENINGITIS.

BY F. C. CLARK, M. D., PROVIDENCE, R. I.

CASE I. On the evening of February 15, 1873, I was called hastily to attend a girl fourteen years of age, who had complained for a few days of feeling unwell. She had just commenced to menstruate, and it was attributed to that. Just previous to my arrival she had a strong convulsion. I was told, and fell from the bed, lost consciousness, and expired. There were no bruises upon her person, and no epileptic history. The head had been observed to be thrown back.

Several reasons made me regard cerebro-spinal meningitis as the probable cause of death. The disease was then prevailing to some extent in the city; the drainage, ventilation, and condition of the house in every way favored such a disease; the suddenness of the attack, with no previous sickness to speak of, and the convulsion.

CASE II. In the spring of 1873 I was called to see a boy with cerebro-spinal fever. He was living in poor circumstances and under adverse conditions as to food and shelter. When I saw him he was in convulsions, and it took two men to hold him. He would at times double himself up like a bow, and then straighten himself with great violence. He was taken to the Rhode Island Hospital, and treated with hydrate of chloral and bromide of potassium. He died in a day or two.

CASE III. D. E. was a boy about seventeen. He worked in the culinary department of a hotel fronting the canal. He was taken suddenly about noon, May 30, 1873. I found him in strong convulsions, prostrate upon the floor. I prescribed the usual remedies, chloral and potassium bromide, and sent him to his home in East Providence, about two miles away. The case went out of my hands, but I heard that he ultimately recovered.

CASE IV. I. G. colored, aged twelve, lived close to the canal, into which drains and vaults discharged their contents. From the whole place emanated foul, disgusting, and unhealthy odors.

About two weeks previous (March 8, 1873), his mother said, he had rheumatism, swelling and pain in the knees. The head too at the time seemed thrown back upon the shoulders, and he had nose-bleed at night once or twice. She noticed this more particularly, since he was not subject to nose-bleed. These symptoms entirely passed off. On Friday (March 21, 1873) he felt indisposed, with headache and a "nervous attack," as the mother called it. On Saturday morning (22d) he was seized with vomiting, had two chills, followed by two convulsions, during which he cried out; his head was thrown back, and the muscles of the whole body were extremely rigid. On regaining consciousness he complained of being very cold. His mother administered some physic, put hot flannels over his abdomen, and bathed his feet in warm water. In the afternoon of the same day he had acute headache in the frontal region, dizziness, and great delirium; he often cried out aloud, talking to himself or muttering. March 22d, at seven o'clock, p. m., I saw him for the first time, and he presented the following symptoms: great delirium and excitability, yet at times he would answer when spoken to; great thirst; eyes natural; countenance not so intelligent as in health; temperature not elevated; tongue slightly coated; pulse 120. I prescribed for the night bromide of potassium.

March 23d, eleven a. m. Patient passed a restless night; delirium continues; photophobia, soreness of nape of neck, headache, pain in left side; other symptoms as yesterday. Pulse 118; temperature 100° F. 6.30 p. m. No change for the better; urine dark brown and copious; pulse 128; temperature not taken.

℞ *Liquoris ammonii acetatis* ʒiij.
Spiritus aetheris nitrosi ʒi.
 Potassi iodidi ʒi. M.

Gave a teaspoonful every three hours, and continued the bromide of potassium as before.

March 24th. Passed a better night. Conjunctivæ injected, and less photophobia; hyperæsthesia; soreness of abdomen, and pain along the spine; less delirium;

some food taken during the night. Pulse 128; temperature 103.5° F.; respirations 40, and sighing, sharp, and rapid; tongue better. 6.30 p. m. Little change; less hyperæsthesia; acid drinks very grateful.

March 25th. Weakness; patient sinks down in bed; sleeplessness and restlessness; gave morphine sulphate in one-tenth to one-eighth grain doses; pulse soft and quick, 124; temperature 103°; respiration 44°; brandy or whisky and farinaceous food every two or three hours; the bromide of potassium was discontinued. 6.30 p. m. The boy slept about one hour and a half; he was in a profuse perspiration; pulse the same as in morning, but harder; temperature 102°; respiration down to 28.

March 26th. Symptoms remained the same; tongue furred. He had during the night two profuse attacks of epistaxis; slight cough; pain in side (right). Pulse soft, 112; temperature 103° F.; respirations 28. Eight p. m. Same symptoms continued. He had nose-bleed twice, but it was easily stopped. Pulse 115; temperature 102° F.; respirations 28.

March 27th. Slept well during the preceding night; one attack of nose-bleed, but quickly stopped by the application of cold water; one slimy discharge from bowels. He takes nourishment with great difficulty. Pulse 118; temperature 102° F.; respirations 28. Gave tincture of aconite root in one-drop doses every hour to bring down the pulse. (End of first week.)

March 28th. Râles are now heard in right side of chest, and a trifling dullness on percussion; cough and a little bloody expectoration. Other symptoms the same. Pulse now 100; temperature was not taken; respirations 28.

March 30th. The symptoms remain the same. The patient reported low, and little hope of recovery. Pulse 110; muscles in the nape of the neck stiff.

March 31st. Some improvement. Opisthotonos present, though more apparent when patient rises up in bed. This was never so noticeable until to-day. He desires certain kinds of food. Morphia given instead of chloral. Nose-bleed returned, but easily stopped; pulse 96.

April 1st. Eyelids seem to-day somewhat swollen; chest symptoms disappearing; abdomen tumid, but not tender; detected a gurgling in right iliac region. Pulse 96. Directed poultice to nape of neck.

April 3d. Symptoms much the same. A little sore throat, and difficulty in swallowing. Pulse 88 to 96; respiration normal; temperature 101.2° F. The aconite was now discontinued and the tincture of perchloride of iron given in three-drop doses.

April 6th. Symptoms better; nourishment more easily taken; slept better; respiration natural; pulse 96; temperature 100° to 102° F.

April 7th. Great prostration returned; profuse sweating. Patient answers well, but with difficulty. Food taken in large quantities. Pulse, etc., same.

April 14th. During ten days evident improvement was manifest, the opisthotonos disappearing; less whiskey and more food used. On the 10th relieved constipation by a dose of calomel, followed six hours afterward by sulphate of magnesium. Urine of a brick-red color. Swelling of the face was noticed the 12th, but disappeared the next day. Gave another purge, and a teaspoonful every three hours of the following:—

℞ *Liquoris ammonii acetatis* ʒiv.
 Potassi iodidi ʒiiss. M.

Milk, whisky, and beef tea have been taken often. Pulse 96.

April 30th. Continued improvement. Bowels opened four times on the 15th. Morphine not required so often. Gave one grain of sulphate of quinine in solution three times a day. Opisthotonos, however, is evidently increasing, but swelling of face disappears again. On the 17th food rejected, on account of weakness of stomach. The next day he had a sudden attack of vomiting and purging. Gave bismuth subnitrate. From that day onward convalescence was established.

The first stage in the disease in this case may be said to end on the ninth day, March 30th. After this day the temperature rarely rose above 101.7° F., and the pulse was not higher than 96 strokes a minute. The second stage, which is longer, then began, and ended the twenty-fourth day, the pulse remaining nearly stationary at 96, and the temperature at 101° F. In the first stage the pulse was nearly always between 115 and 120, temperature 102+° F. The third stage does not show so marked curves. The first stage continued nine days, the second fifteen, and the last about a week.

It will be very clearly seen that the treatment rested almost entirely upon alimentation. Drugs were used simply for symptoms which now and then had to be combated. The expectant method, then, was the one here employed. Whisky and other alcoholic liquids were not often given alone, and if so only so long as the patient could not readily take nourishment proper of any kind. All alimentation was of a liquid character for a period of three weeks. Further, a strict observance of the laws of hygiene was insisted upon; and the family moved from that locality to a better one as soon as the boy recovered. The pulse ran up as high as 128, and never fell below 100, for the first week. The temperature was 105.5° F. at its highest point, and so far as the temperature was observed for three weeks never, with but two exceptions, fell below 100° F. Symptoms of pneumonia showed themselves, and also those of typhoid fever. Oedema of the face and abdomen occurred several times; dilatation of the pupils of the eyes was noticed only in the last stage of the disease. At the termination of the disease the boy seemed to possess all his faculties intact.

Comments. It will be seen that all these cases occurred during the same year (1873), and the first half of that year. In the registration report for 1873 Dr. Snow gives thirty-nine (39) fatal cases of cerebro-spinal meningitis; and in the report for Rhode Island for the same year Dr. Caswell mentions sixty-two (62), the majority of deaths by that disease taking place during the first half of the year. Never before nor since have there been in Providence so many fatal cases. Dr. Snow, in his report for 1874, says in regard to the disease (there were only ten (10) deaths in the city in 1874 by that epidemic) that the first death was reported in 1864, and no more than one or two up to 1871, when there were 12; in 1872, ten; in 1873, the greatest number occurred. To give a little summary of the cases from Dr. Snow's reports:—

1864	1 death.
1865	2 deaths.
1866	1 death.
1867	0 deaths.
1868	1 death.
1869	0 death.
1870	0 death.
1871	12 deaths.

1872	10 deaths.
1873	39 deaths.
1874	10 deaths.
1875	6 deaths.
1876	4 deaths.
1877	7 deaths.

More than fifty per cent. of these were children under fifteen years of age. On the addition of the tenth ward the increase in the number of deaths by this disease was not sufficient to make any perceptible difference in the whole number.

The exciting causes are unknown. Proximity to the canal and cove may seem to be in some degree responsible in my own cases. But it is not known in what wards the greatest number of deaths by this disease occurred. Since the date of these cases the cove has been drained, and the general sanitary condition of the city greatly improved by the removal of vaults and wells rendered impure from the near neighborhood of privies and cess-pools, by the introduction of city water, and by the connection of houses with the sewers.

Reports of Societies.

THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

LITHOLAPAXY.

E. G. CUTLER, M. D., SECRETARY.

NOVEMBER 24, 1879. — Dr. H. J. BIGELOW addressed the society on the subject of Litholapaxy, exhibiting the latest instruments and a new evacuator.¹

The discussion was opened by Dr. FIFIELD, who said that the succession of events which lead Dr. Bigelow to the discovery of the operation was remarkable and interesting. Heurteloup forty-five years ago established the fact of the tolerance of instruments by the bladder. He also established another fact, which was the ill effects of the fragments on the bladder, and insisted on the removal of all angular pieces to make the operation safer and bring speedy relief. Cornay's instruments, as shown by the plates, in his essay, *De la Lithérétie ou Extraction des Concrétions urinaires*, published in 1845, seem almost to have served as the models of Dr. Bigelow's instruments. He first used curved, then straight, tubes. The principle of aspiration he also undertook, but the instruments were probably not well made at that period. As he lived in Rochefort, a small place, perhaps it is not surprising that he obtained no followers. Mercier originally used a balloon, which bears a very close resemblance to that of Dr. Bigelow; instead of the glass on a stand, however, he used a large valv. If so long ago the importance of size, straight tubes, aspirators, and so forth were made out, why were they not used? Probably because they were not found to be applicable in all cases. To introduce the large instruments of Dr. Bigelow one requires large-sized urethra. Otis's rule is ten times the circumference of the penis, in inches, for the size of the catheter, French scale.

The operation cannot be universally applicable if certain conditions of the neck of the bladder and prostate will not admit of the introduction of Dr. Bigelow's instruments; and if only the most fitting cases can be taken the results must necessarily be good.

Dr. T. B. CURTIS, being called upon by the chairman, said that as the testimony of others besides the

¹ See page 30 of this number.

originator of a new procedure was often of value he would communicate briefly to the society some of the results of his experience. Since the publication of Dr. Bigelow's views, Dr. Curtis had applied the new method in a number of cases with uniform success. He believed that rapid lithotomy, or litholapaxy, was destined to supersede completely the old dilatory lithotomy in multiple short sittings, and that this new method would not only prove to be applicable to all cases of vesical calculus, except those in which lithotomy was called for, but that it would also invade the present domain of lithotomy itself. It had been asserted, both in Europe and in this country, that urethra sufficiently capacious to admit the large tubes advocated by Dr. Bigelow were exceptional, and that in a considerable proportion of cases the new method would be found inapplicable. This had not proved to be the case. Dr. F. N. Otis, whose researches were made with another end in view, had found that the average calibre of the male urethra was nearly 33 French. The meatus was almost always smaller, measuring on an average 24.7. Therefore, after division of the meatus, the average urethra would admit Dr. Bigelow's largest tube, the calibre of which is 31. Moreover, it should be borne in mind that a contraction of the canal preventing the use of an efficient tube, measuring from 28 to 31, would also be a source of difficulties and dangers in the old lithotomy, with spontaneous discharge of the fragments, and would constitute a counterindication to that operation.

Dr. Curtis had used in all his cases a comparatively simple apparatus, improvised by modifying, according to Dr. Bigelow's principles, a Clover's aspirator, which had been purchased several years before in London, and which had proved quite useless in its original condition. A set of large tubes with short curves and wide eyes had been substituted for the utterly inefficient tubes provided by the maker, Weiss. A strong rubber bulb was fitted in in place of the weak one originally belonging to the instrument. Lastly, a piece of rubber tubing, a few inches long, was interposed between the catheter and the glass trap of the washing bottle. Using this instrument for the first time nearly three years ago, Dr. Curtis succeeded in removing a uric calculus weighing over a half an ounce (253 grains) in less than an hour and a half. The urine, carefully strained for a week, yielded only two and one half grains of gravel. The patient made a very rapid recovery, and has remained free from symptoms of calculus up to this date. In several cases this aspirator was used with tubes 27 and 29, without ether, for the removal of crushed fragments and entire stones small enough to be withdrawn.

One point remained on which Dr. Curtis wished to add a few remarks. The length of the operation, as performed in this country, had been criticised, and attempts had been made to improve upon Dr. Bigelow's procedure by shortening its duration. This had been effected in two ways: in the first place, by operating in a hurry, "against time," as the phrase is, with two lithotrites alternately brought out packed, and with an assistant at work cleaning them; and, in the second place, by omitting the final exploration by which the completion of the evacuation is carefully verified. Sir H. Thompson has expressly stated that he prefers to postpone the search for lost fragments, at the risk of leaving the evacuation uncompleted, rather than protract the operation, as he thinks, needlessly. The cases

recently published by him illustrate this practice. His largest stone, weighing 521 grains, was thus dealt with in two successive operations. This proceeding, however, is a relic of the old traditions, and is unavoidably attended, in a certain measure, by the dangers which it is the object of Dr. Bigelow's method to avoid. With etherization there need be no undue haste to terminate the operation. On the other hand, a small fragment left behind may produce the most disastrous results. A case lately treated by Dr. Curtis illustrates the dangers which are thus likely to be incurred. An aged patient, with multiple small calculi, was operated upon by Dr. Bigelow's method. After about three quarters of an hour of crushing and aspiration, the bladder seemed to be relieved of all fragments. As the patient had a fairly large, unobstructed urethra, Dr. Curtis, influenced by the then recently published recommendations of Sir H. Thompson, refrained from the usual prolonged exploration, and concluded the operation. The immediate effects were soon recovered from, and on the third day the patient was up and dressed. He continued, however, to suffer from frequent painful micturition, with purulent urine.

A second exploration under ether was found necessary, which resulted in the detection and removal of a small last fragment, less than a third of an inch in diameter. This second operation was followed by a severe febrile and inflammatory reaction (with a temperature of 105°, great suffering and delirium), which threatened to carry off the patient, and from which he is now convalescing. Judging by the results attained in this case, as compared with his other cases in which complete evacuation was effected and verified by a prolonged leisurely operation, and taking into consideration the theory upon which the procedure is based, Dr. Curtis firmly believed that it was in all cases preferable to protract the operation for two hours or more, if necessary, rather than incur the risk of leaving fragments in the bladder.

Recent Literature.

Outlines of the Practice of Medicine, with Special Reference to the Prognosis and Treatment of Disease.

With appropriate Formulæ and Illustrations. By SAMUEL FENWICK, M. D., Lecturer on the Principles and Practice of Medicine at the London Hospital. Philadelphia: Lindsay and Blakiston. 1880.

Dr. Fenwick states that he gives this small volume, having its origin in previously delivered lectures, to the public with a view to combat a tendency, existing especially among students and young practitioners, to adopt physical diagnosis as the basis for treatment to the neglect of those indications furnished by symptoms, which are of so much importance in leading to a correct method of rational treatment. The book is, in a word, a protest against routine practice. The prognosis and treatment of the more usual diseases of the various organs and of the abnormal conditions of the general system are outlined as fully as the space occupied will permit. It is an eminently practical little treatise, pervaded with much common sense, and would doubtless be found useful, particularly by advanced students. The appended formulæ are collected from various sources.

Medical and Surgical Journal.

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CODES OF ETHICS.

THE councilors for the Massachusetts Medical Society appointed a committee some six months since to draw up a code of ethics for the government of the Fellows of the society. The subject, we believe, had been under consideration previously to the appointment of this final committee. We have been favored with the perusal of the printed drafts of two codes: the one, which is by far the longer and fuller, signed by four members; the other, much more concise and avoiding details, signed by one member. These two drafts are to be submitted to a meeting of the councilors early in February, and we suppose, as the matter has been already so long under discussion, the probabilities are that one or the other of these drafts, without any very essential modifications, will be recommended to the society for its adoption. It is not our wish to anticipate the decision of the councilors of the Massachusetts Medical Society, but the subject is evidently attracting the attention of many of our readers, and will presently be brought more prominently before them.

The letters of the practitioner of Pine Ridge are still fresh, and we publish in our present issue a communication from a correspondent at Worcester, accompanied by a code which he thinks good in theory and in practice.

A few reflections therefore naturally arise in regard to codes in general, and forms of codes in particular, which, though throwing but little light themselves, may call forth illuminating opinions from others.

It would be generally conceded that a code of ethics for the government of any body of men in their relations to each other and to the outside world is requisite only in so far as there may be among their number the ignorant or the evil-minded. The ignorant are unaware of the obligations incurred by associating themselves with others; the evil-minded, knowing these obligations, seek to evade them. And then there is that disturbing element of "human nature" which, without adopting the dogma of original sin, we are forced to acknowledge still clings to a man even after he has developed into "an educated gentleman" and a member of the Massachusetts Medical Society; its misdeeds, however, we must class with those of the evil-minded.

Taking this general view of the situation, the questions which any society or association has to ask itself are these: How numerous among its members are the ignorant or the evil-minded; how frequent their short-

comings, or flagrant their transgressions? Can a code of ethics instruct the former, and will it restrain the latter? If so, what form of code will accomplish these objects the most simply and the most thoroughly? We have not unfrequently heard it said that a code is, as a rule, more particularly desired by and desirable among practitioners in the country; this may be true, and yet we should be loath to believe that there was more ignorance of the fundamental rules of the courtesies of life, more evil intent, more human nature, in the country than in the city. We are led to suppose, however, that this may be the case when the man in the country cries for a code, and the man in the city protests that he is insulted if you offer him one. It may therefore be thought best to try to gratify the longings and possibly necessities of one portion of the medical fraternity at the expense of the delicate sensibilities of another portion. The question then arises, Can it be done? Can a code of ethics give the instincts of a gentleman to one who has them not; can it enlighten one who, knowing the golden rule, is incompetent to apply it in the practice of medicine? And, secondly, can such penalties be attached to its violation — can and will these penalties be so enforced — as to restrain the evil-minded? This question of the feasibility of accomplishing the objects for which a code might be demanded we will not attempt to decide. We know there are those who are disposed to think that the weaknesses of our mortal nature may find comfort in arbitration, and that the vigorously depraved will always find an escape through any paper barrier.

Joining ourselves, however, for the moment, with those who think that a code of ethics is required for regularly educated practitioners of medicine, and that some form of code will secure all, or much, that is desired, the final question presents itself as to what that form shall be; and this immediately leads us to ask ourselves what we expect from a code of medical ethics. To this a fair reply would be, Simplicity and thoroughness in teaching physicians how to practice medicine, — which the best and wisest men for centuries have agreed should not be regarded as a trade, and yet by which its followers must earn their bread, — with the greatest benefit to the community at large and the least friction among themselves. The old problem in mechanics of unlimited power and no friction suggests scarcely greater difficulties. If the code is too short, it consists almost necessarily of beautiful platitudes, and we can see no reason for going beyond the "do unto others as you would be done by;" if too long, it falls to the ground from its own weight; if there is no detail, the ignorant will not be instructed, nor will the evil-minded be hedged in; if there is too much detail, the enlightened and sensitive will not submit, nor can their rebellious conduct be easily reached. Will a code of ethics restrain the social tendencies of a physician's wife, or bring him to punishment for them? And what will it effect with the aged senior consultant, who vows he will give his opinion first instead of last, or *vice versa*? We will not involve ourselves in the perplexities which beset us in regard to this final question of form.

If there is to be a code, it would seem a pity that all the States should not have one in common, and we have no doubt that the laity would heartily concur in this sentiment.

We believe that of the American Medical Association has been adopted by very many States, which is a strong, we will not say the only, argument in its favor. If it were thought generally best to adopt a code of ethics of that length, we could wish it evinced the careful thought, the extended research, and the elegant diction of the draft-code prepared for submission to the councilors of the Massachusetts Medical Society as a majority report of their committee.

MEDICAL NOTES.

— Col. Geo. E. Waring has been telegraphed for to go to Memphis with reference to the proposed new system of drainage. This looks like real work.

— The twenty-eighth annual session of the Iowa State Medical Society will be held in Des Moines, beginning Tuesday, January 27th, and continuing three days. The following papers have been promised: Quinine as an Anti-Congestive Remedy, J. M. Knott, M. D., Sioux City. Dressing of Wounds, J. M. Emmert, M. D., Atlantic. Ovariectomy, a Case of, G. R. Skinner, M. D., Cedar Rapids. Consumption, a Nerve Disease, J. J. M. Angear, Ft. Madison. Ozone Observations at Iowa City, Gustavus Hinrichs, M. D., Iowa City. Insanity during Pregnancy, W. C. Schultze, M. D., Marengo. Causes and Treatment of Inflammation of Joints, W. W. Grant, M. D., Davenport. Pyrexia as an Element of the Typhoid Condition, D. Scofield, M. D., Washington. Criminal Abortion, H. H. Maynard, M. D., Tipton. The Metric System in Medicine, John North, M. D., Keokuk. Special Surgery in Incised Wounds, W. F. Peck, M. D., Davenport. Ovarian Hysteria, W. H. Gibson, M. D., Clariton. A New Method of Arresting Puerperal Eclampsia, G. M. Staples, M. D., Dubuque. Treatment of Strictures of the Nasal Duct, C. M. Hobby, M. D., Iowa City. Ovariectomy by Enucleation, with Remarks on the Value of Antiseptics in the After-Treatment, J. Williamson, M. D., Ottumwa. Anaesthetics in Obstetrical Practice, H. L. Getz, M. D., Marshalltown. Cerebral Haemorrhage, A. Reynolds, M. D., Independence. Scarlatina, H. M. Dean, M. D., Muscatine. Some of the New Ideas of the Nervous System, W. D. Middleton, M. D., Davenport. The coming session will be one of more than ordinary interest. In addition to the professional papers action will be taken relative to several changes in the constitution and by-laws, and reports will be presented relative to the establishment of a State Board of Health and the regulation of the practice of medicine within the State. A large attendance is expected. Officers: president, G. P. Hanawalt, M. D., Des Moines; first vice-president, N. W. McClure, M. D., Mt. Pleasant; second vice-president, D. Scofield, M. D., Washington; secretary, J. F. Kennedy, M. D., Des Moines; assistant secretary, Geo. W. Tibbits, M. D., Des Moines; treasurer, G. R. Skinner, M. D., Cedar Rapids.

— The *British Medical Journal* gives the following well-merited eulogy to the Scotch ovariectomist, entitled *A Great Deed in Surgery*:—

“The *Scottsman* of November 20th contains a just and faithful tribute to the great services of Dr. Thomas Keith, whose grand successes in ovariectomy have been the admiration of the surgical world, and whose work has been carried on with a modesty, an anxious care, and a brilliant result such as have deserved this public recognition. As a rule, any such notice in public papers is to be deprecated. In this instance, however, the singular services rendered to mankind by Keith and Spencer Wells are such as to afford reason for satisfaction that the great organs of public opinion should take a suitable opportunity for expressing the public gratitude to rare benefactors of their race, and to the labors of both ample and discriminating justice is done in this excellent article. We would willingly quote it entire, for it is accurate, discriminating, and truthful. Dr. Keith has performed ovariectomy seventy times in succession without a death, and the operation has, in his hands and those of Spencer Wells, become less fatal than amputations of the leg or arm, though it involves the removal from the abdominal cavity of tumors which vary in weight from ten to one hundred pounds. The article says truly that

“Five and thirty years ago, and less, this operation — now so safe — was derided and denounced by the medical profession, and those who performed it were called dangerous men and murderers. Even the sagacious Syme, when writing of the operation in 1837, says that, “though one or two fortunate patients may have escaped, after being freed from part or even the whole of the disease, it would be very unjustifiable to repeat such dangerous experiments, since it is evident that for every life prolonged by them many must be sacrificed.” Syme never performed the operation himself, but he lived to change his opinion, and to acknowledge the triumphs of Thomas Keith.”

“After giving a brief history of the origin of ovariectomy in the hands of McDowell, Clay, Lizars, and Washington Atlee, it continues as follows:—

“It was not till after 1858 that ovariectomy began to be accepted as one of the legitimate operations in surgery. So late as 1850, Mr. Lawrence, perhaps the greatest surgeon of his day, asked whether it could be encouraged or continued without danger to the character of the profession, and it was alleged by a distinguished reviewer that a fundamental principle of medical morality was outraged when an operation, so fearful in its nature and often so immediately fatal in its results, was performed. It was in the year referred to, namely, 1858, that Mr. Spencer Wells, of London, began to operate, and since that time he has performed the operation nearly one thousand times, with most gratifying results. Four years later, in 1862, Dr. Thomas Keith performed his first operation, and down to the present date he has operated upwards of three hundred times, Dr. James Sidey having been usually his chief assistant. These two men, Spencer Wells and Thomas Keith, are now the fore-

most ovariologists in the world. They are not rivals, but fast friends, who have taken lessons from each other. A very remarkable success has attended Mr. Wells, but a success still more remarkable has fallen to Dr. Keith. In the practice of both of them fatal results—never so high as with other surgeons—have steadily diminished. From the outset, however, Dr. Keith took the first place, and he has done more than keep it. He now shows results which have never been approached, for it appears that of his last hundred operations only three have ended fatally, while of his last seventy not one has ended fatally. In attaining these wonderful results, both Keith and Wells have lately been aided by the employment of antiseptics, as recommended by Lister, whose niche in the temple of fame will be one *on the line*. Something, perhaps, is also due to those aids in diagnosis by which malignancy in these tumors is more certainly disclosed, and with the discovery of which the name of Dr. Foulis, of Edinburgh, has acquired great distinction. It is possible, too, that one cause of the great success of these two operators is revealed by Dr. Keith when he says: "No one knows the anxiety that ovariectomy has given me, nor the time and thought and care I have bestowed on the patients." It is not true that all are ignorant of this, though Dr. Keith may think so, for it is well known to some that a devoted attention to their patients, involving great self-sacrifice, has characterized both him and Mr. Wells. To secure favorable conditions, Keith established a little hospital, at his own charge, and not far from his own residence; and many a poor woman has received in it an unceasing attention from himself and his trained nurses, without any expectation of payment. No doubt he has had wealthy patients, and has been summoned to Italy and other distant countries to operate, but nearly all his care and time have been generously expended on the very poor, who could only pay him with gratitude."

—The bill authorizing the city of Memphis to levy a direct two per cent. tax for carrying out the sanitary improvements recommended by the committee appointed by the National Board of Health passed the Tennessee legislature on the 23d ult., and at once received the governor's signature. In the mean time, an enormous list of nuisances has been sent to the health officer of Memphis for abatement by the inspectors of the National Board and others, which alone would tax all the resources of the ablest sanitarians. The better sanitation demanded by the whole country applies as well to skillful direction of the daily work of preserving cleanliness as to inaugurating great reforms in the methods of disposing of filth, and if the ill-fated city does not secure such skilled direction of the efforts in that direction the good results hoped for certainly will not follow.

PROVIDENCE.

—The sixteenth annual report of the Rhode Island Hospital, which has just appeared, shows a very satisfactory condition of that institution. The total number of patients treated during the year was 469,

of whom 188 were in the medical, 230 in the surgical, and 51 in the ophthalmic wards. In the out-patient departments the whole number who received treatment was 4237. The total income for the year was \$21,895.41, the total expenses \$24,062.81, showing the institution to be nearly self-supporting. The deficiency of \$2167.40 is generously met by guarantors to the number of one hundred. There are forty permanent and eight annual free beds, so that no suitable case need be refused admission. The hospital is doing a good work, but is hampered in its management and limited in its sphere of usefulness by lack of funds. This obstacle will, however, be removed by time, as the endowment fund is continually increasing, and every year shows the institution to be more nearly self-supporting.

—Upon recommendation of the superintendent of health, the following regulations have been adopted by the board of aldermen:—

(1.) Every physician having knowledge of the existence of any case of contagious, infectious, or epidemic diseases within the city of Providence shall immediately remit a report thereof in writing to the superintendent of health of said city, with such particulars as the said superintendent may indicate on blanks furnished for that purpose.

(2.) The diseases referred to in the preceding section shall, among others, include especially small-pox, diphtheria, typhoid fever, typhus fever, scarlet fever, or scarlatina, cerebro-spinal meningitis or spotted fever, measles, and whooping-cough.

(3.) Any physician who shall fail to comply with the preceding rules and regulations shall be fined not less than two nor more than ten dollars for each day of such neglect, after having knowledge thereof as aforesaid.

NEW YORK.

—December 27th and 28th were "Hospital Saturday and Sunday" in New York, and this was the first time that such days have been generally observed in the city, in imitation of the kindly custom of setting apart one Sunday in the year for the benefit of the hospitals, through alms and donations, which has long been maintained in London. In New York the idea was first taken up in the autumn of 1874, at the annual meeting of the board of managers of St. Luke's Hospital, who afterwards made an appeal to the various Episcopal churches of the city for a collection to be made on the last Sunday in December. Bishop Potter at once indorsed the appeal in a letter to the clergy, and the pecuniary result was so satisfactory that similar collections have been repeated every year. Since 1877 St. Mary's Free Hospital for children has also shared the benefit of the offerings thus made.

At the meeting of the managers of St. Luke's, in November, 1878, the superintendent of the hospital read a paper showing that till 1849 the care of the sick poor was left entirely to the Bellevue and New York hospitals. In that year the Rev. Dr. Muhlenberg made his first appeal for the foundation of a Church hospital, and the result was the establishment of St. Luke's, in 1850. About the same time St. Vin-

cent's Hospital was established by the Roman Catholics, and in 1852 Mount Sinai Hospital by the Hebrews; while the Presbyterian Hospital was founded in 1868. These, with the Roosevelt, the German, and other private hospitals, about twenty in number, accommodated more than eighteen hundred patients, and annually treated some twenty thousand; each one opening its doors to the poor of every nationality and sect.

The paper ended with a recommendation that the Hospital Sunday Committee should be empowered to address a circular letter proposing a general Hospital Sunday to the representatives of other religious bodies. In December a conference was held between the managers of St. Luke's and a number of prominent Episcopalians, both clergymen and laymen, and a committee of five was then appointed to invite such of the hospital associations of the city as they might deem it wise to select, to confer as to the wisdom and expediency of inaugurating a general hospital day.

This conference was held at St. Luke's Hospital, on the 7th of January, 1879, and was attended by official representatives of thirteen hospitals, as well as by a number of prominent clergymen and other invited guests. A committee was appointed to arrange the details of the matter, and the movement has proved a most successful one. In all the stations of the elevated railroads and all the post-office stations, as well as in other public places, boxes were placed for receiving contributions; over each there being a yellow flag with the inscription, "Hospital Saturday," in black letters upon it. Yellow flags were also to be seen upon many of the street cars and omnibuses. On Saturday, the 27th, collections were taken up in all the Jewish synagogues, and on Sunday, the 28th, in all the churches of the various Protestant denominations. In addition, contributions were received by the general treasurer of the fund, and by gentlemen prominent in business circles, who represented the chamber of commerce, the stock exchange, the cotton exchange, the produce exchange, the maritime exchange, the fire and marine underwriters, and the banks and bankers, respectively. One of the largest checks sent in was that of Mr. William H. Vanderbilt for \$1000. Donors who preferred to make their gifts for any particular institution had the privilege of so doing; while all contributions not thus designated are to be divided under an equitable plan, based upon the charity work and the needs of each, among the various hospitals uniting in the movement. The committee to make the distribution consists of Mayor Cooper, Postmaster James, William E. Dodge, Jr., George H. Andrews, Jesse Seligman, and John W. Harper.

— The Flower and Fruit Mission, as previously announced, decorated all the hospitals for Christmas with evergreens and appropriate wall mottoes; and, beside, distributed large quantities of white grapes, oranges, and other delicacies among the sick poor, not only in the hospitals, but also in many tenement houses.

— Dr. William A. Hammond has brought suit

against Dr. Allan McLane Hamilton in the United States Court for an alleged infringement of copyright. He claims that Dr. Hamilton's book on diseases of the nervous system was "pirated" from his own, and asks that its publication be prohibited, and the profits from its sale thus far be turned over to him.

— The boy, at Paterson, New Jersey, whose brain was cut into by a circular saw lived for nearly an entire week after the accident. He was conscious the greater part of the time, and remained so up to the last; but on the eighth day from the receipt of the injury he was seized with convulsions, which caused death by exhaustion. The parents refused to allow an autopsy to be made.

— Measles is at present epidemic in New York. The disease is mostly of rather a mild type, but is prevailing in a malignant form at the Baby Shelter in West Twentieth Street, where one fourth of the twenty infants in the institution have already died of it. Generally it is very evenly distributed from the Battery to the Harlem River, no particular locality being specially affected.

— A large public meeting was held at Cooper Institute, on the 18th of December, to consider the evils existing in the manner in which the insane are at present cared for. Addresses were delivered by George William Curtis, who presided, the Rev. Drs. H. W. Bellows and R. H. Storrs, and Dr. E. C. Seguin, and letters were read from Dr. Willard Parker and others. Among the resolutions adopted were the following: That a lunacy commission, modeled to a certain extent after those which have proved successful in Great Britain and elsewhere, should be appointed in the State of New York, the duties of such commission to be, permanently to supervise insane asylums, both public and private, to attend to complaints and controversies, and to raise the standard of scientific study and treatment of the insane; that a committee should be appointed by the chairman of the meeting to devise a plan for the organization of such a lunacy commission; and that the meeting also recommended the organization of a national association for the protection of the insane, the above committee being instructed to take the necessary steps for the formation of such an association. There was considerable feeling in regard to this meeting on the part of a number of prominent medical men and others, on account of the manner in which it was gotten up and conducted; and hence they refused to give it their countenance.

— The body of Mr. Charles A. McCrury, the son of one of the leading dry goods dealers in this city, was recently incinerated in the crematory erected by the late Dr. Le Moyné, in Washington, Pa. He was strongly opposed to the ordinary methods of burial, and left a written request to his parents that his body should be burned. The cremation was performed under the direction of the brother of the deceased and a Presbyterian clergyman; and when it was completed the ashes were found to weigh only about five pounds.

PHILADELPHIA.

—The board of managers of the Pennsylvania Hospital having made a liberal appropriation in aid of the project, Drs. Morton and Hunt of the surgical staff are now actively engaged in preparing a handsome octavo volume to be entitled *Surgery in the Pennsylvania Hospital*, which it is expected will not only contain valuable statistics of operations performed in the institution (which has been in existence now for nearly one hundred and thirty years), but will also reflect as nearly as possible the prevailing methods of practice that are now in use in the wards of this, which is preëminently a recent accident hospital.

—The students in attendance upon the Jefferson Medical College have demonstrated their regard and high esteem for their late teacher of physiology, Professor James Aitken Meigs, recently deceased, by presenting his life-size portrait in oil, handsomely framed, to the trustees and faculty of the college. This testimonial was a spontaneous expression from the class, the presentation speech being made by one of their number, Dr. H. B. Lowry, of Proctor, West Virginia. The occasion selected was after Professor DaCosta's lecture, on Friday, December 12, 1879. The painting was received on behalf of the college by Dr. E. B. Gardette, the president of the board of trustees. It will be hung in the amphitheatre of the new hospital, which is already adorned by a marble bust of Dr. George McClelland, the founder of the school, and with the portraits of Professors Joseph Pancoast and Samuel D. Gross, which were lately presented to the institution by the Alumni Association of the college.

CHICAGO.

—Scarlet fever has visited a part of this city of late in an epidemic form. Curiously it has been partially circumscribed—that is, the epidemic—to some parts of the city in the North Division, where the ground is sandy, the surface high, the streets and sewers in good condition. So far nobody knows the cause of the epidemic. Two meetings of citizens residing in this section have been held to discover, if possible, the cause of the visitation and a remedy. These meetings have strongly censured the management of the public school, and have attempted to fasten the blame for the epidemic upon one school in particular, occupying an unsanitary building, and from which it appears a few cases have originated. But no real evidence was found or offered that would fix the responsibility for the epidemic upon this or any school. So far the cause of this, as of all epidemics of scarlet fever, is inscrutable. Unfortunately the system of posting red cards announcing the fact upon infected houses, in the hope of isolating the cases so thoroughly as to stay any spread of the disease, has not been attended with success.

—On the 24th of December the engines started and the water moved from the lake riverward by the Fullerton Avenue conduit. This enterprise and experiment has been made by the city at enormous expense, for the purpose of clearing the north branch of the river of impure water and foul emanations.

The main river and south branch have for several years been in a state of tolerable decency from the current upward, from the lake, of water flowing from the branch into the canal and on toward the Mississippi River. As many large sewers empty into the river, this current ceases for a while after heavy rains, and the whole river becomes malodorous. But the north branch has been constantly very offensive. The scheme of the conduit is to force water from the lake through this new channel along the north city limits into the river, make a stronger current downward in that sluggish stream and clear it, or to force the water in an opposite direction and clear the stream by an upward current. Opinions are widely diverse as to the effect we may look for. If more water flows down the north branch than, with what comes up the main river, the canal outlet can take care of, then a current will be made down the main channel into the lake, with possible danger to the water-supply, not to speak of the bad odors it will distribute. In any case, the current either way in the main river must be nearly abolished by the conduit delivering water into the river, while if it carry a current from the north branch into the lake a strong current will come up both the main river and this channel; but then the foul water will be emptied into the lake at Fullerton Avenue, and on this point one of the most interesting disputes is going on. One party insist that before the sewage can reach the "crib," two miles off shore at this point, which is the inlet of our city water-supply, it will become oxidized and inert. This view was shared by our late city engineer, Chesbrough. On the other hand, it is claimed that there is an undertow, a deep current off shore, that would carry the sewage to the crib, and so contaminate the water-supply. Those who hold this opinion claim, with accumulating evidence in their favor, that now when there is a down current in the main river the hydrant water is actually polluted to a slight degree in this manner.

Correspondence.

SURGICAL OPERATIONS WITHOUT LIGATURES.

MR. EDITOR, — In 1872, Mrs. —, of Kittery, Maine, aged about thirty-eight, of light, sanguine complexion, mother of two children, had a tumor of the left breast about the size of a duck's egg, which began soon after the cessation of lactation with her last child. This tumor made its appearance on the inner side of the left breast just below the nipple, which felt hard and doughy to the touch. The nipple was retracted, and there was a deep, dark areola around it. Her suffering was so great that she was unable to sleep, and it had occasioned a general loss of appetite and strength.

She was placed under the influence of ether, and the usual elliptical incisions were made. In so doing branches of the inferior mammary artery were laid bare, and traction was made upon them previous to their general division with a saw-like movement of the bistoury. Retraction of these arteries took place,

completely closing them against any hæmorrhage. Some slight hæmorrhage from smaller vessels was controlled by torsion. The parts were now brought together without the use of any ligatures. The wound was closed with five silver sutures and adhesive plaster, and healed almost entirely by first intention.

In the fall of 1878 a young girl from Attleboro', aged fifteen or sixteen, received an injury by a stone thrown against her breast, where a hard swelling arose and developed into a cystic adenocoele. The whole breast became much enlarged, swollen, and painful just above the nipple. The tumor and the hard swelling continuing to grow in spite of treatment, it was decided to amputate the breast. Being called to perform the operation, after etherization I proceeded to remove the greater portion of the breast by making semi-elliptical incisions, keeping the vessels well on the stretch. Her attending physician wrote me that the entire wound healed by the first intention, or at the primary dressing without any suppuration. This patient being young and in vigorous health, well nourished, and with breasts enormously large, the circulation was very free, and the tendency to hæmorrhage was much greater than in the first case, where continued suffering had caused a reduction in the vital forces, and at the same time enfeebled the circulation.

This operation shows the contractile power of the muscular coats of the arteries when traction is made on them before their division. To illustrate still further how much can be done in many operations without the use of ligatures by taking advantage of this contractile power of the arteries I will relate the following case:—

Mrs. H. of Concord, Mass., aged sixty-eight, on November 7, 1878, consulted me for a large fatty, bell-shaped, fibroid tumor which grew from the gluteus maximus, was suspended by a pedicle of about two and a half inches in diameter, and extended nearly to her knee on the left side. It had existed over twenty-five years, and a portion of the inferior part had sloughed obliquely off, leaving a large ulcerated surface which was discharging a very offensive fluid. The constant weight—about three pounds—had caused a prolapsus uteri, together with a partial prolapsus of the anus and bladder. This tumor, from its discharge and the burden of carrying it,—as the patient was very slight in stature,—very much weakened and enfeebled her.

On the 12th of November, after etherization, I operated on the tumor, with the assistance of Dr. E. B. Webb, of Boston, by making two longitudinal elliptical incisions as close as convenient to the pedicle, and removing all the attachments except where the arteries ramified into the substance of the tumor. These arteries were very large, and accompanied by a vein fully equal in size. Before the final division of the vessels I made retraction, placing them greatly on the stretch, and then proceeded slowly to divide them with a saw-like motion, as related above. Full contraction and closure of the arteries took place. The wound was now brought together, and coaptation effected by silver sutures and Dr. Martin's United States army adhesive plaster. It healed almost entirely from the first dressing, excepting a small portion, about three quarters of an inch of the lower part of the incision, which was designedly left open for drainage, and so kept by a few threads of coarse saddler's silk. The patient in two weeks was able to return home perfectly healed, with her prolapsed organs restored to their natural conditions, the

uterus being supported with a Hodge's hard rubber pessary. She was ordered to take quinine and iron, and when she visited me in the winter she had gained so much flesh and strength that she considered herself comparatively young again.

Neither in major nor minor operations have I had secondary hæmorrhage by this method so frequently as when I have been obliged to resort to ligatures, and I have had better success in the healing, since the parts so brought together have generally united by first intention. My attention was called to this contractility of the arteries from the fact that in early life I noticed that in many lacerated wounds we have but little hæmorrhage where we should have supposed from the size of the arteries that there would be much, and that such wounds, when proper coaptation could be had,—when freed from dust and oil,—would generally heal by first intention; but where ligatures, even though small, were used in fresh wounds, suppuration took place almost invariably.

JOSEPH H. WARREN, M. D.

MEDICAL ETHICS.

MR. EDITOR.—The puerilities of "codes of medical ethics" are very disgusting to many physicians, who are not flattered by the assumption that they do not know how to conduct themselves as gentlemen. I say this with very great respect for my excellent friends who have drawn up "codes" for the Massachusetts Medical Society, but whom I consider to be working here for no good. I send you a "code" which I drew up myself some two years ago, and designed to have sent into the meeting of the councilors, but withheld for cause. I think you will find it simple enough, and comprehensive. We practice by it here, although it has never been presented, and are happy; and Worcester is the paradise of physicians, socially. Publish it if you think it will do you any good.

Yours respectfully, JOSEPH SARGENT.
Worcester, December 31st.

CODE OF ETHICS FOR THE MASSACHUSETTS MEDICAL SOCIETY.

Assuming that membership of the Massachusetts Medical Society is conceded only to worthy persons, of good character and good education, no general code of ethics is necessary for them which is not equally recognized by all educated gentlemen.

But inasmuch as the relation of the physician to the patient and to other physicians is often a peculiar one, it may be wise to keep in mind certain other principles of special application, and which are recommended by experience and sanctioned by wisdom.

(1) The physicians should remember always that he is called for the good of the patient; and this consideration should be uppermost in his mind, prompting him to thoroughness, to faithfulness, and to diligence, without selfishness or vainglory.

(2) With the same view to the patient's good, and also having in mind the importance and the dignity of his profession, he should call counsel when in doubt, or when requested, and in cases of unusual gravity and responsibility, and should call good counsel. And the deliberations and discussions in council should be confidential.

(3) He should discourage quackery, which is false

pretense, and should make himself no partner to this by consulting with quacks, which is not only to be false himself, but to jeopardize the patient, to injure the public, and to degrade the profession.

(4.) He should not interfere with any other physician; and, especially, should not undertake to undermine his practice or his reputation. This not only injures his fellow but his fellow's patients, and also subjects his own motives to suspicion and demeans the calling.

(5.) The relation of physician and patient is strictly and wholly confidential, and neither the patient, nor the sickness, nor the surroundings, should be made the subject of general conversation.

(6.) The professional differences of physicians should be settled between themselves, the public being no competent arbiters.

(7.) The practice of medicine should be conducted not only as a liberal profession, but also as a practical philanthropy, personal and public. The sick poor should never be allowed to suffer from neglect, and public health should be looked upon always as a particular charge. And while the good physician should claim an honorable or even a generous support, mercenary motives should never restrain professional benevolence, nor prevent gratuitous service in proper charity.

MEDICAL COLLEGE DEAD-HEADISM.

MR. EDITOR, — The medical press of the country has heralded generally, with greater or less flourish of trumpets, the fact that Rush Medical School of Chicago has taken an advanced step in throwing open its lectureships to public competition. Surely that sounds well, as was doubtless intended. But what are the facts of the case? Why, an opening is offered to members of the medical profession to obtain questionable honors by a greater or less individual sacrifice; at the same time, this medical school secures both a desirable teacher and a drudge without expense to itself. The circular of the secretary gravely informs us that, "the concours for the lectureship on gynaecology in the spring course of lectures in this college will be held," etc., on a certain date. Then follows the statement that "the position is one commanding no pecuniary remuneration," but, "as a rule, the professorships in the winter faculty are filled by selections from the spring faculty. . . . The points determining the choice of a candidate for the vacancy are: first, his *ability to teach clearly, correctly, and forcefully*; second, his past record and present standing professionally; and, third, his professional attainments and general culture."

Now, Mr. Editor, is not this a case of rank dead-headism? He has the inestimable privilege of seeing his name in the annual catalogue, of knowing that he is performing labor for which others are paid, and of waiting anxiously for "dead men's shoes," with fifty chances to one of never wearing them.

It is, I believe, a generally accepted rule of the present day that "the laborer is worthy of his hire" in proportion to the amount of work done; but in the case of Rush and several other medical colleges all this is reversed. In spite of the idea conveyed that the position is open to all, such is really not the case, being practically limited to residents of Chicago or young

men of fortune; unless one is possessed of a fixed income of at least a thousand a year outside of any sum that may result from his profession, he cannot compete and wear the empty honor of a lecturer. The same amount of application and study necessary to fill this position, if bestowed upon literature, would yield some slight return, — a return that would prove most acceptable to the young struggling practitioner. He could also, to a great extent, choose his own time; but here, if his duties are performed faithfully and conscientiously, his whole time, without choice or selection, is at the disposal of the college during the term. To be sure, he may pick up a few stray dollars by means of private classes, but such are of questionable utility, either to teacher or student, and but open the door for many other errors of a grave nature.

Again, but scant, if any, reputation is obtained by the spring lecturer, all being absorbed by his winter compeer; he has all the trouble of making the ground fallow and sowing the seed, while the latter secures the harvest as a full-fledged professor. The former is continually overshadowed by the latter, through no fault, however, of either, but rather the parsimony of the institution. The lecturer is forced to remove the obstacles from the pathway of the professor, and as a reward is merely covered by the dust of the latter as he rolls by at his ease; or, if I may be allowed the simile, the one is but the running horse that follows close behind the fast and gifted trotter, to urge the latter to greater brilliancy of exertion; meantime, the poor runner, constantly chafing, and ever held in check, is hard worked, receives none of the caresses and plaudits of the gaping multitude, has no share in the purse that is won, though due largely to his individual efforts, and stands but a bare accidental chance of ever obtaining a first place.

Now I ask, Is this fair or just? The most humble and useless of literary institutions, no matter how narrow or bigoted, pay their tutors *something*. We constantly hear members of the profession grumbling because they are so illy requited for their labors, yet here is an example set the laity at the very outset by a medical institution of considerable fame, and one cannot conceive that it thereby adds to its dignity.

This is no fancy sketch, but one founded on facts. The evil decreed is the direct result of *cheap medical education*, which is the curse of the United States. Compare the number of graduates each year with the number that seek admission into our medical societies. Only one in ten appears in the latter list. Where are the other nine? Gone to swell the ranks of charlatans largely. Then, too, a goodly portion of undergraduates take upon themselves the title of doctor. Hundreds of young men seek the cheap schools each year, and, knowing their inability to stand the test of the final examination, rush off to join the band whose name is legion. This is especially true of Western colleges.

If Rush Medical College cannot afford to pay its teachers with its present fees, surely, with its standing, these might be raised until it could. This with a thorough and non-optional graded course, like that of Harvard, further fortified by a stringent examination as to literary and classical attainments for matriculation, would put it in the front rank of medical schools, and render it supreme to the rill-rall institutions that now swarm and are constantly being added to west of the Alleghanies.

I have no desire to seem captious, nor to fling at Rush Medical College in particular, for in its faculty I have both acquaintances and friends; but it has given an opportunity to exhibit an evil that is general, one

that can but disgrace any institution where it is practiced. Personally no one desires the success of Rush more than does the writer.

WOLVERINE.

December 24, 1879.

REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 27, 1879.

Cities.	Population estimated for July, 1875.	Reported Deaths in each.	Deaths under Five Years.	Percentage of total Deaths from				
				The Principal "Zymotic" Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.
New York.....	1,085,000	511	202	19.18	19.18	8.22	1.57	.59
Philadelphia.....	901,380	274	77	12.77	9.12	6.57	1.09	3.28
Brooklyn.....	564,400	212	—	19.81	16.98	13.21	.48	.94
Chicago.....	—	185	87	38.38	10.81	26.49	3.24	1.62
St. Louis.....	—	126	52	13.49	8.73	4.76	.79	.79
Baltimore.....	393,796	127	58	25.20	7.09	12.60	7.87	2.36
Boston.....	360,000	172	59	16.86	18.02	9.88	1.74	1.16
Cincinnati.....	280,000	96	31	25.00	3.13	3.13	5.21	8.33
New Orleans.....	210,000	82	28	12.20	10.98	3.66	—	—
District of Columbia.....	170,000	54	22	9.26	20.37	3.70	3.70	—
Cleveland.....	160,000	54	30	48.15	7.41	18.51	20.37	1.85
Pittsburgh.....	—	57	24	31.58	12.28	15.79	5.26	1.75
Milwaukee.....	127,000	28	13	10.71	7.14	7.14	3.57	—
Providence.....	101,500	63	29	42.86	11.11	4.76	33.33	4.76
New Haven.....	60,000	20	5	10.00	5.00	—	—	—
Charleston.....	57,000	33	15	6.06	9.09	6.06	—	—
Nashville.....	27,000	9	3	22.22	22.22	11.11	—	11.11
Lowell.....	53,500	15	3	6.67	6.67	6.67	—	—
Worcester.....	52,500	18	7	5.56	27.78	—	—	—
Cambridge.....	50,000	10	3	10.00	20.00	—	—	—
Fall River.....	48,500	14	9	42.86	—	7.14	21.43	7.14
Lawrence.....	38,200	16	6	18.75	18.75	12.50	—	—
Lynn.....	34,000	11	4	36.36	18.18	9.09	—	9.09
Springfield.....	31,500	12	3	41.67	—	16.67	8.33	—
New Bedford.....	27,000	13	5	—	23.08	—	—	—
Salem.....	26,400	14	3	14.29	7.14	14.29	—	—
Somerville.....	23,350	12	—	25.00	—	16.67	8.33	—
Chelsea.....	20,800	5	3	—	—	—	—	—
Taunton.....	20,200	5	—	20.00	20.00	—	—	—
Holyoke.....	18,200	6	3	16.67	16.67	—	16.67	—
Gloucester.....	17,100	8	5	—	12.50	—	—	—
Newton.....	17,100	6	3	50.00	16.67	50.00	—	—
Haverhill.....	15,300	1	1	—	—	—	—	—
Newburyport.....	13,500	2	0	—	—	—	—	—
Pittsfield.....	12,650	8	—	—	—	—	—	—
Fitchburg.....	12,500	1	0	—	—	—	—	—
Milford.....	9,800	4	1	50.00	25.00	50.00	—	—

Two thousand two hundred and eighty-four deaths were reported; 794 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 476, consumption 335, lung diseases 301, diphtheria and croup 227, scarlet fever 81, typhoid fever 33, measles 33, whooping-cough 25, diarrheal diseases 25, malarial fevers 22, erysipelas 14, cerebro-spinal meningitis seven, small-pox three. From *measles*, New York 22, Chicago eight, Brooklyn two, St. Louis one. From *whooping-cough*, New York five, Boston four, Brooklyn and Pittsburgh three, Cleveland two, Philadelphia, Chicago, Baltimore, Cincinnati, New Haven, Worcester, Lawrence, and Lynn one. From *malarial fevers*, New York eight, Brooklyn four, St. Louis and New Orleans three, Cincinnati two, Chicago and New Haven one. From *erysipelas*, Philadelphia three, New York, Chicago, Cincinnati, and Cleveland two, Baltimore, Boston, and New Orleans one. From *cerebro-spinal meningitis*, St. Louis and Cincinnati two, New York, Pittsburgh, and Taunton one. From *small-pox*, Philadelphia, Chicago, and District of Columbia one.

There was an increased mortality from the principal "zymotic" diseases, and, in order of the increase, from diphtheria, measles, malarial fevers, whooping-cough, scarlet fever, and erysipelas. Pneumonia, too, was much more fatal; consumption and diarrheal diseases somewhat less so, typhoid fever remaining the same. In the 21 cities and towns of Massachusetts, with an estimated population of 912,900, the mortality from consumption and lung diseases was greater than for the previous week. Diphtheria continues widely prevalent; scarlet fever is especially so in Fall River and Holyoke; no deaths from small-pox.

For the week ending December 6th the death-rate in Brussels was 29.1; Antwerp 23.9; Ghent 27.6; Liege 22.5; in 21 other large towns 28.4; in 20 smaller towns 27.7. In the 45 cities and towns, with an estimated population of 1,436,959, there were 125 deaths from pneumonia and bronchitis, 74 from pulmonary consumption, 53 from diarrheal diseases, 19 from whooping-cough, 17 from small-pox (in small towns mostly), 13 from croup, 12 from fever, eight from measles, five from scarlet fever.

In 142 German cities and towns, with an estimated population of 7,390,499, the death-rate was 25.9 against 23.2 of the previous week. Three thousand six hundred and eighty-six deaths were reported; 1691 of children under five years of age; consumption 490, acute diseases of the respiratory organs 393, diphtheria and croup 183, diarrheal diseases 163, scarlet fever 74, measles 64, whooping-cough 64, typhoid fever 57, puerperal fever 21, typhus fever one, small-pox none. The death-rates ranged from 14.2 in Nuremberg to 34.6 in Erfurt; Dantzig 24.7; Breslau 24.8; Munich 33.5; Dresden 22.0; Berlin 25.1; Leipzig 23.2; Hamburg 27.7; Hanover 15.6; Bremen 15.7; Frankfurt 24.8. In the same week, Vienna 27.0; Paris 26.5; Prague 37.0.—small-pox being mildly prevalent in the three cities.

For the week ending December 13th, in the 20 English cities and towns, with an estimated population of 7,383,999, the death-rate was 30.6 against 27.4 of the previous week. Four thousand three hundred and twenty-two deaths were reported: 777 from diseases of the respiratory organs, scarlet fever 188, measles 179, whooping-cough 127, diarrheal 39, fever 34, diphtheria 18, small-pox (London) three. Scarlet fever continues very fatal in Lon-

don and Liverpool; measles in London, Leeds, Birmingham, Nottingham, and especially Liverpool. Lung diseases were more fatal than at any time since 1874. The death-rates ranged from 17.8 in Sunderland to 41.4 in Liverpool; London 30.7; Bristol 27.6; Birmingham 33.4; Leeds 31.5. In Edinburgh 25, Glasgow 31, Dublin 44 (scarlet fever being very prevalent and small-pox declining). In the 20 Swiss towns, with an estimated

population of 445,790, the mortality from lung diseases (30) and diphtheria (11) was high; diarrhoeal diseases were fast declining; fever caused three deaths, scarlet fever three, measles two, small pox (Lucerne) one.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	9 P. M.	9 P. M.	Mean.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	Duration.	Amount in inches.
Dec. 21	30.600	50	29	0	54	31	19	35	NW	NW	NW	20	9	14	F	F	H	—	—
" 22	30.150	10	32	1	100	100	55	85	NW	NW	NW	9	7	3	S	S	S	—	.96
" 23	30.439	29	36	15	60	79	89	76	W	SW	W	2	2	1	F	F	C	—	—
" 24	30.026	37	39	27	100	100	100	100	E	NW	SW	15	8	3	R	R	O	—	.61
" 25	29.913	26	39	14	81	68	69	73	W	NW	NW	8	14	15	O	O	S	—	.03
" 26	30.141	9	17	0	74	42	60	59	NW	W	SW	17	14	5	F	C	C	—	.03
" 27	30.266	21	31	8	44	74	60	59	W	SW	W	9	12	8	O	F	C	—	—
Week.	30.219	19	39	0				70	Northwest.									32.20	1.63

¹ O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, snow; R, rain; T, threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM DECEMBER 27, 1879, TO JANUARY 2, 1880.

VOLLUM, E. P., major and surgeon. Relieved from duty in connection with inspection of veterinary supplies, and to resume his station at Jefferson Barracks, Mo. S. O. 291, A. G. O., December 29, 1879.

BARTHOLOMEW, JOHN H., captain and assistant surgeon. Granted leave of absence for six months. S. O. 290, A. G. O., December 24, 1879.

WHITE, R. H., captain and assistant surgeon. Relieved from duty in the department of Texas, to proceed to New York city and report by letter, upon arrival, to the surgeon-general. S. O. 293, A. G. O., December 29, 1879.

TAYLOR, B. D., first lieutenant and assistant surgeon. To report in person to commanding general, Department of the East, for assignment to duty. S. O. 292, A. G. O., December 27, 1879.

HALL, WILLIAM R., first lieutenant and assistant surgeon. Relieved from duty in the Department of the Columbia, and, upon expiration of his present leave of absence, to proceed to New York city, reporting his arrival, by letter, to the surgeon-general. S. O. 293, A. G. O., December 29, 1879.

APPEL, D. M., first lieutenant and assistant surgeon. Relieved from duty in Department of the Missouri, and, upon expiration of his present leave of absence, to proceed to New York city, and report by letter, upon arrival, to the surgeon-general. S. O. 293, C. S., A. G. O.

LIST OF CHANGES IN THE MEDICAL CORPS OF THE NAVY DURING THE WEEK ENDING JANUARY 3, 1880.

SURGEON W. J. SIMON detached from the Alliance and waiting orders.

Passed Assistant Surgeon H. C. ECKSTEIN ordered to the U. S. S. Alliance.

Assistant Surgeon C. J. NOUSE detached from the Tallapoosa and ordered to the Naval Hospital, Washington, D. C.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE, OCTOBER 1, 1879, TO DECEMBER 31, 1879.

BAILLIACHE, P. H., surgeon. Relieved from duty, port of New York, and ordered to Philadelphia, temporarily, thence to resume his duties as member of the National Board of Health. October 25, 1879.

HUTTON, W. H. H., surgeon. Relieved from duty, port of New Orleans, and ordered to Detroit. November 1, 1879.

FESSENDEN, C. S. D., surgeon. Relieved from duty, port of Portland, Me., and ordered to New York. October 25, 1879.

DOERING, E. J., surgeon. Relieved from duty, port of Philadelphia, and ordered to Portland, Me. October 25, 1879.

ACSTIN, H. W., assistant surgeon. Relieved from duty, port of Key West, and ordered to New Orleans. November 1, 1879.

STONER, G. W., assistant surgeon. Relieved from duty, port of Buffalo, and ordered to Philadelphia. October 25, 1879.

FISHER, J. C., assistant surgeon. Detailed as chairman of board for the physical examination of candidates for promotion in the revenue marine service. November 20, 1879. Granted leave of absence for nine days from December 19, 1879. December 17, 1879.

GODFREY, JOHN, assistant surgeon. Ordered to proceed to New Orleans for temporary duty during illness of Surgeon Austin. December 29, 1879.

GOLDSBOROUGH, C. B., assistant surgeon. Detailed as recorder of board for the physical examination of candidates for promotion in the revenue marine service. November 20, 1879.

WHITE, R., JR., assistant surgeon. Ordered to Buffalo October 24, 1879. Orders to Buffalo revoked; ordered to report to Surgeon Fessenden, New York, for duty. November 12, 1879.

LEWIS, FAIRFAX, assistant surgeon. Upon expiration of leave of absence to proceed to Charleston, S. C. October 31, 1879.

GLAZIER, W. C. W., assistant surgeon. Relieved from duty, port of Charleston, S. C., and ordered to Key West, Fla. October 31, 1879.

COOKE, H. P., assistant surgeon. Relieved from duty, port of Pensacola, Fla., and ordered to Buffalo, N. Y. December 1, 1879.

O'CONNOR, F. J., assistant surgeon. Ordered to Philadelphia for temporary duty. November 10, 1879. Ordered to Buffalo, N. Y., for temporary duty. November 12, 1879. When relieved by Assistant Surgeon Cooke to rejoin his proper station. December 9, 1879.

PORTER, F. D., assistant surgeon. Assigned to temporary charge at Detroit Marine Hospital. October 25, 1879. When relieved by Surgeon Hutton to proceed to Chicago, and report for duty to Surgeon Miller. December 17, 1879.

ACSTIN, H. W., surgeon. Promoted to be surgeon from November 1, 1879. November 3, 1879.

GASSAWAY, J. M., passed assistant surgeon. Promoted to be passed assistant surgeon. December 12, 1879.

SMITH, HENRY, passed assistant surgeon. Promoted to be passed assistant surgeon. December 12, 1879.

STONER, G. W., passed assistant surgeon. Promoted to be passed assistant surgeon. December 12, 1879.

ELLISWOOD, C. N., surgeon. Resignation accepted, to take effect October 2, 1879. October 2, 1879.

BROWN, J. A., surgeon. Resignation accepted, to take effect November 1, 1879. November 7, 1879.

DANA, C. L., assistant surgeon. Resignation accepted, to take effect November 15, 1879. November 11, 1879.

Original Articles.

THE RELATION OF DRUG MANUFACTURERS
TO THE PROGRESS OF THERAPEUTICS.¹

BY ROBERT T. EDES, M. D.,

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THE vivacious young man, with cordial grasp of the doctor's hand, his pockets laden with boxes, bottles, and books, fluent of tongue, and with no insignificant buccinator development, who represents the house of Smith, and without wishing to say anything against the houses of Brown and Jones only wants you to "just try" the beneficent Smith's gelatine-coated pills against the sugared *dragées* or gluten-covered granules of his unscrupulous rivals, and who merely calls your attention in passing to a few specifics for incurable diseases, is in some respects an instructive phenomenon.

I do not know whether he pursues his prey in Boylston Street, where game is plenty but possibly shy, or whether he pervades chiefly the rural districts, to lie in wait for the guileless practitioners of Roxbury and Dorchester. However this may be, his employers spread abroad their nets through the medical journals, near and far, and for great and small.

Our magazines, with their dense, hypertrophied, colorized capsules of advertisements, often extending like an interstitial inflammation within the somewhat scanty and anemic medical parenchyma, represent a pathological state of professional nutrition.

At first sight it might appear as if the young man were simply a nuisance, and the waste-paper basket a sufficient refuge from the circulars. This growing custom, however, it seems to me, rises almost to the dignity of a deliberate insult to the profession, and its results are a distinct hindrance to the progress of rational therapeutics, like those of homeopathy, or any other system which induces the laity and no inconsiderable part of the profession to believe that specific cures are yet to be found for all diseases, if we look long enough.

I say it is almost an insult, because even a skillful and honest chemist, if only a chemist, is not in a position to instruct us in pathology and prognosis; and the case becomes infinitely stronger when we have for our would-be teachers *unskillful* chemists and manufacturers anxious only to make money. Even this is by no means unbearable, for there is no reason why druggists should treat us with any more respect than clergymen, lawyers, authors, and old women do, whose teaching capacity seems to rise in inverse proportion to the amount of study given to the subject.

We could easily bear the annoyance of having these gentlemen hunting over our grounds so long as they carried on the amusement at their own expense and got nothing. But that is not the case. It is pretty clear that the wholesale drug dealer will not put his money where it is not likely to come back again, and the fact that the practice continues and is growing shows plainly enough that the appeal to the practitioner by garbled quotations and baseless or exaggerated statements is a good paying investment. Indeed, some manufacturers, like the large publishers, send out a regular periodical with a few pages of borrowed articles to float the advertisements, and even

provide an employee of the firm with a cheap medical education in order to have it edited by an M. D.

I have within a few months been a member of a committee to ascertain the views of the members of the Massachusetts Medical Society in regard to new preparations to be put into the pharmacopœia. Many of the replies we received said in effect, "Give us something shorter and more practical. Discard the useless and superfluous drugs, and let us have a good working pharmacopœia." And yet others contained lists of drugs to be introduced, apparently derived from the advertising sheets, some of them so recent that there has been no time for the formation of a really valuable professional opinion about them. The evidence in favor of a large number of drugs which would have to be discarded in order materially to reduce the pharmacopœia is of exactly the same kind, just as abundant and possibly more trustworthy than that adduced in favor of the new remedies. In fact, the pharmacopœia consists largely of preparations which might be considered, so far as their therapeutic action is concerned, duplicates, and many of the proposed additions, although new, botanically speaking, are not different enough in a chemical way to prevent their being placed in well-established classes. Astringents, aromatics, bitters, for instance, are natural groups containing many members already, to which there is no real utility in making additions, and from which many might be discarded without serious loss, except that of variety of name, or sometimes of taste.

The three solanaceæ — belladonna, hyoscyamus, and stramonium — might be practically represented by the alkaloid atropia, while even the new alkaloid duboisia resembles it so closely in its mode of action, though with somewhat increased intensity, that it can hardly be looked upon as an important addition to our armamentarium.

As regards the multiplication of *preparations*, it is a matter chiefly of convenience in prescribing. If one has in his pocket one vial of morphia and another of sulphate of atropia, he has all that is essential in thirty-two official preparations.

From the mercantile point of view, judicious advertising is of course perfectly legitimate. The essential of a good salesman is understood to be that he can sell people what they don't want; anybody can sell them what they do. I have less fault to find with the sellers, except those of them who are physicians, and who are supposed to be governed by a different code of morals, than with the buyers who make their advertising profitable. The mistake made by what we can hardly help considering no insignificant part of the profession is that they allow themselves to receive as scientific evidence the artfully contrived assertions of interested tradesmen. The whole system is commercial, and has but the remotest relations to scientific medicine, — relations, however, which manufacturers are obviously anxious to make appear more intimate. Does any one believe that eundrango has disappeared from the druggists' lists because *they* have become convinced that it is a worthless fraud, or because they find they can't sell it?

It might be supposed that this plan had the one advantage that under it the worthlessness as well as the value of any new remedy would be more rapidly established; but this is really of little account, for the number of possible new remedies is so immense that the busiest practitioner could not begin to keep in sight the half of them if he attempted anything like a rea-

¹ Read before the Boston Society for Medical Improvement, December 22, 1879.

sonable trial thereof. The thousands of botanical species untried, or tried and forgotten, the almost infinite combinations of organic chemistry, render any attempt at exhausting them one by one absolutely hopeless, while we are certainly not as yet in a position to study them by families and orders.

The study of drugs should begin with the medical profession, but in this study the pharmacists have a legitimate function to perform, far more important, but less profitable, than the impertinent intermeddling of which I have been speaking. The large manufacturers have a reputation to maintain. It is for their interest to furnish, and they do furnish, standard drugs of pure quality. They cannot afford, under the sharp eyes of their rivals, to adulterate quinine, morphia, or iodide of potassium. It is not necessary for them to resort to so exaggerated and fraudulent appeals, and it is agreeable to know that success may attend a business of this kind legitimately conducted.

The one manufacturer in this country whose preparations are taken as the type of purity and excellence, and whose name is a guaranty of honest manufacture, has never resorted to any of these methods.

The discovery and isolation of the active principles of drugs are of the highest importance, as permitting a certain amount of generalization of therapeutic facts, already becoming so numerous and complicated that something of the sort is absolutely necessary to an intelligent comprehension of them. How much this isolation contributes to accuracy in dosage and convenience of administration need not be said.

In connection with the use of alkaloids, we ought to recognize the real service done by one or more of the large manufacturers in the introduction of cinchona alkaloids other than quinia. It has long been known that the other cinchona alkaloids were but little inferior, and perhaps some of them not at all so, to quinia; and yet so strong is custom that every one prescribes quinia, the consequence being that nearly all the cost is borne by this alkaloid, while the others, very much cheaper and almost as efficient, accumulate on the hands of the manufacturers. More or less indirect attempts have been made to get rid of them under the name of *sweet quinine*, which was a hydrochlorate of quinia with licorice, and cincho-quinine, which contained all the other alkaloids, with just enough quinine to swear by. These preparations, like that now made in India, where all the alkaloids are separated from the other constituents of the bark, but not from each other, were all useful if sold under their proper names; but they were falsely named, and less definite preparations than they should have been. The Philadelphia firm alluded to simply stated the facts in the case, and induced physicians to try cinchonidia under its own name.

A second illustration both of legitimate and illegitimate contributions made by the pharmacist is to be found in the history of pepsin. The foreign pepsins were sure to be expensive, inelegant, and disagreeable, and sometimes, if not always, inert. Mr. Scheffer, of Louisville, has invented a very simple method of preparation which subjects the pepsin to but few disturbing operations, and brings it into a form suitable for easy and elegant dispensing. He has also gone further and illustrated by a careful series of experiments the method of its action, showing it to be a ferment rather than a solvent, and capable of converting into peptones, under appropriate conditions, a quantity of albumen many times greater than that which it is sup-

posed to dissolve in the ordinary experiments. He also showed that certain substances presented with it make it inert. In an alkaline solution decomposition and putrefaction take place, but no digestion. Alcohol diminishes, and if in sufficient quantity prevents, its activity. Bismuth has also been shown to be incompatible therewith, and yet nothing is more common than to see elixirs of pepsin and bismuth and strychnia which darken, harden, and shrink the albumen placed in them, and which seem to render visible a condition of acute dyspepsia.

Pancreatine has been shown by Mr. Scheffer to be itself digested by pepsin, so that its chance of getting through the stomach to the duodenum, where it normally exerts its function, is of the smallest, while when combined with pepsin it must be digested as soon as the mixture becomes warm enough, in or out of the stomach, to carry on the process. Yet we see many preparations of which the chief virtue is supposed to be that they contain *all* the digestive principles. These can be active, it seems to me, only so far as they contain pepsin, and have no advantage over the simple drug prepared as it now is by Mr. Scheffer's process by a large number of pharmacists all over the United States.

The most thoroughly confusing mixture of fact and fancy, for which partly manufacturers and partly physicians, though very largely the latter, are responsible, is made by the whole series of phosphorus preparations, from phosphorus itself to the glycerite of kaphaline, alkaloidal hypophosphites, vitalized phosphites, organismal phosphites, brain phosphites, etc.

We have Thompson with free phosphorus; Churchill with hypophosphites; Dusart with phosphate of lime; Polk and Percy with various salts of phosphorus. These various preparations are represented as having a peculiar influence in promoting nutrition in general, and that of the nervous system in particular.

As is well known, the hypophosphites are supposed to have special relations to phthisis or the tubercular diathesis, and apparently still retain a place of some importance in the therapeutics of that disease. The relation to the nervous system is supposed to be established, in the first place, by the fact that phosphorus does apparently act as a stimulant. Thompson says, "It is known by experiment that a short course of phosphorus renovates the failing brain power in overwork, conferring freshness, originality, and energy on the mental processes. . . . As an occasional stimulant, as a preparation for an unusual mental effort, or as a safeguard against such nervousness, for example, as that to which a first appearance before the public lays a novice open, a large stimulant dose of phosphorus may be taken an hour or two before the trial is to begin with the greatest possible advantage."

Similar things have been said of the effects of fish diet. Professor Agassiz is to have stated before a committee of the Massachusetts legislature that fish-eating communities were above the average in intelligence. I doubt this so-called fact being a fact at all, and it is certainly interesting to know that, according to some dermatologists, this very fish diet is the cause of the prevalence of leprosy in Norway and elsewhere.

Some years ago I met with a paragraph in a daily paper, of which I regret very much that I have no copy. A French or German writer, after describing the exhilarating and even too exciting effects of a fish

diet, goes on to illustrate, with that facility so often displayed by the philosophical foreigner in accounting for American peculiarities, by saying something like this: "The Americans at certain seasons of the year assemble in large numbers upon the sea-coast to feast themselves upon a species of oyster called the clam. When they have gorged themselves with this insidious comestible they listen to the most inflammatory harangue, are ready to fall a prey to the most worthless of demagogues, and exhibit in their political vagaries the disturbing action of a diet too rich in phosphorus." Have the fish been unusually abundant on the coast of Maine during the last few weeks?

Next we hear of certain conditions of disease, debility, and depression exerting an influence upon the excretion of phosphates in the urine. Among other things we often find reference to the fact, said to be well known, that clergymen excrete more phosphates on Monday than on any other day of the week. So far as I can discover this rests solely on the authority of Golding Bird. He, however, does not speak of the total excretion of phosphates, but simply of the *deposit of earthy phosphates*, which are only a fraction of all the phosphates. And we might well doubt, too, their connection with intellectual labor when we find that the clergyman most particularly described taught school through the week, and performed service three times on Sunday, always becoming much fatigued. I have been able to find in no physiology or chemistry (with the exception of a note in Flint) any analysis or statement warranting the inference that phosphates are especially connected with mental labor. With many nervous diseases, but also with many others, their increase is seen, but the increase is neither very marked nor invariable.

Dr. Chambers remarks in this connection that the dogmatic expression of Buchner, "No thinking without phosphorus," "if taken to mean that the amount of phosphorus passing through the nervous system bears a proportion to the intensity of thought, is simply a misstatement. A captive lion, tiger, leopard, or hare, who can have wonderfully little to think about, assimilates and parts with a greater quantity of phosphorus than a professor of chemistry working hard in his laboratory; while a beaver, who always seems to be contriving something, excretes so little phosphorus, at least in the urine, that chemical analysis cannot detect it."

Flint explicitly denies the relation. Of course it may be true that the nervous tissue, when active, is more or less used up, and probably a certain amount of phosphorus is set free from its higher combinations, and becomes phosphoric acid; but many other substances are set free at the same time, and the amount of mental labor or exhaustion corresponding to a given amount of phosphorus is absolutely unknown. For all we know, an attack of cystitis may rob a man of more phosphates than the composition of an epic poem.

Byasson, quoted by Flint, says that the proportion of sulphuric acid excreted is more than doubled by mental exertion, while the proportion of phosphoric acid is increased by less than one third; so that if it is proper to give free phosphorus to supply the waste, why should we not give free sulphur also? Mrs. Wackford Squeers may have been a better therapist than she knew when she supplied the waste of nervous tissue in her unfortunate pupils with the weekly dose of brimstone and treacle.

Setting aside the phosphate of lime, which has peculiar relations to the growth of bone, both on account of the phosphoric acid and the lime, I think we shall find that there are as yet no physiological facts sufficiently definite to guide us here, and that theoretical speculation forms rather a poor basis for therapeutics; so we have to decide the matter, so far as it can be decided at all, on empirical grounds.

The advocates of the hypophosphites are not likely to forget the important fact that free phosphorus is a poison, and it certainly appears that in some cases something approaching poisoning has occurred from its use as a remedy. I have myself had a case of vomiting persisting for several days, attributable to a dose of phosphorus which, even if I made the mistake in prescribing I afterward suspected, was considerably less than Mr. Thompson says should be used in neuralgia.

These cases are exceptional, to be sure, but as the phosphorus is far from being a specific, it is fair to set off the *chances of poisoning* against the *chances of cure*. Whether there is any danger of causing chronic renal disease by its long-continued use, a calamity of considerable magnitude, which Professor Percy seems to think is immediately impending or is actually upon us, I am unable to say.

The advantages of the hypophosphites, that is, of the old-fashioned hypophosphites of Churchill, may very properly be considered with those of the vitalized hypophosphites of Percy, or glycerite of kaphaline of Polk. Indeed, the evidence in favor of the latter is largely founded upon the use of the former. The managers of the present phosphite "boom" say in effect: If Churchill obtained such wonderful results with his crude and imperfect hypophosphites, how much more can we do with our organismal or vitalized preparations? But that they have done any more they have hardly attempted to show, so that I think we shall do no great injustice if we consider them together. Opinion has been greatly divided as to the value of hypophosphites in phthisis. Churchill complained, and with some apparent justice, that the early trials made with them were insufficient, but this can hardly be said now. Any remedy which offers even a reasonably small chance of success in phthisis is sure to be tested at length and on a large scale, and the mere fact that the hypophosphites have not received the high position at first claimed for them is pretty good proof that they are not entitled to it.

Most writers on phthisis assign a certain value as tonics in some cases to the hypophosphites, but not one, with the exception of Churchill, gives them a position approaching that of a specific. Yet a little circular advertising the alleged new form of hypophosphites contains such a sentence as this, extracted from one of Churchill's works: "Within the last ten years there has been an appreciable falling off in the mortality of consumption. That the use of this remedy is the real cause of this decrease is shown by Dr. Bennett's confessing that he has given the hypophosphites to a large proportion of his patients, and that nearly fifty per cent. of those so treated have got well. Dr. Williams acknowledges that with cod-liver oil alone, previous to 1862, he had not cured two per cent. of his patients; that when the oil fails he finds the hypophosphites to succeed; and that since 1862 (that is, since the introduction of the hypophosphites) he has cured seventy-five per cent."

Bennet, to be sure, does make a statement which can be, but ought not to be, construed as above. He says: "Were I only to quote the successful cases that I have had under my care, the cases in which the lung disease has been arrested and even cured, I could quote many instances of cure, myself included, which have apparently taken place under the influence of the hypophosphites, as they were long and constantly administered. But, on the other hand, I have quite as many, perhaps more, cases of death to narrate in patients whose condition admitted of recovery from the extent of the disease, and who perseveringly took the hypophosphites from the beginning to the end."

This, it will be observed, represents only the cases which were in the beginning of more favorable prognosis, and especially does not say anything about the cases which took hypophosphites, but did not persevere in their use to the end.

Later he says: "Although not admitting that phosphorus and its preparations are an antidote to pulmonary phthisis,—for I have seen too many cases of failure to be able to admit it,—I believe that they constitute a valuable medicine in asthenic disease, including pulmonary phthisis."

As to Williams, I cannot make out where anything like the statement quoted was found. Presuming the reference to mean Dr. C. J. B. Williams, of London, who published in 1871 a book on phthisis, reprinted here in 1872, we may judge by the following extracts how far he is from making any such statement as that attributed to him: "Of all means hitherto tried for the relief of the consumptive, unquestionably cod-liver oil has been found the most successful. This I stated in 1849, after three years' trial of its use; and so I repeat, after a quarter of a century's experience, that it is the only agent in any degree deserving the title of remedy in this disease."

Of the hypophosphites he says: "I have been convinced of their utility as an aid to cod-liver oil and phosphoric acid in the treatment of phthisis. I am therefore very glad to avail myself of the hypophosphites as a supplementary aid in the treatment of phthisis. I have thought it right to try them myself, both as a substitute for the oil and in addition to it. In the former way the results have not been generally satisfactory; the hypophosphite does not disagree, but there is no marked improvement as under the oil, and when they have been doing well under the oil the patients generally lose flesh and strength when the hypophosphite is substituted for it."

I have not intended, except incidentally, to state an opinion as to the value of the hypophosphites, but only to show the character of the evidence presented by the manufacturers. The authors quoted, Bennet and Williams, represent probably the most favorable class of opinions, sustained, it is fair to say, by many others.

Phosphorus, which is dangerous, and the hypophosphites, which are not, may be looked upon as stimulants, or, under some circumstances, as tonics; but that they stand in any special and peculiar relation as nutritives to the nervous system is as little proved of them as of opium, alcohol, ether, tea, coffee, cannabis indica, and perhaps many other drugs.

The clinical evidence brought forward in favor of the vitalized phosphates is hardly worth considering in the face of the garbled extracts I have read. Nor is it worth while to go into certain other details to show how Professor Percy's collaborator accepts and pub-

lishes at length the favorable judgment of Polk so long as he is willing to keep in a secondary position, and how a little later Professor Percy, apparently irritated by certain assumptions of priority on the part of Polk, takes to task the medical journals for publishing the papers of this Professor of Surgery in the Eclectic Medical College of Philadelphia, exposes his "jargon of bad chemistry," "the most laughable chemical nonsense of the day," and says it is evident that "his formulas are but the emanations of his imagination."

Of Professor Percy's own chemistry I, not being a chemist, speak with diffidence. I cannot make out what these vitalized hypophosphites are, though I suspect them to be some preparation of wheat. I have written to him twice to ask, and to my second letter, which fell into the hands of the manufacturer, I got an answer, but the chemical questions I asked, which the chemist might be supposed capable of answering, were ignored, and the letter filled with the usual stories of infants at the point of death, etc., which you all know so well.

I cannot resist one specimen of careful clinical observation from the circular above quoted: "A little child, at a large hotel, was troublesome night after night, disturbing every one within hearing. I was asked to see the child, and found it nursed by a little woman sixteen years of age, who had not yet done growing. She could give the babe no phosphates in her milk, needing all for her own development; and seeing the necessity for that I mixed the vitalized phosphites with some sugar, and tied it up in some little bags, which the child sucked. From that time it improved, and over three hundred guests in that hotel could testify that the child slept well and gave no further trouble at night." Was ever "sugar teat" so glorified?

What I have written, Mr. President, is but a small part of the subject, and intended only to illustrate how pharmacists may contribute to the advance of therapeutics, which must progress, not by the rapid discovery of many new remedies, but by a careful chemical and physiological study of a few, followed by the final test of careful and unprejudiced clinical trial. By chemical study I do not mean vague chemical speculations, which may be interesting, and may even lead to something better, but which are absolutely unreliable practical guides, nor do I mean by clinical observation the hasty inferences of the first practitioner who happens to see a patient get better after taking a supposed new remedy. The subject is difficult enough under the most favorable circumstances, and is infinitely complicated by the misstatement of supposed, inefficiently observed facts, and such misrepresentation of evidence and opinions as I have given examples of.

When the pharmacist informs us of active principles, or gives us preparations honestly representing a drug, he does good service; but when he tells us why they act or when they should be used, he is going beyond his province. Of course the pharmacist or the manufacturer may, if he please, study physiology or medicine, and his opinion is then entitled to the weight which the quality of his work warrants; but when, while remaining only a pharmacist or a manufacturer, he assumes a knowledge of sciences outside his own, and when he imports into what should be scientific regions the manners and morals of trade, he becomes a distinct hindrance to the progress of therapeutics.

ON STRANGULATED VEINS OF THE UTERUS AND THE IMPORTANCE OF RESTORING THEIR CIRCULATION AND FUNCTION OF DRAINAGE, THEREBY PREVENTING ENGORGEMENT AND MORBID NUTRITION.

BY T. H. BUCKLER, M. D., BALTIMORE, MD.

ANATOMY OF THE UTERUS.

NOT only has the anatomy of the uterus been neglected by the best observers, but the relations of its different structures each to the other have, strange as it may appear, been entirely disregarded, and hence aetiology, rational therapeutics, and surgery, which follow in the wake of anatomy and physiology, have failed to suggest the easiest and simplest methods of preventing and of treating easily its various maladies. The publication of William Hunter's plates of the gravid uterus, in 1774, was a bold step in the right direction, but since that time the pace of inquiry has been lagging, and, with the exception of the discovery of the Graafian vesicles, little of importance has been added to the knowledge on the subject which then existed.

It is well known that the greatest diversity of opinion has existed, and still exists, as to the character and composition of the uterine structures, and that this is especially the case in regard to the fibres constituting the walls of the uterus, their nature and their arrangement. J. F. Meckel gives the names of eminent observers, Walter and Blumenbach amongst others, who openly deny the existence of a fibrous structure, the contrary of which is admitted by him and many other good authorities. While most writers speak of the inner lining of the uterus as a mucous membrane, Madame Boivin has formally declared her opinion to the contrary; she has also given a most complicated account of the distribution and interlacing of the different muscular layers and fasciculi entering into the material of this organ. But as to what end and in what direction these muscular fibres exert their powers, writers generally are still more unsatisfactory, except that most of them say in general terms that these muscles contract in at least two directions, a longitudinal and a transverse. Ruysch admits only a single circular muscle situated at the base of the uterus; while Meckel, on the other hand, pronouncing this description inexact, and denying the existence of the single circular muscle of Ruysch, says that there are at the fundus of the uterus two distinct sets of muscular fibres surrounding the openings of the Fallopian tubes, but as these have to do with fecundation and the movements of the female ova-spermatozoons, they do not directly concern our present object further than the effect their morbid contraction exerts in producing congestion in the veins and erectile tissues connected with the broad ligaments, Fallopian tubes, and ovaries.

Fortunately, at this stage of doubt, confusion, and uncertain knowledge in regard, at least, to the muscular structure of the vaginal portion of the uterus, Meckel advanced partially, and Sir Astley Cooper came also to the rescue. The former says, "The oblique fibres do not exist in the neck, which, however, is composed, at least frequently, of several superimposed layers of transverse and longitudinal fibres." Now, common sense tells us that these transverse fibres, interlaced with longitudinal filaments and continued around the neck, can form nothing else than a circular muscle. A bracelet made of links and loops, or of interlaced strips

or threads, is as much a band for the arm as if it were fashioned out of one or more continuous wires, and the same is true with regard to the fibres entering into the structure of this muscle. Among Sir Astley's plates is an engraving of a uterus, which had been macerated and prepared by himself. This pyramiform figure exhibits from a little below its middle third longitudinal bands extending quite over the body to like points on its opposite side, and knit together by oblique and transverse fibres into the form of a truncated conoid. Commencing where the longitudinal fibres are lost to sight is a broad, circular muscle passing around the body and neck to within a line of the os tincæ. These fibres, superimposed on each other, and fastened together by interlacing with the longitudinal filaments, are thickest just where the neck joins the body of the uterus, but become thinner and thinner as they spread from that line upwards and downwards, till reduced above and below to a single layer of fibres.

It is perfectly evident, however, that both these eminent observers, Meckel and Sir Astley Cooper, were ignorant, as others have since been, of the vast importance and value of this anatomical arrangement in a pathological, aetiological, and surgical point of view. The outer layer of longitudinal fibres and the upper spread of circular fibres interlace, as do also the middle longitudinal with the central circular. But the innermost and thickest layer of longitudinal and oblique fibres, entering largely into the composition of the neck, is mainly connected with the middle muscular pouch or spread of fibres by oblique filaments, whereby a certain freedom of movement upwards and downwards is allowed to this internal muscular sac, fashioned somewhat like an india-rubber bottle or Florence flask. When, in a perfectly healthy uterus, the outer and middle layers of longitudinal and oblique fibres, excited through nerves from the hypogastric plexus, by prurient thought or sexual desire, contract, the thick internal layer also contracting, the cervix is driven downwards and forwards into the vagina, to the length of two, two and a half, three, and sometimes as much as four inches. But when the prurient thought ceases, or the orgasm in sexual intercourse is over, the outer and middle layer of muscular fibres relax, and the thick internal layer relaxing also the neck recedes to its accustomed position. But sometimes, while the cervix is protruded into the vagina, it is as it were lassoed or paraphymosed, and held there by tonic contraction taking place in the circular fibres surrounding the neck and lower third of the body of the uterus, and elongation of the cervix into the vagina, more or less permanent, results. In two cases of hysteria attended by metralgia, where digital examination was permitted, the neck was found protruded into the vagina about two inches in one instance, and about three in the other; these recent dislocations might have become permanent had they not been reduced by wrapping around the base of the elongated cervix a wad of cotton containing three grains of belladonna extract, which so relaxed the fibres of the constrictor cervicis that the following day the neck had receded to its place of rest. And thus the aetiology of the elongated cervix is explained without the necessity of regarding it as congenital. It was no doubt in relaxing transient contraction of the constrictor cervicis muscle that old Fraacaster, although ignorant of the mode in which his remedy acted, gave relief to hysteria by directing belladonna and lard to be applied, *cum confricatione*, to the cervix.

The word "telescoped," used to signify the extension of the cervix into the vagina, expresses the fact, but is misleading as to the mode of its occurrence. The sections of a telescope are pulled out or pushed back, whereas the neck of the uterus is thrust out by a muscular *vis a tergo*, and recedes when the fibrous contraction relaxes. Railway cars telescope because the acquired velocity of the rear carriages drives them into or through the front coaches, which, like the engine, have come to a stand-still; but we would not say that the snail telescopes from its spiral abode, or that the tortoise telescopes its head and neck out from or into its shell.

Circling through the walls and around the body of the uterus at its centre is a powerful muscular band, which on account of its importance should not remain anonymous, and may for want of a better name be called *cestus circularis* or *eucloteres* muscle. This powerful muscle, interlacing with the longitudinal and oblique fibres, acts as a point of support; thereby the latter, extending to it from the neck of the uterus in one direction, and from its fundus in the other, are enabled to act with an advantage and force in parturition which they could not otherwise have. The greatest protrusion and elongation of the neck into the vagina in a perfectly healthy unimpregnated uterus, occur from prurient excitation, causing contraction of the longitudinal and oblique fibres and consequent drawing together of the transverse, or those surrounding the cervix. The comparatively feeble and immature muscular movements of the unimpregnated uterus are contractile, protrusive, retractive, and to a limited extent vermicular. During the orgasm the uterus and appendages are in a state of organic exuberance, the muscular fibres tense, the nerves excited, the capillary circulation is active, the erectile tissues everywhere rampant; the striated lobes of the cerebellum are in a state of healthy erethism, their vessels physiologically congested, and the whole sympathetic nervous system responds. The contraction of the longitudinal and oblique fibres not only forces the neck of the uterus downwards and forwards, but by compression reduces the capacity of the uterine cavity, which, resuming its size when the orgasm is over, pumps up, as into an exhausted receiver, prostatic, seminal, or other fluids contained in the vagina. The uterus, on expanding and resuming its position, having through connection of its anterior fibres with the upper wall of the vagina this *point d'appui* only, is drawn forward on its axis, thus throwing its mouth into the posterior cul-de-sac of the vagina, and thereby aiding the suction which the cavity of the uterus, while expanding, is in the act of accomplishing, in the way that a compressed india-rubber bottle, allowed to resume its shape, pumps up any fluid at its mouth.

THE CONSTRICTOR ORIS ET CERVICIS UTERI MUSCLE.

If the circular muscle at the entrance of the gravid uterus had no other office than that of closing the mouth of the womb during gestation, the name sphincter, applied to it by recent writers, would not be inappropriate; but in emotional life proportionate to the degree of civilization, it acts by constricting the veins of the cervix, and becomes the origin and source of various uterine diseases, and therefore, so far as the cervix alone is concerned, it might be styled the *fons et origo morborum*. But as this muscle is subject to anatomical transposition, to translation of its physiological func-

tions, and has a double office to perform, one belonging to the active state of gestation, and the other to the more dormant condition of the unimpregnated uterus, a more comprehensive and discriminative name, such as *constrictor oris et cervicis uteri*, would seem to be required. This name embraces all that sphincter could signify, and at the same time expresses how its concentric action may become a factor of atresia or stenosis, with their trains of multiform and most serious maladies. All other muscles of the body having received appropriate names, it seems superlatively strange that this constrictor, or sphincter muscle, having clearly defined fibres and endowed with definite and most important functions, should have remained until now almost anonymous, and certainly without a distinctive or discriminative title.

The constrictor cervicis muscle, surrounding the neck and lower third of the body of the uterus, is proportionately never more broad than in the unimpregnated uterus, and never more narrow than at the full period of gestation, when its fibres are rolled together in the form of a ring, which, like a cord compressing the mouth of a bag, draws together the ends and loops of the longitudinal fibres and closes the mouth of the womb. As pregnancy advances, the uterine canal becomes little by little shorter and shorter, its upper portion widening more and more to the capacity of the lower half of the uterine cavity, of which it becomes a part, and, *pari passu*, with this process of transformation the fibrous walls of said canal enter into the composition of the uterus, whereby the transverse fibres connected with its two outer layers and constituting the constrictor cervicis muscle are, if it may be so expressed, shifted, slid off, or left in their relatively new situation to become during gestation the sphincter, or more discriminatively, the constrictor oris uteri. When parturition occurs the longitudinal and oblique fibres, excited to powerful contraction, draw on this ring or circular muscle, and pull it open.

In sexual intercourse the uterus protrudes its neck, and seems as though it would jump through this lasso or constrictor cervicis muscle into the vagina; whereas in the evolution taking place during gestation the reverse occurs, and the neck is drawn out, even to its very mouth, from the muscular lasso.

The constrictor cervicis muscle in the comparatively dormant state of the unimpregnated uterus bears the same relation to the constrictor vaginæ that the upper or internal sphincter has to the sphincter ani. There is another point of resemblance; each external sphincter is under control of the will, while the internal constrictors or sphincters are beyond its reach, except so far as volition is, by reflex excitomotory acts, communicated from the voluntary to the involuntary muscles.

In the formative state the Fallopian tubes, uterus, and vagina constitute one continuous cylinder or elongated pouch, afterwards divided just where the circular fibres are found into three separate compartments. In the fundus of the uterus are the circular fibres of Meckel, at its mouth the constrictor oris et cervicis uteri, and lastly the constrictor vaginæ muscles. As there is accord between the external and internal sphincters of the rectum, so there is reflex sympathetic action between the three circular muscles dominating the prime reproductive cavities; that is to say, if there is transient or tonic contraction of the constrictor oris et cervicis uteri muscle, there is also con-

responding tension in the fibres surrounding the openings of the Fallopian tubes, producing congestion in the vascular and erectile tissues existing to a greater or less extent in these latter. And where contraction of the constrictor cervicis muscle is overcome by protracted dilatation, corresponding relief is given to the contraction of the circular fibres at the fundus of the uterus surrounding the mouths of the Fallopian tubes. The constrictor vaginæ and the sphincter ani are voluntary muscles, but the interior circular fibres of Meckel are, like the constrictor cervicis and internal sphincter bands between the rectum and colon, beyond the reach of volition and subject to organic instincts alone, except when these are modified by reflexes from the voluntary muscles.

Cloacic or tonic contraction of the constrictor cervicis uteri fibres becomes, as we shall presently see, in the unimpregnated uterus, the active cause of various uterine affections. So much for the muscular arrangements and their capabilities; but it is essential to a proper understanding of the subject that we also call attention, briefly, to the vascular apparatus of the uterus and its appendages.

THE UTERINE CIRCULATION.

The reader will recollect that there is no part of the human body where the origin, course, anastomosis, and innosculation of arteries are more irregular than in the vessels occupying the cavity of the small pelvis, and, notwithstanding these variations, the compensating powers of nature are such that their ultimate distribution is as a rule accomplished with exactitude. He will also remember that the uterine artery, having its origin usually from the ischiatic, but sometimes from the pudic, takes its course with its accompanying vein between the folds of the broad ligament to the uterus, into the lateral walls of which its branches are distributed. *Now the point I wish to make, and desire the reader to note is, that some of these branches with accompanying veins for the return blood pass through and underneath the bands of the constrictor cervicis uteri muscle, which, operated on by various influences, contracts transiently, rigidly, and often permanently, so as to impede to a greater or less extent, and sometimes obstruct entirely, the return blood by the veins.* And not only are the veins compressed, but also lymphatics and branches of the sympathetic from the hypogastric plexus, and we all know how paresis of the vaso-motor nerves robs the capillary vessels of their vital powers of contraction, thereby rendering them prone to dilatation and congestion. In this way most of the ills that uterine flesh is heir to have their origin. Any other organ of the body having the venous flow of blood from it arrested, while the arterial afflux still goes on, must and does always suffer deplorable consequences, modified by the nature of the structures deluged by obstruction to the return circulation. The relations of the constrictor cervicis uteri muscle and of the primary branches of the uterine arteries and their return veins, by which latter the drainage is effected, are altogether unique.

THE CAUSE OF UTERINE ENGORGEMENT AND DISPLACEMENT.

A circular muscle arranged around the lower third and the neck of the uterus like an elastic garter, particularly liable to irritation and subsequent contraction, having direct power to impede the venous flow, and yet too weak to control the arterial circulation,

becomes, by arresting the return blood and backing it on the womb, the factor of engorgements in the neck and body of the uterus, and as a consequence is the cause of procidentia, retroversion, retroflexion, and anteversion, according to the part of the womb which is weighted by the hæmostatic engorgement. If increased bulk and consequently weight is brought about in the neck, the uterus is liable to be dragged down, like a fisher's cork with lead attached, into the cavity of the pelvis; but if the summit of the posterior, anterior, or lateral walls be the seat of the congestion or infarction and increased bulk, then the tendency, hurried by exciting causes, is to topple backwards, forwards, or to either side, according as the back, anterior, or lateral walls contain the greater weight of engorged matter. In this way, just as the fisher's cork falls in one direction or the other, as weight is added to a particular side, retroversion, anteversion, or lateral declension is brought about. The normal position of the womb in health is that of anteversion.

There is a form of lateral displacement not of necessity connected with the causes of dislocation already assigned, which Meckel describes in the following words: "When the fibres of the broad and round ligaments of one side act more forcibly than those of the opposite side, the uterus is carried transiently or permanently into one half of the pelvis, an arrangement which we have often observed, although it depends on no mechanical cause, and although the parts which serve to retain the uterus were unaltered in their texture." Again, on page 555, he mentions "the situation of the uterus out of the median line, in which case it generally rests against one of the sides of the pelvis." There is a form of strumous engorgement or infarction of the walls of the uterus rendering them and the neck extremely thick, which does not depend on the anatomical arrangement, or rather derangement, of the muscular fibres and veins about the neck of the uterus. These exceptions are here referred to for the purpose of clearing away the ground, isolating and bringing into more distinct view the subject under consideration.

FIBROID AND OVARIAN TUMORS; CARCINOMA.

Arrest of the return blood long continued causes also fibro-plastic thickening, and often permanent augmentation of bulk. And when the ætiology of fibroid tumors comes to be more carefully examined and better understood it will probably be found that their mode of production is largely due to an arrest of healthy nutrition caused by obstruction from muscular or other compression, preventing the free return of blood through the veins. Fibrine and blood globules blocked up in the capillary vessels sometimes assume a parasitical growth, and become the germs of subsequent fibroid development. The coagulable fluids found in fibroid cysts would appear to be nothing more nor less than the albuminoid reserve of blood forced into them by arterial afflux on the one hand, and obstruction to the reflow of blood through the veins on the other. In ovarian disease, on the contrary, the vessels growing with the development of the tumor are unobstructed, and accordingly the cysts are filled with non-coagulable fluids of various degrees of consistency. This muscular compression, and consequent arrest of nutrition, explains more satisfactorily than any other theory the primary origin of carcinoma. The uterus

and mammae are peculiarly the tropics of cancer, produced in the former by the obstruction of veins underneath the constrictor cervicis uteri muscle, and in the latter by compression of the corsets, after the mode in which pressure of the pipe-stem, by arresting circulation and nutrition, gives rise to cancer of the lip.

HEMORRHAGES.

Obstruction to the return blood also produces not only congestion of the inner lining membrane of the womb, but often a varicose condition of its veins, and not unfrequently this congestion and morbid repletion is relieved by profuse diapedesis, hæmorrhage from the vessels of the endometrium, often showing itself in the form of profuse menorrhagia. There is also a spongy thickening of the walls of the uterus, with more or less congestion of its inner lining membrane, from and through which is secreted and exuded a profuse mucous or sero-purulent discharge. This condition, generally called uterine catarrh, is also largely due to retardation of or obstruction to the return blood, caused by strangulation of the uterine veins by contraction, more or less transient or permanent, of the upper, middle, or lower fibres of the constrictor oris et cervicis uteri muscle. Here again relief has been unknowingly derived from the preparative operation of dilating the cervical canal, thereby releasing the compressed veins and setting free the return circulation, and not, as is generally supposed, from the topical treatment afterwards applied. Sometimes the arrest of blood only gives rise to vascular turgescence of the endometrium and the vessels of the longitudinal fibrous layers with more or less œdema of the cellular tissue in and between said layers. This morbid condition is one of the causes of sterility, and if found in the dead body is better than any other for purposes of dissection. A weight of eight or twelve drachms suspended on an india-rubber cord just capable of sustaining it will remain in a uniform position, but if an increased load be added, the cord yields and the body is let down; in like manner, the healthy uterus, sustained by the vaginal column, round ligaments, and other yielding supports, holds its place until congestion, engorgement, or infarction, adding to its weight, causes it to decline.

In so-called internal uterine hæmorrhage after parturition, what happens to produce it? While the longitudinal fibres are utterly relaxed, the constrictor oris uteri muscle has contracted, thereby not only closing the mouth of the womb, but obstructing the return blood to the general circulation by the veins. In two cases of post parturient hæmorrhage, while my hand was introduced above the line of the umbilicus, for the purpose of pulling out blood-clots, the contractile pressure of the constrictor oris could be distinctly felt grasping my fore-arm; and it was manifest that, while this muscle was sufficiently rigid to form a *point d'appui* for the longitudinal fibres to act on, the latter were too weak and relaxed to avail of the advantage. After removal of blood-clots, titillation of the inner walls with the fingers of the right hand, grasping the uterus through the walls of the abdomen with the left, and the use of ergot, both of these cases progressed favorably.

The wife of a friend of mine, living in New York, died from internal hæmorrhage, there being no outward flow of blood whatever. How could this have happened unless the longitudinal fibres were powerless

to pull open the mouth of the womb, already closed by contraction of the constrictor oris muscle? After death the uterus was found filled with coagulated blood and serum. In rare instances the contraction of the constrictor cervicis is so great as not only to obstruct the venous, but materially to arrest the arterial circulation also. Where this occurs the uterus is in the beginning voluminous; but when the arterial supply has been long cut off, it is atrophied, its tissues are wilted, and the inner lining membrane is dry, and as rough as pumice-stone; and in rasping out, as is sometimes done, this indurated surface, as well as in other intra-uterine operations, the relief comes not so much, as is generally supposed, from what is done within the cavity of the womb, but rather from the preliminary operation of dilating its cervix, and thereby unconsciously releasing the veins and arteries, arrest in the circulation of which had given origin to the trouble.

A lady had been to most of the capitals in Europe to consult, without success, gynecologists for the relief of profuse menorrhagia; finally, she went to another specialist, who, to arrest the bleeding, introduced for the first time a sponge tent into the cervical canal. Several months having elapsed, this gynecologist inquiringly wrote to a friend of his in Paris, who came to me to ask if I could explain why it was that the introduction of a sponge tent had not only arrested the hæmorrhage at the time, but had also effected a permanent cure, as shown by the fact that the catamenia had been perfectly regular for four consecutive months, of customary quantity, and unattended by the least loss of hæmorrhagic blood. In reply to the question, I said, "Obviously because the sponge tent had broken up an old stricture of the uterine canal, caused by tonic contraction of the constrictor cervicis uteri muscle, and, as a consequence, the veins returning blood from the uterus, being released from a ligature, were now performing freely their proper office of drainage." But whether the explanation was accepted, or even understood, I never learned.

TREATMENT.

Do not suppose, however, from the relief and final recovery thus obtained, that I approve of the general and indiscriminate use of the sponge and sea-tangle tents, having witnessed in several instances, both abroad and at home, deplorable consequences resulting from their employment by eminent practitioners; the expansion of either is so free, resistless, and difficult to limit that the transverse or circular fibres, instead of being gently stretched, are sometimes torn, the rude treatment often giving rise to phlebitis, followed by metritis, metro-peritonitis, pyæmia, or parametric cellulitis. Moreover, the expansion of these tents, operated by a perfectly irresistible hydraulic power, is so rapid and great that, instead of having, as before the tent was introduced, pressure of the muscle from without on the return veins, the powerful expansion of these tents causes compression and consequent interruption to their circulation and office of drainage from within. The movement of blood in these veins can go on properly only when they are nicely poised within the circular and longitudinal meshes of the constrictor cervicis fibres, and while these latter are in a state of healthy tension, or, it might rather be said, repose.

Your patient indulgence is asked in order that the easy mode of meeting all the difficulties and morbid conditions directly dependent on and growing out of

contraction of the constrictor cervicis muscle, and consequent hæmorrhage resulting therefrom, may be recounted. After carefully examining, more than forty years ago, the uterus and its appendages, and especially the topography and anatomical relations of their different structures, the practice now to be illustrated by cases briefly drawn was adopted and continuously carried out, whenever opportunities offered, with good success, and without, so far as is known, injury to a single female. It was begun on the theory that arrest of the venous circulation was the direct primary and often the continued cause of numerous morbid conditions to which the uterus and its appendages are subject. The treatment consists in the simple expedient of dilating the cervical canal, so as to overcome contraction of the constrictor cervicis uteri muscle which had narrowed or closed it, and to keep the dilator applied sufficiently long to fatigue the muscular fibres, thereby removing pressure from the veins of the neck and lower third of the body, setting free the circulation and renewing, or rather restoring, their office of drainage.

I would not for an instant have it supposed that I regard the introduction of male urethral bougies into the uterine cavity as a novelty; on the contrary, it has, no doubt, been done thousands of times, the use of these instruments always at hand as dilators being very naturally suggested. But the bougie, when used, has as a rule been introduced and withdrawn just as in the treatment of strictures of the urethra, and without regard to the anatomical relations of the uterine veins and constrictor uteri fibres, each to the other, and consequently only in a few instances, or by accident, has the bougie been permitted to remain in the uterine canal for any length of time, so as to fatigue the muscle, and thereby give lasting effect to the dilatation. And when bougies have been tried no intimation was ever thrown out that they were introduced for the purpose of releasing the cervical veins and restoring to them their proper offices. I at first used as dilators sounds made of a pliant metallic compound, and easily bent in any direction; but some time afterwards I was fortunate in procuring from the late Mr. Andrews, chemist, three sets of male urethral bougies he had brought with him from England. It was at once apparent that they were the very sort of bougies required; for, while readily bent to any curve, they were at the same time sufficiently resistant to retain their position. The largest of these — from No. 5 to No. 12, two of them being of unusual size — were used in all cases. I am referring now to a period when the treatment of uterine affections was largely in the hands of empirics, and when the women of the country were going in shoals to consult at Flatbush, near Brooklyn, New York, a medicine-man who at that time held over the hysterical provinces of this country an autocratic sway not less absolute than was the rule of Dr. Francia in Paraguay. It was to rescue this department from the hands of quacks that the late Dr. Francis and others in New York procured from the legislature of that State a bill to establish a hospital in the city of New York for the treatment of the diseases of women, placing Dr. J. Marion Sims at its head.

(To be concluded.)

—Thus far there have been nine fatal cases of diphtheria in the town of Franconia, N. H., since December 4, 1879. Population, 549.

RECENT PROGRESS IN THE TREATMENT OF CHILDREN'S DISEASES.

BY D. H. HAYDEN, M. D.

*Athrepsia*¹ (a primitive, *θρεψις*, nutrition) is the name applied by Professor Parrot, in a series of clinical lectures delivered at the Hôpital des Enfants assistés, and since then embodied in the above book, to a series of morbid processes, beginning always with diarrhoea, the essential fact of which disease is a denutrition of the infant, bringing in its train a succession of accidents which have hitherto been regarded too much in the light of separate diseases, but which it is the object of these lectures to show consist in a chain of clinical facts linked together by incontestable evidences of relationship, with a typical order of succession, and having a common origin in the disturbances of nutrition.

The definition of "new-born" is given in precise terms as including infants under two months of age, and it is with the disease as pertaining to this brief period of existence that the author's teachings have to do. The first and constant symptom of *athrepsia* is a gastro-intestinal disturbance, namely, a diarrhoea, without which, according to Parrot, there can be no *athrepsia*.

As a necessary preliminary to the intelligent study of this disease, two lectures are devoted respectively to the anatomy and physiology of new-borns. The important change from fetal life relates to the altered mode of nutrition, involving a new act, namely, digestion; and in the infraction of the natural laws of hygiene is to be found the habitual source of the digestive troubles which mark the first step towards the production of *athrepsia*.

Athrepsia is divided into three periods, and the symptoms marking these different stages are graphically described in the succeeding lectures. The initial symptom is a modification of the stools; and if the disease stops here the health is but slightly affected, and is rapidly reestablished. If the disease continues its march, the diarrhoea becomes aggravated with the addition of vomiting; and thrush, erythema, and not seldom ulcerations of the mouth make their appearance. The temperature is peculiarly variable, in a majority of cases being elevated two degrees or more, though in others it quickly falls below the normal. The pulse follows quite regularly a modification in the same direction as the temperature. Emaciation sets in rapidly, and the infant is perceptibly losing its strength. There is still hope; but one step more and confirmed *athrepsia* has entered upon its last stage. The incidents peculiar to this period, in addition to an aggravation of preceding symptoms, are described in order, and consist of diminished temperature of the breath and body, marked slowness of heart-beats, cyanosis, sclerema, modification in cranial bones, various functional disturbances of the nervous centres (atresia of pupils, coma, convulsions, generally tonic and partial, strabismus, trismus). Complications are particularly liable to supervene and carry off the patient, as pneumonia, peritonitis, erysipelas, mammary abscesses.

The study of these different symptoms is taken up in detail; and the lectures that follow on the pathological anatomy of the various lesions of the skin, mucous

¹ Clinique des Nouveaux-nés, L'Athrepsie, par J. Parrot, Professeur à la Faculté de Paris, Médecin de l'Hôpital des Enfants Assistés. Paris. G. Masson, Éditeur, Libraire de l'Académie de Médecine. 1877. One volume. 8vo.

membranes, and internal viscera seem calculated to sustain the author's views derived from the clinic.

The important conclusions therein contained may be summed up briefly, as follows:—

Thrush never exists as an independent disease, but is to be regarded as one of the earliest manifestations of atrespia. It is necessary to be on one's guard not to attribute to it the troubles which accompany it. It is found abundantly in lying-in hospitals and *crèches*, where atrespia reigns endemically.

Erythema (of the buttocks, thighs, scrotum, labia majora) assumes a grave character only when nutrition is profoundly affected, and the diarrhoea persists.

Plaques *pterygoidiennes* is the name applied to two ulcerations situated symmetrically on each side of the palate, posterior and interior to the alveolar arch. These as well as the described ulcerations of the buccal mucous membrane and of the inner mallooli are all different manifestations of atrespia.

The sclerema of new-borns is without exception a result of atrespia, and one of the terminal symptoms of the disease. It has been quite generally confounded with oedema of new-borns, which is not only an entirely different complaint, but is shown by the author to be incompatible with sclerema, the two conditions never coexisting at the same point. Microscopical examination of skin affected with sclerema (*endurcissement atreptique*) shows a desiccation with wrinkling of the layers, and a certain degree of atrophy of the fat which lincs it. There is no new formation of tissue as in scleroderma properly so called, and no serous exudation as in oedema.

The various nervous symptoms (coma, convulsions, trismus) which close the scene are all of uræmic origin, due to the suppression of the renal functions (*encephalopathie urémique*). Tetanus neonatorum is only one variety of the convulsive or eclamptic form of uræmia, and has nothing in common with tetanus proper, save the name, although the possibility of this latter disease affecting new-borns, in extremely rare cases, is not denied. The resemblance of the two is quite marked, owing to the coexistence, in the atreptic form, of induration of the skin with tonic convulsions. The natural resistance offered by infants to any attempts to open the mouth makes the likeness still stronger.

The pathologico-anatomical changes in the brain in the later stages of atrespia are various (steatosis, softening, hemorrhage); the nervous symptoms alluded to above, however, cannot be referred to these lesions, inasmuch as the latter are often well marked in patients exempt from all cerebral manifestations; and, on the other hand, it is not rare to find these symptoms where the autopsy fails to reveal any of these alterations. In the brains of atreptic infants two pathological conditions are constant,—diffuse steatosis and congestion. The above-mentioned nervous symptoms are referred by Parrot for their explanation to the changes in the blood (anæmia, uræmia, and loss of watery constituents), as being more important factors in their production than the cerebral lesions.

The uric acid infarctions found in the kidneys of new-borns are, according to Parrot, and in opposition to Virchow and others, essentially pathological, and an habitual consequence of atrespia. In corroboration of these views are cited: (1.) The absence of conclusive proof to the contrary by means of autopsies upon

infants who have died in perfect health. (2.) A series of examinations by himself of new-born birds, when these necessary conditions could be fulfilled, showing invariably an absence of any infarctions of the tubules of Bellini.

The first step, therefore, in atrespia is a vicious digestion, followed by insufficient alimentation, which extends gradually to the whole organism. The ingesta first diminish, then stop. The protein tissues and fat are burned. The individual consumes itself, and the limit to which autophagy can be carried decides the term of existence; and there is no clinical fact that is not determined by this subversion of nutrition. This is the essence of the disease and the diarrhoea applies the torch.

The name atrespia, it is thus seen, is not given by Parrot to a pathological unity, but to a succession—to a progression of morbid acts, which, while they have a common seal, are evolved in an independent manner, since the first can have disappeared (the diarrhoea, for instance), when the fatal termination is imminent.

These various "morbid acts" (diarrhoea, thrush, erythema, ulcerations of the skin and mucous membranes, sclerema, coma, convulsions, tetanus, uric acid infarctions), the author complains, have been distributed by writers on diseases of infants too much at haphazard, through their books, as isolated facts, creating as a result much nosological disorder, the source of grave and numerous errors.

In the chapter devoted to treatment Professor Parrot has shown himself alive to the all-importance of hygiene; and in addition to the treatment of atrespia proper we have an enlightened treatise on matters pertaining to the management and feeding of infants in health.

Cyanosis Afebrilis Icterica Perniciosa cum Hæmoglobûria.—Under the head of "A Hitherto Undescribed Endemical Disease of New-Borns," Professor Winckel¹ describes an epidemic, very fatal in its character, which broke out in the Lying-In Hospital of Dresden, affecting in rapid succession twenty-three infants. The disease made its appearance most frequently on the fourth day, in one case as early as the first day, and its average duration was thirty-two hours. With the exception of five who were being artificially fed, they were all being nursed by their mothers, who were healthy and free from any suspicion of disease. Nineteen of the infants thus affected died. Only one was discharged well; two were still sick when discharged; and one was materially improved. There was nothing in the nature of the confinement or in the previous condition of the infant to give any clue to the nature of the disease.

The peculiar symptoms characterizing the disease were: cyanosis, icterus, sighing respiration, hæmaturia, rapid lowering of the temperature (except in one case, which gave 100.5° F. by thermometer in the rectum). The blood presented important changes, being of a blackish-brown color and of syrupy consistence, and showed, in addition to a marked increase of the white corpuscles, a mass of fine granules, composed in part of the detritus of the red corpuscles, in part showing a molecular movement. Towards the end, clonic convulsions of the upper and lower extremities and marked twitchings of the muscles of the eye, with convergent strabismus, made their appearance.

¹ Deutsche med. Wochenschrift, Nos. 24, 25, 1879.

In only one autopsy was there found an arteritis, having its point of departure from the umbilicus. The liver was much swollen, of a dark brown color, showing on sections here and there yellow streaks, and often granular detritus, but not always. There was no fatty degeneration of the heart. The spleen, without exception, was enlarged and thickened, and of very firm consistence. The cortical substance of the kidney was brown in color, and infarctions of hæmoglobin were found filling the papillæ. There were ecchymoses throughout the whole length of the intestinal canal below the duodenum; also in the lungs, heart, diaphragm, and pleura. There was enormous swelling of the mesenteric glands, as well as of Peyer's patches; also a moderate hyperæmia of the mucous membrane of the bronchi and larynx, and numerous hæmorrhages in the œsophagus and in the posterior wall of the pharynx. The brain was often considerably œdematous, with dilatation of all the ventricles.

The question therefore, according to Winckel, concerns a disease, in all the cases, which cannot have been caused by puerperal infection, nor by medicaments, nor by the food. In the absence of any ætiology, he proposes the name "cyanosis afebrilis icterica perniciosa cum hæmoglobiuria."

[These cases of Winckel resemble in many of the symptoms and post-mortem appearances an epidemic which occurred at the Boston Lying-In Hospital in 1873, and which was reported by Dr. W. S. Bigelow in the JOURNAL, March 11, 1875, page 277. In Winckel's cases, however, there was no diphtheritic inflammation of any mucous membrane, which was a prominent symptom in those described by Dr. Bigelow. There is also no mention by Winckel of the presence of micrococci, which were found in large numbers in the other cases. — REP.]

*Icterus Malignus Neonatorum.*¹ — Dr. Birch-Hirschfeld, at a meeting of the Gynecological Society, held March 6, 1879, at Dresden, read a paper upon the different forms of icterus of new-borns. Under the head of icterus perniciosis he classed those forms of syphilitic origin which arise from a pylophlebitis. To the icterus of new-borns, with acute fatty degeneration, which had particularly occupied his attention, he would give the name icterus septicus. In the autopsies made by him at the Lying-In Hospital at Dresden, sixteen per cent. of all the infants had icterus; and in many of the cases there was found a suppurative of the navel, in by far the greater number of cases there being an arteritis, much seldom a phlebitis umbilicalis. Notwithstanding the rarer occurrence of the latter, the reader believed the umbilical vein to be the canal for the entrance of infection; and called attention to the fact that communication of this vessel with the circulation does not cease immediately after birth, but that an alternating emptying and filling takes place, corresponding to the different phases of respiration and of the heart's action. The non-entrance, as a rule, of a thrombus into the vein explains why the infectious matter entering it does not excite a phlebitis, but is carried into the liver; whereas, on the contrary, the same matter, entering the umbilical arteries, which contract firmly, and in which thrombi are formed, excites a local arteritis. In the liver the septic poison causes an interstitial and parenchymatous inflammation, which finally leads to a breaking down of tissue. From here as a starting-point the icterus is to be explained; but it is

not to be regarded as a hæmatogenous icterus. In infants the parenchyma of the brain is found icteric, which is not the case in adults. At the same time, in many of these cases (thirty-three per cent.) there are developed perivascular herds, consisting of thickly congregated granular cells, which have never been observed by him in infants not icteric. Whether this encephalitis in form of herds is due to absorbed gallic acid, or is to be attributed to some other matter resulting from the broken-down parenchyma of the liver, remains undecided. In a few cases the development of large quantities of micrococci could be demonstrated four hours after death in the umbilical vessels, liver, brain, and blood.

In the debate that followed, Dr. Münnel expressed the belief that trismus neonatorum had a causal connection with this septic encephalitis. Dr. Winckel shared in this opinion, and was inclined to associate the erysipelas neonatorum with the icterus arising from the absorption of septic matter.

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. G. CUTLER, M. D., SECRETARY.

PHLEBITIS OF THE RIGHT LATERAL SINUS AND EMISSARY MASTOID VEIN.

DECEMBER 22, 1879. DR. J. O. GREEN reported the case. There had been otorrhea for many years, and within a short time pain in the ear, vertigo, and vomiting. After the patient entered the hospital, the subjective symptoms were pain at the top of the head and in the mastoid region, chills and high temperature; while the objective symptoms were great tenderness of the mastoid, with tenderness and œdematous swelling along the base of the skull, without fluctuation, the most sensitive spot being just over the point of exit of the emissary veins. Later the mastoid cells were opened by boring, with relief to the pain in the head, and to the mastoid tenderness; there was swelling and induration down the neck along the sterno-mastoid muscle. The symptoms and temperature allowed a diagnosis of pyæmia, which was confirmed by autopsy. Beneath the periosteum, at the point of exit of the emissary vein through the skull, pus exuded freely, and the tissues at the base of the skull were infiltrated with pus. The bone in the sulcus of the right transverse sinus was slightly eroded as far forward as the junction with the cavernous sinus. The sinus had thickened walls, and was lined by a softened adherent thrombus. There was a small carious spot in the petrous portion of the temporal bone, over which the dura mater was discolored. Metastatic abscesses were found in the lungs, and in addition cloudy swelling of the liver and kidneys and splenic tumor.

OVARIAN CYSTS.

DR. JOHN HOMANS showed ovarian cysts removed from three patients by ovariectomy. The first was a multilocular cyst of the right ovary, taken from a married woman, forty-one years old. The second was a dermoid multilocular cyst, likewise of the right ovary, removed from a single woman, twenty-four years old, and practically a solid tumor. The third was a multilocular cyst of the left ovary from a single woman, thirty-three years old, removed the day before. In the

¹ Berliner klinische Wochenschrift, August 4, 1879.

first case there were no adhesions; the operation was quickly and successfully finished without the loss of half an ounce of blood, and the pedicle, which was broad, was secured by being perforated twice with double catgut ligatures, and doubly encircled by two others. There was no bleeding from the stump when it was examined, just before sewing up the wound; but the patient died of hemorrhage during the night following the operation, the Fallopian tube and a vessel having in some way got out of the loops of the knots. When Dr. Homans left the patient he feared he had tied the pedicle too tight, and that there might be sloughing. Possibly an attack of vomiting loosened the ligatures and slipped them off; or perhaps the pedicle was oedematous and shrunk after the removal of the tumor, and so allowed a portion of the constricted part to slip out. The second case was eminently successful, the temperature becoming normal on the fourth day, and the patient leaving the hospital in less than three weeks. In this case there was no hemorrhage, as the pedicle was constricted very tightly with Dawson's clamp before tying. Dr. Homans had always done this in his earlier cases, but having tied the pedicle in halves without constricting by a clamp in four successful cases, he had begun to think that instrumental compression was unnecessary. He said that he should not omit it in future. In addition to ligaturing the pedicle in this manner, five vessels in the end of the stump were tied separately with silk. Several temperature charts of this case and of others were shown.

The third case, operated on the day before, was so far doing remarkably well; the cyst, which was shown, was a multilocular one of the left ovary, and in one place had begun to suppurate. The adhesions to the mesentery and the small intestine were very broad and vascular, and were separated by ligatures of silk or catgut and Paquelin's thermo-cautery. The pedicle was tied in a "clove-kitch," as Lawson Tait has recently suggested and practiced, and the vessels mentioned in the last case, which always seem to be pre-sent in about the same number, were separately tied with silk, although this was probably unnecessary. The operation lasted an hour.

THE RELATION OF DRUG MANUFACTURERS TO THE PROGRESS OF THERAPEUTICS.

DR. R. T. EDES read a paper on the Relation of Drug Manufacturers to the Progress of Therapeutics, which is printed on page 49.

In commenting, Dr. MINOT thought that so admirable a paper left but little to be said on the subject. There was a distinction to be made between pharmaceutical chemists and manufacturers, though they were often, perhaps generally, united. Without the former we should never have had morphia, quinia, ether, salicylic acid, and a thousand other chemical products, which were almost indispensable in the practice of medicine. But the pharmacopoeia was always overburdened with articles, many of which were useless; there were upwards of forty official preparations of iron alone, of which two thirds, at least, were superfluous. It was important to the manufacturer that his goods should be appreciated and employed, and he naturally availed himself of the well-known tendency of the human mind to attribute recovery to treatment, and urged the employment of his preparations upon the profession, often with the addition of an imperi-

nent lecture on pathology and therapeutics. This could not fail to retard the progress of the healing art, which could be advanced only by careful observation and experiment, coupled with a thorough knowledge of the natural history of disease, and was hindered by a desire to try new remedies without carefully testing the result, as well as by the too common habit of publicly recommending medicines after a very brief acquaintance with them. A physician should never allow his name to appear in printed advertisements in recommendation of medicinal preparations.

With regard to the use of phosphorus, Dr. Minot thought he had seen some benefit from its administration in cases of threatened premature senile decay, and also of the so-called "nervous asthenia" in females. In two cases of impotence, one of which was probably the consequence of typho-malarial fever, and had lasted several years, the other without obvious cause, the effect of phosphorus seemed very marked. In both instances a cure followed its use, and each patient subsequently became the father of children. The medicine should be given with caution, and occasionally omitted for a week or two. It should always be suspended when its use is followed by eructations tasting of phosphorus. Dr. Minot had employed pills of one sixtieth of a grain each, one pill to be taken three times daily, after meals, and the dose to be carefully increased.

DR. W. P. BOLLES thought that physicians were more to be censured in this matter than the manufacturers or their agents, since they encouraged by their patronage, often for the most trivial reasons, the manufacture and sale of the class of medicine mentioned by Dr. Edes. This is perhaps more true of those in the country and smaller places than in the large cities. Yet he knew that it was not infrequent in Boston, and mentioned a case where an apothecary, who kept already three or four good manufactures of extract of malt, was obliged by a respectable physician to get another, "because it was put up in such pretty bottles." The agent had just been through the place.

Dr. Bolles advocated favoring such retail pharmacists as could be trusted, and holding them personally responsible for the quality of their medicines, not directing them to get this or that manufacturer's ordinary preparations, nor allowing them to shield themselves behind the names of any wholesale makers, however famous. They should be allowed to make their goods themselves, or buy them where they pleased, but must know that they were all right.

He called attention to the pharmaceutical schools of this country, where young men were well and honestly prepared for business. These graduates, or students, were now to be found in all the medium-sized and larger cities of the Northern States. They would be found, he believed, on the average, to be far better prepared and far more reliable in character than those without the same training, and they certainly had a right to expect the favorable consideration of physicians.

DR. LYMAN thought that if all the physicians in Boston would unite on one good apothecary in each district, to whom people should be sent for their medicines, we might remedy the difficulty. The greatest amount of money which apothecaries took in came from their sale of patent medicines. Prescribing over the counter was objectionable. He thought that if the new law were passed we might perhaps be able to do something.

Dr. BOLLES had found by calculation that the average apothecary got between four and five hundred dollars only per annum from the dispensing of prescriptions, and his opinion was that many of them ought to shut up their shops.

Dr. EDES remarked that it was true, as Dr. Minot had said, that the pharmacopoeia contained forty or more preparations of iron, but he thought, from his recent experience, that if each member of the society were to be asked to name five desirable preparations of iron we should doubtless have the whole list covered. He then read certain objectionable advertisements of medicines in medical journals.

Dr. WARREN said that medical journals depended for their support very largely on advertisements. If they relied on their subscription lists alone, it would be impossible for many of them to continue. It was very difficult to keep questionable advertisements out of a journal, as publishers cannot understand any objection to them, and regard them as so much capital.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

INSTRUMENTAL LABOR, WITH RUPTURE OF THE PERINEUM AND LACERATION OF THE CERVIX; ACUTE CYSTITIS.

MARCH 8, 1879. Dr. WELLINGTON reported the case. The laceration of the cervix extended to the cul-de-sac. During labor there was an unusual protrusion of the anterior lip. Very little is said in the books about cystitis following labor. This case was a severe one. The urine was loaded with pus, the dysuria was great, and the patient suffered intensely. She was delivered ten weeks before, and urination was still painful. The rent in the cervix was in its anterior lip, a little to the right of the median line, and had healed almost completely. The rupture of the perineum was stitched, and good union followed. The cystitis was treated by injections of borax and glycerine, alkalies, and opium. — Dr. LYMAN wished to know if symptoms of cystitis existed prior to labor. — Dr. WELLINGTON replied that there were no marked evidences of cystitis prior to the labor. There was retention of urine for three days after the labor, requiring the catheter. — Dr. LYMAN expressed the opinion that the labor had nothing to do with the occurrence of cystitis; that the cause should be looked for in other directions. — Dr. SINCLAIR reported a case of difficult labor in which repeated and prolonged attempts failed to effect the delivery by the forceps, and which was finally finished by turning. He could not discover the cause of the obstruction. The perineum was ruptured; the cervix was ruptured on the right side up to the cul-de-sac, and slightly so on the left. The vagina was very much injured. The perineum healed very imperfectly. For the acute cystitis which supervened the urine was drawn for fourteen days. Carbolic injections were employed only *per vaginam*. — Dr. LYMAN asked if there had been any trouble with the cervix. — Dr. SINCLAIR replied that he was not aware of any, but after the birth the cervix lay almost without the vulva. The delivery by version was effected without any difficulty whatever. — Dr. LYMAN observed that some twenty-five years ago Dr. McDonnell, of

Montreal, had published several cases in which he had injected the bladder with solutions of nitrate of silver. — Dr. BOARDMAN remarked that the case reminded him of a paper presented about two years ago to this society, in which Dr. Richardson gave the details of a series of cases which, as recollected now, were termed acute cystitis following confinement, and due to actual injury to the bladder from the violence of the labor. Dr. Boardman (present at that meeting as a guest), suggested a cause of the cystitis in those cases, differing from that assigned in the paper, which he would now repeat, as important in connection with the case reported, namely, the partial paralysis of the muscular layer of the bladder, due to prolonged pressure, and giving rise to its incomplete evacuation and the retention and decomposition of a portion of the urine, which he had ventured to call residual urine, and which might readily occasion subacute or even acute cystitis. He had satisfied himself of the fact of this frequent incomplete emptying of the bladder after tedious labors. In regard to the laceration and subsequent union of the cervix, as related in the history of the case, Dr. Boardman desired to call the attention of the members to the fact that this result goes to confirm the remarks he had made at a recent meeting of the society, namely, that antero-posterior lacerations usually unite without treatment, owing to the normal lateral pressure of the vaginal walls, and, further, that, as a general rule, lacerations are more likely to occur in labors with a precipitate second stage. Now cases where the forceps are applied in the high position may be considered as belonging to this category, and, as we might expect, it is the fact, as in the case reported, that lacerations of the cervix are very likely to occur in such cases, a result which has recently been confirmed by the experience at the Rotunda Hospital in Dublin, where the high forceps operation was quite frequently done by the immediate predecessor of the present master. — Dr. FIELD stated his belief that cystitis was dependent upon diseases of other organs, and not upon labor. He had seen a case of irritability of the bladder from an affection at a distant part of the body, and another from hemorrhoids, both of which, when removed, resulted in a cure of the cystitis. He should as soon expect to find the disease in a simple as in a difficult case of labor. As to washing out the bladder, he thought very little could be gained by the procedure in the acute stage, but that it ought to be of advantage in chronic cases. He would suggest, as a treatment of cystitis in women, rest and a liberal diet.

TERATOMA.

Dr. HOSMER reported the case, and exhibited the specimen. The following record is of an autopsy, made June 17, 1878, thirty-four hours after death. The body was that of a colored female, eight months old, and was partially frozen. Emaciation was well marked. From the vagina there had escaped a bloody discharge, considerable in quantity. The base of the chest was broad, and the ribs, by their elevation, were brought so close together that the intercostal spaces were almost obliterated. The umbilicus was prominent, but not large; its relative distance from the ensiform cartilage was a striking fact. The abdomen was full and wide, but quite symmetrical in shape. Its circumference was fifty-two centimetres. Internally, upon the peritoneum, were here and there

some slight patches of injection. A very small quantity of clear liquid had gravitated into the pelvic cavity. The mass of the intestines lay, for the most part, upon the left side. At the points where they had come in contact with the growth, soon to be described, they were adherent, but not firmly so; otherwise they were normal. The growth itself, extending from beneath the liver almost down to the brim of the pelvis, filled the right half of the abdomen. It was attached to the anterior abdominal wall by a pretty large area of adhesion. Its separation from all adjoining parts was effected very easily, and almost entirely with the finger, by a process similar to that of enucleating a fatty tumor from its bed in the cellular tissue. It almost seemed as though its removal during life might have been accomplished with a facility that does not always belong to the operation of ovariectomy. Its firmest connection was with the spine, near the root of the mesentery. Its posterior surface rested against the kidney, and it is therefore to be presumed that it was extra-peritoneal; hence there comes the thought that, through a lateral incision, it might have been taken away without endangering the great serous cavity of the body. The uterus and ovaries presented nothing abnormal. The liver, excepting its dislocation upwards, the kidneys, and the spleen were entirely natural. The diaphragm was highly arched. The chest contained nothing of importance. The head was not examined. The unnatural growth was preserved entire, and transferred at once to the custody of Dr. R. H. Fitz, whose description and explanation of the specimen are as follows:—

The tumor formed a lobulated mass as large as a child's head, and several rounded nodules were attached, the largest the size of an apple. Its weight was more than two pounds. The central mass had a somewhat doughy consistency, and contained parts whose density was that of cartilage; some of the lobes and accessory nodules were evidently due to the circumscribed accumulations of fluid in considerable quantity. The surface of the tumor was covered with a smooth, glistening layer of fibrous tissue containing numerous and large blood-vessels, while several patches of fibrinous false membrane were found adherent. A large cyst upon the anterior face of the tumor, which had been punctured during life, contained a few ounces of opaque yellow (purulent) fluid, and its inner surface was deeply and extensively injected. The wall of this cyst, like that of the others, was separated from the smooth, glistening, fibrous envelope of the entire tumor by a thin layer of fat tissue. There were two sorts of cysts, the one having an external cutaneous wall and thin, watery contents, the other a smooth, glistening, fibrous external surface and glairy contents, in which were opaque gray streaks. Both varieties of cysts were to be found enveloped in a thin fibrous membrane, forming the outer wall of an inclosing sac, though this was not invariably the case. The intervening space was filled with a moderate quantity of desquamated epidermis, resembling the *vernix caseosa*, upon the cutaneous surface referred to, while no contents were found in the space between the envelope and the cyst proper in the second variety. The cysts with glairy contents were presumably of different developmental origin, some having ciliated epithelium upon the inner surface of their wall, while others had a cylindrical epithelium. The glairy fluid gave the reaction of mucine on the addition of acetic acid. One of these cysts, containing

some eight ounces of fluid, communicated by an opening large enough to admit the little finger with a convoluted tube some eight inches in length, resembling a piece of small intestine, and distended with its glairy contents so as to be nearly an inch and a half in diameter. This tube lay within a serous cavity, was attached to a sort of mesentery, and bore a close resemblance to intestine; on its serous surface were several fibrinous patches. A small quantity of dirty-brown fluid, resembling meconium, was to be squeezed from the vicinity of the coiled cyst, though its exact point of origin was not determined. The microscopic examination of a portion of the wall of one of the smaller cysts showed that not only was the surface covered with epithelium, but epithelial pouches extended into the substance of the loose vascular, fibrous tissue of which the inner wall was composed. The cutaneous covering of the first series of cysts referred to contained delicate hairs, and convoluted tubes resembling sweat glands were found beneath the epithelial layer. The solid portion of the tumor was composed mainly of fat tissue. In this were islets of tissue of the most varied sort: bone, with large medullary spaces containing red marrow, hyaline cartilage, bands of dense fibrous tissue, striated muscular fibre, and lastly a finely granular intercellular substance in which were numerous round cells and delicate medullated nerve fibres. The tumor is therefore to be regarded as a teratoma, containing not only tissues from the several germinal layers, but also organs, as the skin and mucous membrane, and even a viscus, namely, the piece of intestine referred to. The cysts lined with ciliated epithelium were not to be considered as belonging to the nervous system, as the epithelium covered a structure more analogous to a mucous membrane than to the ependyma lining the central cavities of the brain and cord.

June 5th, eleven days before death, I made my first visit, and obtained the following clinical history: The child was born at term of a mother whose health had been good throughout her fourth pregnancy. It had always been nursed, though from the age of four months it had received some artificial food. It had thriven tolerably well until the last of May. When it was a month old the abdomen was first thought to be larger than usual, and from that time its size had been steadily increasing. Two days since it was tapped at some institution in Boston, and fluid was obtained to the amount of five hundred cc. Now there is no appetite; some vomiting and diarrhoea; tongue slightly coated, but moist; marked diminution of flesh and strength; sleep seriously interfered with. The temperature, pulse, and respiration are respectively 102.6°, 144, and 60. The quantity of urine is normal. There is slight oedema of the vulva. No teeth have yet appeared, even beneath the gums. The evidence of general discomfort and suffering is abundant. The abdomen is full and broad, symmetrical in shape, firm and resisting on the right side, covered with a net-work of veins which are moderately distended. Its circumference is 57.5 cm. In all positions of the child there is an area of dullness which includes all the right half of the abdomen, and in its lower two thirds encroaches considerably upon the left side, where its limit is nearly parallel with the median line. Under the finger, the outlines of the growth are not very well defined, but its lower portion fluctuates distinctly. After the removal by aspiration of one thousand cc. of turbid fluid, the circumference of the abdomen is re-

duced to fifty-one cm., and the veins disappear to a very large extent. There appears in the lower part of the right hypochondrium a distinct prominence, which gives to the touch the impression of a solid subcutaneous body, two cm. wide and five cm. long, and lying transversely in abdomen. The fluid removed has a density of 1012, is decidedly albuminous, and furnishes a purulent-looking deposit which, under the microscope, is seen to consist of granular corpuscles in which no nucleus is developed upon the addition of acetic acid.

The diagnosis made at this date, excluding ascites, did not advance beyond the recognition of a compound mass, of which the lower portion was cystic and the upper one solid. After this no new symptoms were developed excepting some slight riles in each chest posteriorly. The general description which has been given applies perfectly to the case on any subsequent day. The prognosis became steadily more and more unfavorable. After the aspiration the abdomen began at once to enlarge, and continued to do so until June 15th, when, to relieve its extreme tension, five hundred cc. of fluid were drawn off. This fluid differed from the first specimen only in that it produced a much more abundant, heavy, purulent-looking deposit. Death occurred early the following day, June 16th. The treatment was simple in the extreme, and included nothing of any value beyond the surgical remedy of tapping.

DR. FITZ mentioned the various parts of the body from which these tumors may arise, and remarked upon the very curious point of origin in the present case. In general, the cases have usually been spoken of under the head of "fetus by inclusion." The specimen exhibited was the most curious that had occurred in this vicinity. In a similar tumor removed from the neck by Dr. Hodges, a few years ago, there was merely a combination of tissues without any resemblance to a particular organ.

THE ANTIQUITY OF INTRA-UTERINE INJECTIONS.

DR. HOSMER exhibited a work on midwifery published in London in 1769, written by Dr. Robert Wallace Johnson. Among the plates is one presenting a section of the uterus and whole pelvic region, and showing the syringe in position for an intra-uterine injection.

Recent Literature.

A Treatise on the Science and Practice of Midwifery. By W. S. PLAYFAIR. Third American Edition. Philadelphia: H. C. Lea. Pp. 655.

In this edition the author has endeavored to revise the work, with a special reference to American practitioners. The number of changes is not great, and they relate chiefly to matters which are still *sub judice*. We are glad to see that less value is placed on the so-called true corpus luteum as a sign of pregnancy, and that the claims of Dr. Wright as the first advocate of bimannal version for the performance of cephalic version are at last recognized, although the author still claims credit for Dr. Hicks as the one who first showed the possibility of effecting complete version by this means in all cases. A detailed account of Porro's operation, and also of laparo-elytrotomy, has been

added. Many valuable changes have been made in the chapter on puerperal septicæmia. We regret that the author should still so briefly allude to irregular uterine contractions as an agent in producing dystocia, thus entirely ignoring the results reached by Bandl, Martin, and others.

We are also at a loss to understand the reasons for the substitution of the word "pruritis" for pruritus in the paragraph on that disease of pregnancy (page 206). Such a change is warranted neither by the derivation of the word nor in its use by dermatologists.

As a whole, this edition is an improvement on the last, which we have already favorably spoken of in this journal.

The Theory and Practice of Medicine. By FREDERICK T. ROBERTS, M. D., B. Sc., F. R. C. P., etc., etc. With illustrations. Third American from the fourth London edition. Philadelphia: Lindsay and Blakiston. 1880.

The early appearance of another edition of this book is an indication of the favor with which it is received. The addition of some illustrations, which, though not profuse, are well chosen, increases its value. The chapters relating to the absorbent system and the nervous system have been especially revised and extended. We again heartily recommend it to students, teachers, and practitioners.

First Lines of Therapeutics as Based on the Modes and the Processes of Healing, as Occurring spontaneously in Disease; and on the Modes and the Processes of Dying as Resulting naturally from Disease. In a Series of Lectures by ALEXANDER HARVEY, M. A., M. D. (Edin.). Emeritus Professor of Materia Medica in the University of Aberdeen, etc., etc. New York: D. Appleton & Co. 1879.

THESE lectures, as the title-page indicates and as the preface informs the reader, are designed to illustrate, on the one hand, the workings of the *vis medicatrix nature*, or the modes and processes of healing and recovery as occurring spontaneously in disease, and, on the other, the modes of fatal termination of diseases. These two subjects, the author justly remarks, underlie the whole science of therapeutics, and he thinks instruction in them is greatly neglected. If so, our author has made a vigorous effort to repair such past neglect. He worries and shakes his subject until there is no life in it. Sir Thomas Watson, in writing to him of the book, assures him that he has "thoroughly thrashed out the great theme which he proposed to discuss." This the author has done, but it strikes us that a good deal of superfluous energy has been expended in belaboring the chaff after the extraction of the wheat.

— An English physician, having been unable to reach a fatal case in time to render assistance, was "branded by the intelligent twelve (the jury) and their chief," says the *Medical Press and Circular*, "in terms of most unmitigated reproof." This journal further remarks, "Many of the coroners now in office are eminently unfitted to discharge its proper functions."

Medical and Surgical Journal.

THURSDAY, JANUARY 15, 1880.

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THE SECOND MEDICAL VOLUME OF THE MEDICAL AND SURGICAL HISTORY OF THE WAR OF THE REBELLION.

THIS volume, being the first of Part Second of the medical and surgical history of our late civil war, prepared under the direction of Surgeon-General Barnes by Surgeon J. J. Woodward, of the United States Army, treats of the alvine fluxes, which term embraces acute and chronic diarrhoea and dysentery, and is a mine of information in regard to those diseases. "These disorders," the author tells us, "occurred with more frequency and produced more sickness and mortality than any other form of disease. They made their appearance at the very beginning of the war, not unfrequently prevailing in new regiments before their organization was complete, and although comparatively mild at first were not long in acquiring a formidable character. Soon no army could move without leaving behind it a host of the victims. They crowded the ambulance trains, the railroad cars, the steamboats. In the general hospitals they were often more numerous than the sick from all other diseases, and rivaled the wounded in multitude. They abounded in the convalescent camps, and formed a large proportion of those discharged the service for disability. The majority of our men who were so unfortunate as to fall into the hands of the enemy suffered from these affections. Finally, for many months after the cessation of the war, and after the greater portion of the troops had returned to their homes, deaths from chronic diarrhoea and dysentery contracted in the service continued to be of frequent occurrence among them." And every civil practitioner would mention in this connection the many cases in which these diseases still keep their hold upon their victims nearly fourteen years after the close of the war. It was at first proposed to include the camp fevers in this volume, but the wealth of material in regard to the present subjects made it necessary to postpone them to a third and final volume of the medical history. The author explains and justifies his determination to devote an entire volume of nearly nine hundred pages to diarrhoea and dysentery. He says: "Not only do the alvine fluxes usually cause more sickness and mortality among troops during war than any other group of diseases, but this circumstance affords a better opportunity for their study than can commonly be obtained in times of peace, so that it has heretofore happened that many of the most important accounts of these disorders, whether in ancient or modern times, have been the fruit of

military experience. When I came to study carefully the documents and pathological specimens relating to this subject which had been collected by the industry of our medical officers during the civil war, I formed the opinion that they were well worthy of presentation in detail; and when I began the task of interpreting them by the aid of previous experience I was led to believe that the time had arrived when modern observations might profitably be contrasted with the records of the past, and the historical basis of the dominant opinions of the present day be subjected to careful and critical scrutiny. This I have not hesitated to attempt. The great medical library which my colleague, Surgeon J. S. Billings, has been enabled, by the liberal policy of the surgeon-general of the army and the annual appropriations of Congress, to collect for the benefit of medical officers and of the medical profession of the country has afforded me opportunities for the study of the ancient and modern literature of the subject not heretofore enjoyed by any American medical student, and I have endeavored to make the best use I could of the resources at my disposal." Of the value and success of this attempt any one studying the copious foot-notes, in which the authorities consulted—and few have escaped—are not only cited, but quoted, would be soon convinced.

The number of deaths from diarrhoea and dysentery in the Federal armies during the war is estimated at 57,265, and even this, for reasons indicated, is regarded as less than the actual mortality from these diseases. "The number taken on sick report with these diseases was to the total of all diseases reported about as one to every three and one half for the white troops, and as one to every four for the colored troops. The number of deaths from them recorded in the tables constitute about the same proportion of the whole number of deaths from disease, namely, one to three and one half among the white, one to four among the colored, troops. These rates must be regarded as understating rather than exaggerating the proportion of deaths due to diarrhoea and dysentery."

The number of soldiers discharged from the service on account of disability from these diseases it has only been possible to estimate in a purely approximate degree. As an example of one element of confusion we may mention the large number of certificates of discharge for "debility," namely, 15,040, and again the "many thousands of diarrhoeal patients, sick in the general hospitals, who were mustered out of service at the close of the war." The proportion of acute to chronic cases of diarrhoea among white troops is given as six of the former to one of the latter, and of dysentery as nine of the former to one of the latter; for colored troops, as nine of acute cases of each of the diseases to one of chronic; but these proportions are also subject to some disturbing elements. For white troops there was, according to the tabular statement, one death to every 395 cases of acute diarrhoea; one to every 57 cases of acute dysentery; one to every six of chronic diarrhoea; and one to every eight of chronic dysentery. For colored troops, one

death to every 83 cases of acute diarrhœa; one to every 17 of acute dysentery; one to every four of chronic diarrhœa; and one to every four and one half of chronic dysentery. In regard to these tables, we are informed that numerous records of post-mortem examinations show that the lesions in the cases reported as chronic diarrhœa were identical with those observed in the cases reported as chronic dysentery.

The severity of these diseases increased as the war progressed; they were more frequent and fatal among the troops in the central region, less so in the Atlantic, and least in the Pacific region; they were more frequent, both among the white and colored troops, and in all these regions, during the summer and autumn. Seven thousand three hundred and fifty-two cases of these diseases among the Federal prisoners are recorded on the hospital register of the Andersonville prison, with 5605 deaths, and this does not represent all.

In the summing up of the first section of this volume it is remarked that "our experience in regard to these affections during the war of the rebellion was very similar to what has been recorded of other armies in time of war, and particularly to what has invariably occurred during former wars in the United States."

From the fourth section on treatment, though containing much of interest and value, we have room for but one extract. In regard to the use of opiates in these diseases, we are told, "That they are often appealed to in vain is soon learned by the hospital physician, who will generally find that the majority of cases of dysentery and severe diarrhœa that come under his observation were treated at the start in this way. It is well worthy of inquiry whether the proportion of serious cases is not greater when opiates are freely resorted to at the commencement of what appear to be trivial diarrhœas than when other measures are relied on. I confess, the more I learn of the behavior of such cases under treatment, the more I am inclined to advise that opiates should be as far as possible avoided." Bismuth is recommended in painless diarrhœas after the use of evacuates and in chronic fluxes, and large doses are favored.

We must permit ourselves at least to allude to the great beauty of the plates, and of the photo-micrographs of microscopical sections of the intestine, by Dr. Woodward, which, we believe, were at the Centennial Exhibition in Philadelphia.

This volume, no less than its predecessors, reflects the highest credit upon the department and upon its compiler, and is at the same time a very handsome tribute to the worth of the great Medical Library in Washington.

MEDICAL NOTES.

— G. A. N., aged twenty years, mechanic, of St. Johnsbury, Vt., desired to have several teeth extracted. He was examined by a competent physician, and his heart and lungs were found in good condition. On Friday, December 26th, the patient for one hour inhaled sulphuric ether without the desired

effect. On Tuesday, December 30th, chloroform was inhaled from a napkin within a paper tunnel. Pulse 80, and regular; action of heart and lungs good. Patient soon went kindly under the influence of the vapor; one tooth was extracted; sensibility partially returned; the mouth was cleaned; more chloroform was administered; two teeth were extracted; sensibility again partially returned; another tooth was extracted *without* more chloroform. The patient then began to struggle, and exhibit signs of pain; his head was brought forward, and his mouth well cleared. He was then returned to his former position, when he suddenly threw up his arms, rolled up his eyes, and ceased to breathe. He was then instantly placed in an inverted position, his tongue drawn forward, and artificial respiration applied. The heart still continued beating, yet there was no pulsation at the wrist; face very livid, and no natural respiration. The heart continued to act very feebly and irregularly until forty-five minutes after breathing ceased. Efforts were continued until, at the end of one hour, the patient was pronounced dead. Artificial respiration, inversion of body, electricity, iced water, and all other known remedies were faithfully employed. Amount of chloroform used three ounces by weight. No post mortem.

— The disease among cattle in Haverhill, N. H., has been pronounced to be pleuro-pneumonia, of a non-contagious character, by Dr. Thayer, of Massachusetts.

— It can hardly be considered a compliment that a journal so intelligent as the *Medical Press and Circular* is so unfamiliar with the medical department of the Harvard University as to speak of it as the "Massachusetts Medical School, Boston, United States." Such mention, however, occurs in an allusion to the fact that the late Mr. Callender was to have spoken at the opening exercises of the school in October last. Readers of the *Press and Circular* may well have thought that the medical department of the Boston University (a homœopathic institution) was the school in question.

— A new journal, devoted to the diseases of children, under the name of *Archiv für Kinderheilkunde*, is announced to appear in Germany. Drs. Baginsky, of Berlin, and Herz and Monti, of Vienna, are to be its managers.

— At Cambridge, England, a lady is acting under the direction of Dr. Michael Foster and Mr. Balfour, as demonstrator to the students who are studying physiology and comparative anatomy under the auspices of the Association for the higher education of women. Irrespective of the entries at Girton College, eighty-two ladies are now attending the lectures at Cambridge which have been arranged for the sex, and a large number are formally engaged in the study of natural science.

— The *Canada Lancet* reports the death of a lady from ether, administered by a physician for the purpose of extracting a tooth. Scarcely an ounce had been used. Coroner's verdict: Paralysis of the heart, caused by inhalation of ether.

— It may not generally be known that the theatrical expression, "a beggarly account of empty boxes," is not only Shakespearean, but semi-medical, in origin. It occurs in Romeo's description of the "needy shop" of an apothecary: —

"And about his shelves
A beggarly account of empty boxes,
Green earthen pots, bladders, and musty seeds,
Remnants of packthread and old cakes of roses,
Were thinly scatter'd to make up a shew."

— According to the *Apotheker-Zeitung*, says *New Remedies*, out of 118 samples of toys officially examined in 1878, nearly one half (53) were adorned with poisonous colors. The vendors were punished in forty-six cases.

— Some of our best medical journals have adopted the scandalous practice of sandwiching advertisements between the pages of medical essays. This is not only undignified, but is an unmitigated nuisance.

— A. H. Crosby, M. D., Concord, N. H., and H. P. Watson, M. D., Haverhill, N. H., have been appointed as the medical men upon the commission to examine a herd of cattle in Haverhill, supposed to be affected with pleuro-pneumonia.

— An able reviewer of the *New Orleans Journal* makes the following sensible remarks on a series of lectures, by Dr. Jones, entitled *The Grounds of a Homœopath's Faith*. The book having been sent us for notice, we do not think we can do better than quote the words of the writer referred to: "The lectures are upon the following subjects: I. The Law of Similars: Its Claim to be a Science in that it enables Prevision. II. The Single Remedy a Necessity of Science. III. The Minimum Dose an Inevitable Sequence. The above title is eminently appropriate, inasmuch as homœopathy is based wholly on faith, and is in reality a religion rather than a science. The *prevision* claimed as one of its achievements is another word for prophecy, which is *par excellence* a sacred gift, not claimed by any scientist. The distinctive attribute of the homœopath is declared to be 'not the law of cure, not the infinitesimal dose, not the Hahnemannian hypothesis of chronic diseases: none of these, but simply this,—his fixed faith in the efficiency of drugs.' Another evidence of the religious character of homœopathy is the reverence felt for the author of the system by his followers, amounting to a belief in his infallibility and perfection quite akin to the homage paid to Moses, Mohammed, and Joseph Smith. The great lights in medicine are more or less honored in their day; but their authority cannot stay the onward march of science, and they are left as monuments of the past. This is a land and an age of religious toleration, and no one should forbid the name of Hahnemann to be glorified, or scoff at the faith of his followers in the mysterious potency of the thirtieth dilution of gun-flint or common salt. To many minds such faith is not only a comfort, but a necessity. Distrustful of their own knowledge and understanding, they seek refuge in the mysterious and incomprehensible rather than trust science in its acknowledged imperfections. Yet, with all its absurdities, homœopathy is not the worst form

of idolatry. True, lives are sacrificed in its blind following; but the fittest survive in this mode of selection, and the race becomes improved, as it certainly must by the ravages of small-pox and other diseases made avoidable by enlightenment and prudence. In the second lecture the single remedy is set up as the perfection of therapeutics, while noting the gradual progress from polypharmacy to simplicity in the history of medicine. One point, however, needs explanation for our unregenerate comprehension, and that is the invariable resort to alternate doses from two different remedies. Perhaps this is another mystery of the system, incomprehensible, and therefore sacred; perhaps it was suggested by antiphonal modes of worship, as practiced in other religious rites.

"The last lecture traces a gradual diminution in dosage among medical men, but fails in establishing a connection with the infinitesimals of homœopaths. The potency developed by progressive dilution is probably one of the most sacred mysteries of the whole system, and undoubtedly the most awful in sublimity. Being incompatible with the established and understood properties of matter, this astonishing capacity of multiplying force by division of substance becomes a veritable miracle, and ranks with the doctrine of transubstantiation.

"The grammar and rhetoric of Dr. Jones are unimpeachable; the mechanical work of the little volume is excellent. In flexible binding, with Faith as its title-word, and its three chapters joined in one volume, it is peculiarly adapted for a manual to aid in propagating the gospel of Hahnemann."

— Rudolph claims that an acute case of coryza may be cut short within an hour by chewing one or two dried leaves of the eucalyptus, and swallowing the exceedingly bitter and aromatic saliva. In chronic cases no such effect is produced.

— According to the *Western Lancet*, a woman was listening to a telephonic message when a violent clap of thunder was conveyed by the wire to her ear. The effect was complete deafness, with numbness, tinnitus aurium, slight nausea, and a sensation of giddiness. These indications of a concussion of the auditory nerve passed off in a few days.

— In the *Pharmacy Journal*, W. B. Paul says the simplest and easiest method of detaching leeches is to let fall a few drops of camphor water upon the part.

— Professor Yandell writes to the *Louisville Medical News* from London that "getting into practice is here, as elsewhere, slow work; and, while merit is probably the best means of securing a business, manners and machinations, the Sunday-school and church dodge, and the total abstinence game and judicious lying about skill and success, and stealing other men's ideas and putting them in print, are roads to prosperity no more neglected here than in our own enterprising country."

— Says the *Medical Press and Circular*, "A joiner named M'George died at Liverpool on July 14th. The post mortem indicated apoplexy. The man had eaten some lettuce for his tea the night before; the

doctor had probably heard of lettuce-opium, and actually swore that the apoplexy had been induced by the quantity of lettuce, which would be dangerous to an elderly person! The jury found that death had resulted from poison (!), but whether or not it was contained in the lettuce there was not sufficient evidence to show!"

Apparently the grave-digger in Hamlet had more wit than the average English coroner of to-day.

— Stains caused by nitrate of silver may be removed simply by wetting the stain or mark in a solution of bichromate of mercury.

— This criticism on a modern fashion is from the *Medical Press and Circular*: "Medical men have, during the last few years, found a lucrative field for literary work in our high-class monthlies and quarterlies. Medical subjects are interesting. We have received some letters on this subject. If Dr. Great-Gun is allowed to write an article in the *Nineteenth Century*, on some medical subject, and to append his name, why should not Dr. Small-Gun write to the *Village Gazette*, and sign his name to some medical paper? What an advertisement it would be for him! But an outcry would be at once raised against such a procedure by the local professional men. There does not seem, at first sight, to be any flagrant violation of professional customs in writing for lay journals. There is this danger: It may be abused, and become another method of indirect public advertising."

— We find the following in an English medical journal, as noticed by us a year ago:—

"The State Board of Health for Massachusetts, in their tenth annual report, direct the attention of the state legislature to the experience of Illinois, where, in one year and a half, fourteen hundred self-styled doctors are reported as having left the State, because they were unable to pass the examinations required of them. Of these, four hundred are estimated to have gone to Indiana, two hundred and fifty to Wisconsin, one hundred to Minnesota, and an unestimated number to Missouri."

A similar censorship would be a needed boon to our own city and State. Legislation in the same direction is contemplated in Great Britain. In France there is a definite law on the subject, namely:—

"ART. 35. Six months after the publication of the present law, any person who shall continue to practice medicine or surgery, or to act as accoucheur, without being on the list of those qualified to do so, will be liable to a fine, to be handed over to an almshouse."

"ART. 36. Notice of such offense should be given to the tribunal of Correctional Police, and to the notice of the government commissioner (solicitor of the republic to these tribunals). A fine of one thousand francs may be imposed on any person who shall take the title of doctor, or practice as such."

"A fine of five hundred francs may be imposed on any person who shall take the title of licentiate and visit the sick as such."

"In case of relapse, the fine shall be doubled, and the delinquent shall be liable to an imprisonment, not exceeding six months."

— A new medical school — the College of Physicians and Surgeons — has recently been organized in St. Louis. It begins with a preliminary examination and engages to exact a high degree of scholarship.

PROVIDENCE.

— The death of a patient while under the influence of ether occurred in this city on the 17th ult., under the following circumstances: The patient, a man aged about fifty-five years, was knocked down by a runaway horse, and sustained some injury about the hip. The next day sulphuric ether was administered to facilitate the diagnosis, and after taking it for about fifteen minutes the man, without any warning, ceased to breathe. Artificial respiration was resorted to, but without success. The autopsy showed effusion of serum beneath the arachnoid, with thickening of that membrane, valvular lesions of the heart, and cystic degeneration of the kidneys.

— Scarlatina still prevails to an alarming extent, the deaths from this disease in December numbering 71 out of a total mortality of 213. This number is far in excess of any previously recorded in this city, and exceeds by 16 the number of deaths from this cause during the whole of the year 1878. The plan recently inaugurated by the superintendent of health of requiring physicians to report all cases of contagious and infectious disease, is working very satisfactorily, and is showing much more correctly the prevalence of those diseases and the localities in which they originate than the old method of reporting deaths only. It is anticipated that some very valuable statistical and sanitary results will be thus obtained.

NEW YORK.

— At a stated meeting of the New York Neurological Society, of which J. C. Shaw, M. D., is president, and William J. Morton, M. D., secretary, on Tuesday evening, January 6th, there was a discussion on Dr. Shaffer's paper (read at the last meeting), and the presentation of the report of the committee on asylum abuses, entitled, An Answer to the Document known as the Report of the Committee on Public Health relative to Lunatic Asylums.

— On the 31st of October last diplomas conferring crosses of merit and knighthood in three German princely orders were presented at St. John's Hospital, Beirut, Syria, to Drs. Van Dyck, Wortabet, and Post, who constitute the medical staff of the hospital. Dr. Van Dyck was decorated with the Prussian Order of the Crown, Dr. Wortabet with the golden cross of merit of the Order of the Grand Dukes of Mecklenburg, and Dr. Post with the cross of the Knights of the Order of the Dukes of Saxony. Dr. Post, who has won great distinction throughout Syria and the Levant, is a son of the venerable Professor Alfred E. Post, of New York, and Dr. Van Dyck, who is well known as an eminent Oriental scholar, is also an American.

— The whole amount recently contributed on Hospital Saturday and Sunday has not yet been announced by the committee, but it will no doubt be a

very handsome sum, as the response to the call was very general and hearty. Besides Mr. Wm. H. Vanderbilt, it is said that the firm of Drexel, Morgan, & Co., Mrs. A. T. Stewart, Judge Hilton, and others contributed a thousand dollars each.

—The sanitary superintendent, Dr. W. De Forest Day, has handed in to the board of health a table giving the number of cases of the various contagious diseases reported during each month of the year that has just closed. From it we learn the following facts:—

But eight cases of typhus fever were reported during the year, of which four occurred in August and four in September. There was an average of thirty-six cases of typhoid fever reported each month, the largest number (seventy-four) occurring in September, and the smallest number in March (nineteen). Sixty-five cases of small-pox were reported, of which the largest number occurred in June and July, thirty-one in the former month and thirteen in the latter. Since July there has been but one case reported, and that was in November. Cerebro-spinal meningitis was rather more prevalent during the summer months than at the beginning or ending of the year, the largest number of cases (eighteen) being reported in August, and the smallest (four) in December. Diphtheria, on the contrary, was less common in August than in any other month. It gradually diminished from 268 reported cases during January to 79 during August, after which the cases slowly increased again until they reached 203 during September. The most prevalent of all the contagious diseases during the year, however, were scarlatina and measles. The former was epidemic at the commencement of the year, 986 cases being reported in January alone. After this it decreased with a pretty regular gradation until November, when its minimum was reached, 136 cases. During December the number increased to 201. The course of the measles was less uniform. In January but fifteen cases were reported. It then slowly increased until April, when the number jumped up to 122, after which it increased with a more regular progression until July, when 223 cases were reported. It now fluctuated, sometimes diminishing and sometimes increasing, until December, when there was a very marked increase again, the number of reported cases reaching the unusually large figure of 974. Since the beginning of the year, however, the disease has become less prevalent again, and the month of January will probably not show nearly as many cases as December did. The totals for the various diseases during the year are as follows:—

Typhus fever	8 cases.
Small-pox	65 "
Cerebro-spinal meningitis	107 "
Typhoid fever	433 "
Diphtheria	1784 "
Measles	2424 "
Scarlatina	5447 "

—On the 7th of January the Board of Apportionment appropriated \$130,000 from the excise funds for the various benevolent institutions of the city. This, together with more than a million and a quar-

ter for the Department of Charities and Correction (which includes Bellevue Hospital and the institutions on Blackwell's, Ward's, and Randal's islands), and still another million for additional "asylums, reformatories, and charitable institutions," makes a grand total of about two and a half million dollars to be expended during the year for charitable purposes from the public funds, in addition to perhaps as much more bestowed upon similar objects from private sources.

—At the last meeting of the County Medical Society, December 22d, Dr. John S. Billings, U. S. A., read a valuable paper on The Organization and Operations of the National Board of Health.

—The Improved Dwellings Association, which was organized some months ago for the purpose of erecting properly constructed tenement houses for the poorer classes, has bought a large piece of land, consisting of twenty-one lots, in the upper part of the city, near the East River. The buildings that will be erected on this property will constitute the largest and most complete set of improved tenement houses yet put up in New York, and every effort will be made by the association, which consists of a number of enlightened and philanthropic capitalists, to secure the best possible arrangements for ventilation, light, drainage, and other sanitary requirements, as well as the general comfort and welfare of the occupants. The association is also now looking for a suitable piece of land down town, in some thickly settled district, upon which to erect another set of buildings of similar character.

—At the last meeting of the Medico-Legal Society, January 7th, Dr. John C. Peters read the report of a special committee on the subject of hanging, of which he was chairman. The committee, he said, were unanimously in favor of capital punishment for murder, and believed that hanging, when properly conducted, was a satisfactory method of execution, being quick, merciful, and sufficiently ignominious. The committee did not recommend any special mode of hanging, but thought it should be so managed that death should take place within two minutes. Five minutes was regarded as quite too long a time, and fifteen minutes altogether unjustifiable. Dr. Houghton, of Dublin, who was formerly a clergyman, had devoted considerable study to this subject, and he was in favor of a knot under the chin, instead of at the side of the neck. The knot arranged in this manner would, he believed, cause strangulation and suffocation in the shortest time, and the head being thrown up by the drop there was also a great probability of the neck being dislocated. He advocated in connection with this a long drop, from ten to fourteen feet instead of five.

—Dr. David L. Eigenbrodt, who died in this city on the 3d of January, was born at Jamaica, Long Island, in 1811, and after pursuing his medical studies under the direction of the late J. Kearney Rodgers, then one of the most prominent New York surgeons, was graduated at the College of Physicians and Surgeons in 1835. The year previous to this he had

served as an *interne* at Bellevue Hospital during the noted cholera epidemic of that time, and for the faithful and courageous performance of his duties was presented with a case of surgical instruments by the almshouse commissioners. Three years after receiving his degree he went to Cuba, where he remained for fifteen years in active practice, and acquired a competence. In 1852 he returned to New York, and there became the first resident physician at St. Luke's Hospital. This position he retained for two years, when he relinquished it to take the post of house-surgeon in the old New York Hospital. After serving in this capacity for one year, he abandoned medicine as a profession, and retired to private life. He still continued to practice gratuitously among the poor to some extent, however, and he was also very liberal in his donations to charitable objects. Although retired and unassuming in his manners and tastes, he was of a very genial disposition, and was much beloved by a large circle of friends. His last illness was a lingering one.

LONDON.

—A correspondent writes to us from London, under date of December 11th, as follows, in regard to a lecture delivered by Sir Henry Thompson: "Speaking of the size of the urethra and the detection of a stricture at any point, he said that he did not deny the fact that the urethra was much more capacious than was formerly supposed; but he did wish to say that it was unnecessary and wrong, in examining a patient, to pass a larger instrument than a No. 10-12 (English), as with that the practiced hand could detect a stricture as well as with a No. 16 or 17. . . . I accepted an invitation to attend the debate on Antiseptic Surgery at St. Thomas's Hospital. The speakers were all in favor of Listerism, with the exception of Mr. Bryant, who made quite a savage attack on Mr. Lister and his followers, accusing him of withholding statistics, and claiming as good, or even better, results for other methods. Professor Nussbaum's article on Antiseptic Surgery was referred to and discussed at some length. There was also shown for the first time some soluble drainage tubes made from decalcified bone, as used by Es-march.

"The two operations spoken most highly of by surgeons of the Lister school just now are wiring the fragments together in old or recent fractures of the patella, and the operation for genu valgum by the division of the inner condyle of the femur, both of which have been performed several times, and invariably with good results. In one of the cases of wiring the patella by Mr. Bell, of King's College Hospital, the fragments were separated about two and a half inches, and so bound down by adhesions that it was found necessary to divide the rectus muscle, which was accordingly cut through subcutaneously down to the femur, and a drainage tube put into the cut. Lister's dressing was applied, and the temperature only once reached 100°. The patient recovered perfectly, with a good patella and a movable joint. The one thing that has struck me most forcibly is the appar-

ently reckless manner in which London surgeons who follow Lister open the knee-joint. It seems to me that there are more precautions taken here than with us as regards towels, etc., that have not been carbolicized touching the wounds, and more 1 to 20 carbolic is used in washing, etc. . . . Almost every one mentions Dr. Bigelow's operation for stone, and speaks very highly of it."

Correspondence.

LETTER FROM PHILADELPHIA.

MR. EDITOR.—Phenomenal weather is always considered a legitimate topic for discussion, although one that quickly loses the charm of novelty. It is worth remarking, however, that, while on the western shore of the continent the weather was reported to be so cold during the holidays as to be almost unprecedented in San Francisco annals, the "spell" that we have been treated to in Philadelphia has been one of unusual mildness; thus far it has been for the most part a real Southern winter. Indeed, upon some of the sunny days one could well imagine himself upon the shores of the Mediterranean; the warm, bright atmosphere involuntarily suggesting the thought that a beneficent Providence had brought Italy to the invalids in their own homes, — a genuine case of mountain come to Mahomet, for the benefit of those who could not get away.

Seasonable weather is always healthy, — at least so say the sanitarians; and while vital statistics show that both extreme cold and extreme heat tend to increase the mortality, we also observe that a warm, damp winter and a cold, damp summer equally exert an unfavorable effect on the public health. Influenza is now very prevalent, and bronchitis and pneumonia are common. In two of our large hospitals, where zymotic disease had in one never previously existed, and in the other had been banished from the surgical wards for more than five years, a limited outbreak of erysipelas occurred among the recent amputations and others, so that one surgeon at least considered it advisable to postpone all cutting operations until the weather became more settled. In connection with this we notice that after an entire immunity from small-pox for over two years we have had several deaths from it during the last few months, from one to four per week appearing in the returns. Prompt measures have been taken by the board of health to look after these cases and isolate them and disinfect the premises, so that no fears whatever are entertained of an epidemic. Typhus fever is stated, on the authority of Professor Pepper, to have made its appearance in the Philadelphia Hospital. We note that a committee of the health board have been examining the hay used to cover the floor of the city horse-cars during the winter months, and report that it has been heretofore allowed to remain indefinitely, fresh hay being sometimes put on top to cover the fermenting, sodden mass below. They therefore denounce the practice, considering the hay a good nidus for zymotic disease, and declare its exhalations prejudicial to public health. One of the lines (Fairmount Avenue) has already discontinued the use of hay as a foot-warmer for passengers, and has introduced small stoves in the front part of the car, which answer all purposes.

The efficient health officer, Mr. John E. Addicks, presented a report to the board of health, in which he gave the following account of an outbreak of small-pox, and the measures he had successfully pursued in arresting the epidemic:—

"After an immunity of more than two years from small-pox and varioloid,—the last death was reported August 13, 1877,—on the 23d of November I received report of a case of small-pox at No. 2809 Rosehill Street, twenty-fifth ward, a boy of seven years of age. On special examination the report was verified; the patient, Francis G., died on the 26th of November. In the same house a brother of twenty-one years had varioloid.

"The origin of the disease was traced to a boy in the same family, who, in the early part of November, had a slight pustular eruption of so mild a character that he continued to attend the public school. A few days afterwards three more children in the same family and house, respectively nine, twelve, and fourteen years old, were attacked in an equally mild form; the next patients in the same family were the two well-defined cases reported to me under date of November 23d, and received on November 25th.

"Prompt steps were at once taken by me, the facts stated by your president, and a special meeting of the board was held, which gave me full power and discretion in the whole matter. In obedience to my instructions, I advertised in the newspapers that physicians must make prompt return of all contagious diseases in the children of the public schools of the district. Of the latter order I advised the president of the Board of Public Education. I directed all families having small-pox or varioloid at home to keep their children from attending school or other places of public resort; in case of death, burial to take place promptly without funeral, and advise at this office at once, so that all bedding, clothing, etc., might be disinfected.

"I appointed Inspectors Cunningham and McBride a special commission to make domiciliary visits throughout the whole district, inspect every part of each household, give forthwith notice to abate any nuisances found, and make daily reports. I organized two gangs of workmen under direction of the above-named inspectors to abate any nuisance found not attended to within twenty-four hours after inspection and due notice. Directed the chief inspector of streets to have the whole section thoroughly cleaned and kept so. All of the above has been promptly attended to, with most beneficial results, and, as you will find by annexed tables, the disease at this time is most certainly checked, but not entirely eradicated."

The following statistics of the mortality of the city during 1879 were obtained from the health office, which, with the weekly reports of mortality published in each number of this JOURNAL, will supply some useful information to those interested in public health. The rate for the year was about 18 per 1000, based upon the estimated population in July, 1879 (301,380), which, however, is decidedly below the number in the winter months; the ratio should therefore be between 17 and 18 per 1000. From the reports of the past year it appears there was a total number of deaths in this city of 16,281. During the year 1878 the deaths were 15,743; in 1876 there were 18,892 deaths; in 1875, 17,805; and in 1874, 16,315. The month of 1879 when the most deaths occurred was July, when

they reached 1885, while the lowest was June, during which there were but 1006.

There have been several cases before the courts recently, in which reputable physicians have been caused considerable annoyance by the persecutions of persons who, having been pronounced insane and sent to a hospital, have subsequently escaped and entered suit for conspiracy. The latest case of the kind is one in which Drs. Edward H. Smith and George C. Harlan have been sued by a patient, damages being laid at \$50,000. After a commissioner in lunacy had examined the man and pronounced him insane, another commission was appointed, which disagreed. Subsequently Drs. Harlan and Smith were called in, and, being satisfied of his insanity, made out a certificate in due form, and his friends took him to the Pennsylvania Hospital, from whence he was released by an order from the court. This case will be watched with much interest not only by the respondents, but by other physicians. In the mean time we are having an epidemic of vitriol-throwing, shooting, and other extravagant and eccentric manifestations; but, however much of a lunatic a man may be, it is at present difficult to get a physician to sign a certificate. It is now recommended that when the friends want a physician to examine an insane patient they shall first sign an indemnity bond for \$20,000, guaranteeing to protect the physician from any future annoyance in the case. It is needless to say that the newspapers, generally, have improved the opportunity of calling attention to the delinquencies of physicians, and lecturing the profession for its venality and carelessness; for your newspaper man, as a rule, has little respect for a physician, unless he advertise liberally in the journals.

The medical schools, both the University of Pennsylvania and Jefferson College, have large classes in attendance; and there will apparently be but little falling off, if any, in the number of the graduates this commencement from those of last year.

The medical societies are thriving, have generally interesting meetings, and are well attended. The last three meetings of the Obstetrical Society have been devoted to the discussion of hour-glass contraction during the second stage of labor, which Dr. A. H. Smith, who opened the debate, contended had no existence, at least as this pathological state is popularly understood. Some very interesting cases of this condition, however, were cited; notably, one by Dr. J. F. Wilson, in a case of twins, where, one being delivered, the second, inclosed in a separate sac, was prevented from descending by a falciform contraction of the body of the uterus, the os remaining perfectly patulous.

At the last meeting of the College of Physicians, Dr. Robert P. Harris read a most interesting paper on Foot-Binding in China, giving an account of the process and its effects, and correcting many erroneous statements which have been made, chiefly by travelers, in regard to it, and giving a reference to cases of gangrene produced from tight bandaging for this purpose.

Among the interesting cases presented to the Pathological Society recently might be mentioned a case of primary medullary carcinoma of the bladder, by Dr. James Hearn, in which hæmaturia, pain, and emaciation were marked symptoms.

The County Medical Society has just issued its first volume of proceedings for the last year, which contains a number of papers of permanent value and interesting discussions; also a full list of the members

and officers of the society. The audiphone was lately presented by Drs. Charles Turnbull and Charles H. Thomas, who were subsequently appointed a committee to investigate the subject further. The principle of enabling partially deaf persons to hear by means of vibrations conveyed to the cranial bones is not new, but the general application is novel and valuable. A multitude of materials may be made use of in constructing an audiphone, which is merely a large disk, held by a handle like a fan against the teeth, to which it communicates sonorous atmospheric vibrations. A fuller report of this ingenious instrument, and instructions for constructing a substitute which will answer every purpose, will appear shortly in this journal in another column. By invitation of the society, Professor Joseph P. Remington, of the College of Pharmacy, read at an adjourned meeting, held December 29, 1879, a valuable and instructive paper on The Metric System in Medicine and Pharmacy, a copy of which was requested for publication in the proceedings.

The health of Dr. Thomas S. Kirkbride, superintendent of the Pennsylvania Hospital Department for the Insane, has been poor for several months. It was at first considered to be only a malarial attack,

but it is now feared that it is some organic disease or growth involving the mesentery. But slight hopes are entertained that he will ever be able to resume his active duties. W.

PHILADELPHIA, January 6, 1880.

JABORANDI.

MR. EDITOR.—Dr. F. H. Cilley, Barnet, Vt., reports that Mrs. H., aged fifty-five, who had had dropsy during the last five years, with valvular disease of the heart, on June 18th had severe dyspnoea; she had passed no urine for twenty-four hours, and had general anasarca. Half-drachm doses of the fluid extract of jaborandi were given every four hours. Its effect was manifested in half an hour; within eighteen hours she passed sixteen pints of urine; also profuse perspiration and salivation were induced. The dyspnoea was at once relieved. A second attack was relieved by the same treatment. The patient has had tonics during the last four months, and is now in good condition.

WM. CHILD.

BATH, N. H., December 22, 1879.

REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 3, 1880.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Deaths under Five Years.	Percentage of total Deaths from				
				The Principal "Zymotic" Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.
New York.....	1,085,000	508	196	15.35	19.88	5.91	1.18	.79
Philadelphia.....	901,380	317	102	13.25	5.99	5.68	.95	4.10
Brooklyn.....	564,400	222	—	22.07	18.02	14.90	2.70	.90
Chicago.....	—	139	80	34.59	10.69	21.38	5.03	2.52
St. Louis.....	—	111	35	12.61	7.21	4.50	—	1.80
Baltimore.....	393,796	137	48	33.58	7.30	10.95	10.95	8.76
Boston.....	365,000	147	55	21.77	14.97	10.88	1.36	4.08
Cincinnati.....	280,000	102	38	18.63	12.75	3.92	5.88	5.88
New Orleans.....	210,000	110	36	11.82	6.36	6.36	—	—
District of Columbia.....	170,000	85	32	11.76	15.29	1.18	—	1.18
Cleveland.....	160,000	54	23	38.89	9.26	24.07	9.26	3.70
Pittsburgh.....	145,000	65	24	35.38	10.77	16.92	7.69	3.08
Milwaukee.....	127,000	38	15	21.05	5.26	13.16	—	2.63
Providence.....	101,500	52	15	28.85	17.31	3.85	23.08	1.92
New Haven.....	60,000	10	5	10.00	10.00	10.00	—	—
Charleston.....	57,000	38	12	15.79	7.89	7.89	—	5.26
Nashville.....	17,000	18	7	27.78	27.78	—	—	16.67
Lowell.....	54,000	25	4	8.00	20.00	—	—	4.00
Worcester.....	53,000	14	4	—	42.86	—	—	—
Cambridge.....	50,400	21	8	19.05	14.29	19.05	—	—
Fall River.....	49,000	25	—	36.00	—	12.00	20.00	—
Lawrence.....	38,600	17	7	17.65	17.65	11.59	—	—
Lynn.....	34,000	17	6	23.53	11.76	17.65	—	5.88
Springfield.....	31,800	6	2	16.67	16.67	16.67	—	—
New Bedford.....	27,200	13	5	23.08	—	7.69	7.69	—
Salem.....	26,500	11	3	27.27	9.09	27.27	—	—
Somerville.....	23,500	6	—	16.67	—	16.67	—	—
Chelsea.....	21,000	3	—	—	—	—	—	—
Taunton.....	20,200	4	1	50.00	25.00	—	—	25.00
Holyoke.....	18,400	9	4	55.56	11.11	22.22	22.22	11.11
Gloucester.....	17,300	5	1	20.00	—	—	—	—
Newton.....	17,300	2	—	—	—	—	—	—
Haverhill.....	15,350	9	3	11.11	—	11.11	—	—
Newburyport.....	13,500	9	2	—	11.11	—	—	—
Fitchburg.....	12,600	3	—	—	—	—	—	—
Fourteen Massachusetts towns.....	106,860	34	6	20.59	11.76	14.71	2.94	2.94

Two thousand four hundred and six deaths were reported; 779 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 483, consumption 368,

lung diseases 310, diphtheria and croup 224, scarlet fever 77, typhoid fever 66, diarrhoeal diseases 27, measles 24, whooping-cough 21, erysipelas 17, malarial fevers 11, cerebro-spinal meningitis 10, small-pox six. From measles, New York 12, Chi-

cago six, Brooklyn three, Philadelphia two, St. Louis one. From *whooping-cough*, New York nine, Boston five, New Orleans and Pittsburgh two, Baltimore, District of Columbia, and Taunton one. From *erysipelas*, New York three, Philadelphia and Boston two, Chicago, St. Louis, Cincinnati, New Orleans, Cleveland, Milwaukee, Charleston, Nashville, Lawrence, and Gloucester one. From *malarial fevers*, New York and Brooklyn three, New Orleans two, Chicago, Baltimore, and District of Columbia one. From *cerebro-spinal meningitis*, St. Louis three, New York and District of Columbia two, Philadelphia, Chicago, and Milwaukee one. From *small-pox*, Philadelphia and District of Columbia three. During the month of December, consumption, lung diseases, and diphtheria were the prominent causes of death in Norfolk; typhoid fever, small-pox, measles, and scarlet fever are not reported.

The total mortality was somewhat greater than for the previous week,—of young children less. Typhoid fever was very much more fatal, consumption, measles, and erysipelas considerably so, the total of principal "zymotics" being without change. Lung diseases, whooping-cough, diarrhoeal diseases, diphtheria, and scarlet fever remained about as in the previous week. Small-pox is apparently increasing in Philadelphia and District of Columbia; general vaccination has been advised by the State Board in Massachusetts, and the disease there seems to have been kept under control. The severe epidemic of scarlet fever in Providence has lasted since the middle of October; there was a smaller death-rate from it during the past week than in the previous month. In 28 cities and towns of Massachusetts, with an estimated population of 833,900, the death-rate was 20.65; scarlet fever is very prevalent only in Fall River; lung diseases and diphtheria are the chief sources of mortality, next to consumption.

For the week ending December 13th, in 28 larger cities and towns of Belgium, the death-rate was 34.2; in 24 smaller towns 28.3. In the 52 cities and towns, with an estimated population of 1,511,003, bronchitis and pneumonia caused 187 deaths, consumption 76, diarrhoeal diseases 55, small pox 23, whooping-cough 15, typhoid fever 13, measles 13, croup nine, scarlet fever four, diphtheria three. There were in all 894 deaths, 318 of children under five years of age. In Brussels the death-rate was 27.0; Antwerp 31.6; Ghent 28.4; Liège 32.4. Lung diseases, scarlet fever, and diphtheria were prevalent in Holland; lung diseases, diarrhoea, typhoid fever, small-pox, diphtheria and croup, and measles (in order of fatality) in France, only a few deaths being reported from whooping-cough and scarlet fever; lung diseases, diphtheria, diarrhoea, scarlet fever, typhoid fever, whooping-cough, and to a less extent measles, in Germany; in Switzerland lung diseases, diarrhoea, and diphtheria; in Austria lung diseases, diarrhoea, diphtheria and croup, small-pox, scarlet fever, and measles.

For the week ending December 20th, in the 20 English cities with an estimated population of 7,383,999, the death-rate was 30.5 against 30.6 of the previous week. Four thousand three hundred and sixteen deaths were reported: diseases of the respiratory organs 799, scarlet fever 183, measles 181, whooping-cough 163, fever 45, diarrhoea 32, diphtheria 21, small-pox (London) two. The great increase in whooping-cough and in lung diseases occurred chiefly in London. Other acute diseases remain essentially the same. The death-rates ranged from 16.8 in Brighton to 39.6 in Liverpool; London 31.8; Bristol 39.0; Birmingham 25.9; Manchester 35.9; Leeds 24.6. In Edinburgh 22, Glasgow 31, Dublin 49.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.		
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.	
Dec. 28	30.189	37	47	19	67	33	80	60	SW	SW	S	3	12	5	O	R	F	O	—	—
" 29	29.930	44	52	34	64	58	76	66	SW	SW	S	6	11	6	R	R	F	F	—	.12
" 30	30.223	30	46	13	83	67	53	68	N	NW	NW	2	16	19	O	F	F	F	—	—
" 31	30.303	11	17	5	78	81	80	80	W	W	NW	10	5	6	O	S	S	S	—	1.02
Jan. 1	30.272	29	38	8	71	53	58	61	W	W	SW	5	8	3	O	C	C	F	—	—
" 2	29.986	44	51	25	64	45	36	48	SW	SW	NW	21	20	15	O	C	C	C	—	—
" 3	30.575	30	40	22	52	52	68	57	NW	E	SE	14	1	6	C	C	C	F	—	—
Week.	30.211	32	42	18				63	Southwest.							Fair.			20.55	1.14

¹ O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, snow; R, rain; T, threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JANUARY 3, 1880, TO JANUARY 3, 1880.

HEGER, A., major and surgeon. To proceed, on or before February 1, 1880, to San Antonio, Texas, and report in person to the commanding general, Department of Texas, for assignment to duty. S. O. 3, C. S., A. G. O.

CLEMENTS, B. A., major and surgeon. Having relinquished his leave of absence, assigned to duty at Willet's Point, N. Y., relieving Surgeon Antony Heger. S. O. 3, A. G. O., January 6, 1880.

FORWOOD, WILLIAM H., major and surgeon. Assigned to duty as post surgeon, Fort Omaha, Nebraska, relieving Assistant Surgeon R. Barnett. S. O. 121, Department of the Platte, December 29, 1879.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting will be held Monday evening, January 19th, at eight o'clock, at the hall of the Medical Library Association. Reader, Dr. A. T. Cabot. Subject, Case of Empyema.

FREDERICK C. SHATTUCK, M. D., Secretary.

BOOKS AND PAMPHLETS RECEIVED. — Pharmacographia. A history of the Principal Drugs of Vegetable Origin met with in Great Britain and British India. By Friedrich A. Flückiger, Phil. Dr., Professor in the University of Strasburg, and Daniel Hanbury, F. R. S., Fellow of the Linnean and

Chemical Societies of London. Second Edition. London: Macmillan & Co. 1879. (For sale by A. Williams & Co.)

Seventh Annual Report of the Northern Hospital for the Insane of the State of Wisconsin, for the Fiscal Year ending September 30, 1879.

Paquin's Thermo-Cautery, with Wilson's Antithermic Shield, in Epithelioma of the Cervix Uteri. By H. P. C. Wilson, M. D.

Primer of the Clinical Microscope. Boston Optical Works. By Ephraim Cutter, M. D., Member of the Philosophical Society of Great Britain, American Institute of Mineralogy, etc. Boston: Charles Stodder. 1879.

The Second Annual Report of the Presbyterian Eye and Ear Charity Hospital, Baltimore, Md.

The Twenty-Fourth Annual Announcement by the Kentucky School of Medicine, Louisville, Ky.

A Treatise on the Science and Practice of Midwifery. By W. S. Playfair, M. D., F. R. C. P. Third American Edition, With Notes and Additions by Robert P. Harris, M. D. Two Plates and one hundred and eighty-three Illustrations. Philadelphia: Henry C. Lea. 1880. (For sale by A. Williams & Co.)

Transactions of the American Ophthalmological Society, Fifteenth Annual Meeting, Newport, 1879. New York: Published by the Society. 1879.

Twenty-Fourth Annual Report of the Trustees of the State Lunatic Hospital at Northampton. Boston: Rand, Avery & Co. 1880.

Studies Relative to the Curability of Insanity. By Pliny Earle, A. M., M. D. Boston: Rand, Avery & Co. 1880.

Original Articles.

NEUROTOMY OF THE OPTIC AND CILIARY NERVES AS A SUBSTITUTE FOR ENUCLEATION OF THE EYEBALL.¹

BY HENRY W. WILLIAMS, A. M., M. D.,
Professor of Ophthalmology in Harvard University.

For many years past, the great frequency with which eyes wholly or partially destroyed by injury, or disorganized by some forms of internal disease, may become the cause of sympathetic inflammation of the opposite eye has been generally recognized. So great has this danger been regarded that some of the highest authorities have advised the immediate removal of an eye considered to be hopelessly injured, without waiting for the manifestation of any threatening symptoms, in the dread that if these once appear it may be too late to prevent their extending to the previously sound eye.

Where this sacrifice has not been at once made, such eyes have been anxiously watched for months or years by the practitioner himself and by the patient, whom he had felt it his duty to warn of possible danger, in constant fear lest their existing state of quiet should be replaced by insidious morbid changes, which, though apparently trifling, might with little warning affect the other eye, and establish there a destructive inflammation.

These pathological influences are presumed to be transmitted by the ciliary nerves from the ciliary body in one eye to the same part in its fellow, and it is here that the morbid processes begin. It is evident that injuries involving the ciliary region, or conditions where it suffers from traction of scars in contiguous parts or is irritated by displacement or hardening of internal structures, are the principal, though not absolutely the sole, sources of danger.

How this action is exerted in producing sympathetic ophthalmia is yet undetermined.

These being the facts, and in view of such a terrible consequence as the complete loss of vision, together with the probability that the slight warning symptoms might pass unobserved, surgeons were justified in urging and performing enucleation of the nearly or quite useless eye.

But the responsibility assumed was a heavy one; in many cases eyes recovered after grave lesions, and for years, perhaps for a life-time, exhibited no signs giving the slightest occasion for alarm; the patient retaining an eyeball, without vision indeed, but still useful as a support for the lids, if not always ornamental. On the other hand, cases of seemingly trivial injury went on badly from the first, and gradually fell into a condition of subacute inflammation of the ciliary region, which presently became also developed in the other eye; or, when they had apparently recovered, and had continued for a longer or shorter time free from disquieting symptoms, they after a while became again irritable. Such secondary attacks might at any moment induce dangerous conditions in the other eye, or might perhaps subside, to be followed, at uncertain intervals and from slight causes, by other similar threatening outbreaks.

The proper course to follow often depended on the intelligence and the situation in life of the patient. If

he or his friends could not be relied on to observe the eye carefully, and give immediate attention to the first suspicious manifestation, or if the person's residence or circumstances would not permit him to obtain, in case of need, prompt and skillful advice, it might be evidently for his advantage to have the eye removed at once. If, on the other hand, he was a person of sense and good judgment, and especially if he could be kept under observation, or could at once procure suitable professional aid if needed, the operation could often be postponed or omitted.

Though the sacrifice of even a sightless eye was a costly one, it was nothing in comparison with the far greater loss which was thus averted, and, where the conditions seemed dubious, it was often thought better to accept this definite sacrifice rather than to take the risks of the possible alternative.

It may be that in the eagerness to avoid a greater evil than the removal of a diseased eyeball, the considerable chances that it might safely be retained, and its value in such case to its possessor, have sometimes been overlooked. It is very important to a poor man, who can ill afford an artificial eye, to be able to keep in the orbit even a shrunken and disfigured globe, for the sake of the support thus given to the lids, and the better conducting away of the secretions. If the person is in good circumstances, such a stump affords an infinitely better support to an artificial eye than the tissues in the orbit from which the globe has been entirely removed. If the diseased eye retains a moderately good appearance, it is usually more desirable and comfortable than even the best fitted artificial substitute.

To secure to the patient immunity from future risk without the inconveniences following enucleation, as well as to remove conspicuous deformity, or to enable the patient to wear an artificial eye with more comfort, excision of the anterior part of the injured or diseased globe may often be safely resorted to instead of its entire removal.

Another operative procedure, to which it is the purpose of this paper to call attention, apparently combining all the security afforded by enucleation with many great conservative advantages, has recently been brought to the notice of the profession by Dr. Schoeler, of Berlin. This consists in section of the principal nerves supplying the diseased eye, thus cutting off the medium through which sympathetic inflammation is excited in the healthy organ.

The several branches of ciliary nerves which proceed from the ophthalmic ganglion to enter the eyeball at its posterior part are clustered around and in close proximity to the optic nerve, and may be severed with the latter, the globe being left intact.

The operation is begun, after anesthesia, by raising with forceps a fold of conjunctiva and sub-conjunctival tissue over the insertion of the rectus internus, and dividing it with scissors. The muscle is then drawn forward with a strabismus hook and its tendon cut close to the scleral insertion. The scleral end of the tendon or a fold of conjunctiva may then be seized with the forceps and the globe turned outwards, and a strong pair of curved scissors being passed through the external wound and behind the globe, the blades are to be opened sufficiently to include the opticus and its surrounding ciliary nerves, which may then be severed at a single cut. The posterior ciliary arteries and the central artery of the retina being simultaneously divided, there is a con-

¹ Read before the Boston Society for Medical Improvement, January 13th.

siderable hæmorrhage, which largely diffuses itself through the orbital cellular tissue, into which the cut vessels retract; and this effusion cannot be prevented by pressure upon the eyeball, nor can the blood be evacuated to any great extent by keeping open a channel towards the external wound. The result of this diffusion is an immediate protrusion of the eyeball, and, usually, subsequent ecchymosis of the eyelids. Both of these conditions, however, subside under the use of cold compresses, sometimes within two or three days; in other cases, several days are required, but no other treatment is necessary.

The tendon of the rectus may be left to acquire a new connection with the sclera, or may be at once reunited with it by a fine suture, if this is thought desirable. The operation may be done by incision at the temporal side of the globe with division of the rectus externus, or by introducing the scissors between two of the recti muscles.

This neurotomy is nearly always followed by immediate relief from the ciliary or circumorbital pain which had been previously complained of; and the tenderness on pressure, as well as any other signs of sympathetic irritation, also quickly disappears. The injection subsides slowly, as would be expected. Pain, resulting from the orbital infiltration, is more or less felt, but is rarely considerable.

Expectations of excellent results from this neurotomy appear to be, theoretically, reasonably well founded; and experience confirms them. The prompt subsidence of the peculiar threatening symptoms of sympathetic affection augurs well for the future, and gives proof of the efficiency of the operation. The tortuous course of the ciliary nerves in the loose orbital tissue makes any subsequent reunion of their divided ends very improbable. The objection that atrophy of the globe may ensue, from deficient nutrition, seems unlikely to be realized, as the anterior ciliary vessels and nerve are probably sufficient for purposes of vitality; and if division of the posterior tendons of the muscle ever occurs they are probably reunited.

Neurotomy is probably of too recent application to warrant us in asserting positively that it will be invariably a preventive of sympathetic ophthalmia. Thus far, it has generally seemed to be effectual. Should any symptoms afterwards manifest themselves, the operation might be repeated, to cut any nerve filaments which possibly had escaped division at the time of the previous section. In case of failure as regards permanent relief, enucleation will still remain as an ultimate resort.

Cases may possibly occur where, after this operation has been done on greatly diseased eyes, cretaceous or bony transformations of the lens or choroid may take place, which, acting as foreign substance, may excite local inflammation. Here, though, if our expectations of neurotomy are justified, there would be no danger of sympathetic affection of the sound eye, it might be necessary to remove the foreign body through, or together with, the anterior part of the globe; leaving the sclera to form, with the muscles, a basis for an artificial eye.

If we admit for a moment, as a supposition, the possibility that neurotomy may sometimes fail to give the expected relief, and even further, that an eye might, exceptionally, be lost because an unsuccessful trial had been made of neurotomy to the delay of enucleation, the adoption of the less formidable operation would still

be the means of saving many eyes which are now sacrificed to the terror felt by the patient at the idea of parting with an eyeball which seems to him little diseased, or to the reluctance of himself and friends to believe that the danger is so great as has been represented, and their consequent delay in attending to warning symptoms; or even to the hesitation of the surgeon to recommend enucleation in some cases where he believes it should be done, but hopes it may somehow be avoided.

ON STRANGULATED VEINS OF THE UTERUS AND THE IMPORTANCE OF RESTORING THEIR CIRCULATION AND FUNCTION OF DRAINAGE, THEREBY PREVENTING ENGORGEMENT AND MORBID NUTRITION.¹

BY T. H. BECKLER, M. D., BALTIMORE, MD.

ANATOMY OF THE UTERUS.

DURING these days Sir James Y. Simpson published his operation of division of the cervix from within, as a means of relieving stricture of the uterine canal, and thereby preventing sterility. Having already for these objects practiced dilatation, I was then at a loss to see, and have since been unable to perceive, the necessity of substituting for simple and effective dilatation the hazardous and dangerous operation of dividing the neck, whether from within or from without, laterally, bilaterally, or otherwise. Dissecting the uterine arteries years ago, I noticed that, while the branches are sent to the uterus with tolerable uniformity, their distribution after entering the walls is most irregular, with one exception, which is that the primary branches with great regularity circle around or about the cervix where it joins the body of the uterus, and just where they would be divided in this operation of Sir James and his imitators. As the uterus in health has a very obscure sensibility, they seem to forget that it is richly endowed with organic and vaso-motor nerves of the easily impressible and extremely susceptible sympathetic system, a due regard to which would also prevent the too prodigal use of potassa fusa, Churchill's mixture, and other irritating, and at times highly exasperating, applications. In gynecology, as in the practice of all the other departments of medicine and surgery, the golden rule should be never to do anything which might, by the remotest possibility, do the patient harm.

The late Sir James and his surgical executors or imitators, without regard to the veins, arteries, lymphatics, muscular structure, and nervous organization of the cervix uteri, cut through it as if they were dealing with clay, dough, or some other perfectly homogeneous and inanimate mass. Division of the neck, to be effective, must be carried up as high as its union with the body of the womb. An operation of this sort, considering the proximity of the uterine arteries, must always be attended with danger to the life of the patient, especially if there be not a hospital assistant on hand to arrest dangerous hæmorrhage, should it occur. Sham or make-believe operations of this sort, hardly carried deeper than the fissure in a frost-bitten lip, can never be dangerous or advantageous to any one, unless it be to fill the pockets of a mountebank. Division of the neck is an operation which will not stand the test of time, and when the anatomy and

¹ Concluded from page 57.

physiology of the uterus come to be better understood it will be altogether abandoned in the cases for which it was initiated.

I have seen one case where it was necessary to dilate the canal of the cervix at its junction with the body after the former had been deeply incised. I have seen also the case of a lady who, for five years bedridden with strumous infarction of the womb, voluminous in size, finally had the thickened walls of the cervix incised by the lateral operation, deeply through the entire length of its canal quite up to the body of the uterus, but with what object it was difficult to understand; at the end of five months the lips of the wound, which at their union must have been from an inch and a half broad, were gaping apart, had made no attempt at cicatrization, and it was only after the infarction was relieved, as it might have been at first and without the operation, by constitutional treatment, that the wound healed up and the patient recovered perfect health. The only prescription given her was the following:—

Ry Iodin.	gt. x.
Ferri iodidi	3ij.
Potassii iodidi	3ss.
Ext. cicute (coni) 1	3ij. M.

Et. pil. lxxx. S. One after each meal.

These pills should be made up quickly, adding half a drachm of gum acacia to keep the iodide of iron from deliquescing, and when made they should be coated with tolu.

Contraction of the constrictor cervicis muscle had nothing whatever to do with the above case, in either its origin or progress. There was simple closure of the cervical canal caused by pressure from without, produced by the thickened condition of the walls of the cervix from infarcted matter; and as soon as this infarction cleared up the womb resumed its healthy size, and the patient recovered her former health and activity.

This operation of the late Sir James Y. Simpson, and the modifications of it, is one that ought very rarely or never to be performed.

I recall the case of Mrs. A., the vaginal portion of whose womb was about two and a half inches long; and thinking that abbreviation, if not division, of it might possibly do good, I sent her, about fifteen years ago, to the New York Woman's Hospital; but after remaining there for a month, she returned to Baltimore without having been operated on, and I afterwards gave the surgeons in charge credit for their conservatism and masterly inactivity in this case. Had the opinions of to-day prevailed at that time, the neck would have

been taken off with the knife or a silver ligature, and in London or Edinburgh it would have been destroyed with potassa fusa, or the caustic containing thirty per cent. of lime.

In those days, too, when the so-called science of gynecology had not been conceived, certainly not born, and still less named after certain Greek words, the late Professor Hodge invented his pessary, now so largely employed in all civilized countries for the relief of retroverted and retroflexed uteri, and one of the greatest boons ever conferred on the suffering gentler sex. I was one of the first, on the recommendation of Dr. Hodge, to use his pessary, which kept the uterus in its place, and was therefore palliative; but in every instance the dilating biongies were also used to overcome the muscular contraction of the constrictor cervicis, thereby releasing the venous circulation, obstruction to which, and consequent increased weight from engorgement, had originated and kept up the uterine displacement.

DILATATION BY BOUGIES; LEUCORRHEA.

The bougie was always carried up to the *bis fond* of the uterine cavity, or, in other words, as far as it would go; and then, to prevent its displacement, the lower third of the bougie was placed against the right thigh and fastened to it by a few turns of a cotton-muslin roller. To fatigue the fibres of the constrictor cervicis muscle, the dilator was allowed to remain in the uterus from twelve to sixteen, and rarely thirty-six, forty-eight, or seventy-two, hours. For that most common of all uterine troubles, for which nitrate of silver is so generally applied, with only tentative results,—I refer, of course, to hypertrophic enlargement of more or less of the vaginal portion of the uterus, with thickening, tumidity, redness, and often superficial ulceration of the lips surrounding the os tincæ, together with engorgement and enlargement of the muciparous follicles, just within the neck, and pouring out, as they always do in this condition, profuse secretion, or exudation, popularly called "whites," or fluor albus,—for this condition I have never applied nitrate of silver, but have, times without number, carried a large bougie up to the fundus of the uterus, allowing it to remain in the cervical canal twelve, sixteen, or twenty-four hours, and generally with more satisfactory results than from any other single expedient, topical or general. Here again the relief could be attributed only to overcoming contraction in the fibres of the constrictor cervicis muscle, releasing the venous circulation, and thereby preventing retardation of blood and consequent engorgement. The original and continued cause having been removed by the bougie, I have gen-

erally relieved existing engorgement by giving one or two Blancard's pills of iodide of iron after each meal; and when syrup of the iodide of iron can be had without free iodine in it the following may be substituted for the pills:—

R Syr. ferri iodidi ʒiiss.
Aque fol. aurantii ʒiiss. M.
S. A teaspoonful after each meal, in water.

The muciparous follicles, existing just within the os tincæ, and occupying the walls of the cervical canal for about an inch, are the sole and only sources of fluor albus. These follicles are often found enlarged and tumid, without other engorgement or trouble of any sort, in the tissues surrounding them. How could the profuse flow from these bodies, amounting often to half a pint a day, occur unless from tying up of the cervical veins, the fluid being derived by exosmosis of serum from the blood? Signal relief is often derived from introducing a bougie and allowing it to remain a sufficient length of time in the cervical canal, thereby releasing the veins, and allowing their return circulation to pass through them unimpeded. The obstruction to venous flow being thus relieved, existing engorgement in the muciparous follicles may be resolved by giving the following:—

R Hypophosphit. sodæ,
Hypophosphit. calcis āā ʒiij.
Hypophosphoric acid q. s. ad sat.
Aque destillatæ ʒvi. M.
S. Give a teaspoonful after each meal.

Pure phosphate of lime in the magma form is much better to prescribe in doses of ten grains, thrice daily, provided we can be sure of having it furnished in proper assimilable form by the apothecary.

AMENORRHEA; DYSMENORRHEA; STERILITY.

I have repeatedly adopted this same expedient of introducing the bougie for the relief of amenorrhœa, dysmenorrhœa, and sterility, usually in the two latter affections, a day or two before the expected return of the catamenia. A young lady from Kausas, nineteen years old, suffering from amenorrhœa, having been at school here for over a year, had taken all the usual emmenagogue remedies resorted to in such cases, had never menstruated in the regular way, but had suffered vicariously from epistaxis, hæmatemesis, and, a short time before I saw her, from hæmaturia. She was brought in from the country by the matron of the school. I introduced a large bougie quite up to the fundus of the uterus, fastening the lower third of it, as usual, to the right thigh, with directions that on the following afternoon it should be removed. Ten days having elapsed, I received a note from the duenna, saying that her young lady was quite relieved.

In 1873, I was consulted by a lady as to what should be done for her daughter, a young girl seventeen years old, suffering from dysmenorrhœa; in fact, during three years she had never had anything beyond a mere show, which had appeared on some three or four occasions only, and always attended with severe hystericalgia. I introduced, in the way already described, a No. 10 urethral bougie, instructing the mother to remove it the next day. Three months after, I received a letter of thanks from the mother, stating that, as far as she could judge, her daughter was perfectly well, having had for two months perfectly regular visitations of the "enemy."

In the case of a lady four years married without conceiving, the same practice was resorted to, with

happy results, the only drawback being that four weeks after the first operation she insisted on its being repeated, and the result was that at the first period of gestation she was delivered of an acephalous monster, attributable, no doubt, to the second needless introduction of the dilator. She has since, however, proved a fruitful vine, having had in twelve years no less than eight children at the full period of gestation.

It happens often after parturition that the constrictor oris et cervicis uteri muscle contracts unduly, thereby narrowing the canal of the cervix and retarding the return of blood through the uterine veins. A lady with one child, a daughter sixteen years old, anxious to gratify still further the instinct of maternity, consulted me to know how her reproductive organs might be renovated. Having full faith in the invariableness of the cause of this and numerous other troubles of the womb, I advised that a large-sized urethral bougie be introduced quite up to the fundus of the uterus, which was done,—the dilator in this instance being allowed to remain undisturbed for over two days before removal. Shortly afterwards the lady became pregnant, and has since had four children at full term.

VAGINISMUS.

There is another condition for the cure of which the knife ought never to be resorted to, and that is for vaginismus, which is in all cases perfectly susceptible of relief without the use of a scalpel. A lovely and perfectly healthy young woman, residing in this city, only a door from the one already referred to as having died at Edinburgh from hæmorrhage following division of the neck of the uterus, went to Paris, where she was operated on, a knife being used to divide the sphincter vaginæ muscle, and the result was death from pyæmia shortly after the operation.

Why all this cutting and slashing in cases which can be relieved by simple methods, unattended with danger of any sort? Were these women properly advised, before being operated on, of the danger they were going to encounter? With provident knowledge of the risks, they might have preferred to select a child from the thousands in foundling hospitals, rather than knowingly incur the hazard to their lives of trying to become fruitful by operations, doubtful at best as to their efficacy. If we are cognizant of these two unnecessarily fatal cases coming from a single block on the same street, in a remote town, what must be the unknown and untold necrological list of dumb thousands from other more extended and populous regions? Why do not gynecologists confine their operations to the special province which they have voluntarily chosen? Dr. Francia governed Paraguay autocratically all his life without going beyond its borders. Several gynecologists have lately cut through the walls of the abdomen and into the gall-bladder for the purpose of removing therefrom cholesteric calculi, which might readily have been dissolved, and operations so hopelessly perilous avoided. Where a woman has closed her reproductive account, and declared an act of non-intercourse, Dr. J. Marion Sims's operation of reviving the surfaces of the vagina and taking a reef in them makes a very fair cup-and-ball arrangement for the relief of proclitidia; but it is only applicable in a limited number of cases, and whether this operation be performed or not, the cervical canal ought in all cases to be dilated to the size of its former healthy gauge, the veins released, and drainage restored,

whereby any chronic engorgement and increased weight which gave origin and continuance to the procidentia may be relieved.

AMPUTATION OF THE CERVIX.

As to excision or amputation of the cervix, I have never known a single instance where advantage to the patient resulted therefrom. One of the instruments used for this operation resembles a miniature or toy guillotine, worked by hand instead of by machinery. In long-standing cases of obstinate procidentia, where the uterus and its appendages were, and had been for a long time, hanging down to the middle third of the thighs, I have seen the entire mass removed, with signal relief to the patient.

In transient contraction of the constrictor cervicis uteri muscle, occurring usually at the catamenial period, attended with hypogastric pains, and sometimes by a mere show, often resembling coffee-grounds, the flow has been brought on by directing the attendant to apply on the end of her forefinger, carried deep down into the vagina, a wad of raw cotton, soaked in a solution of belladonna. In what manner could this agent, thus applied, afford relief, except by relaxing the fibres of the constrictor cervicis uteri muscle, which may have been put in a state of tension by irritating matters in the cervical canal? It is, no doubt, by washing out offending secretions and removing the cause of muscular contraction that warm-water injections often, under like circumstances, are useful.

If all physicians engaged in general medical and surgical practice will only treat in their incipency, by the simple method herein detailed, all the morbid conditions to which this paper refers, they will, without risk of any sort to their patients, ward off and relieve an incredible amount of human suffering. They need not fear that there will not still be, from neglect and inattention of their patients, a plenty of cases developing, maturing, and ripening for the knife, manipulations, and tractations of the gynecologist. A patient rarely applies to the gynecologist until her malady, whatever it may chance to be, is fully developed; it is generally perfect, and a specimen of its kind. Prevention and early recovery can therefore lay their claims on the general practitioner only, who is called to see these cases in their very incipency.

Dilatation of the cervical canal will, in fact, be found a simple and effective treatment for all young females who, for weeks together, realize that they have backs. "My back hurts me so when I walk or stand up, and often when I sit still; and then the pain in my limbs! The least fatigue gives me headache, and obliges me to lie down." In the early days of such complainings there is, in ninety-nine out of every hundred cases, contraction of the constrictor cervicis muscle, which, if not relieved, will result in engorgement of the neck, in tumidity of the muciparous follicles, giving rise to whites, leucorrhoea, or some one of the many ills already referred to. The bougie can, with the aid of a speculum, be easily introduced; but without such aid, knack or tact, readily acquired by practice, is needed. If the bougie be used in time, the maladies herein enumerated will be prevented, and where they have already occurred dilatation in all of them is still the most direct route to recovery.

ADVANCES IN UTERINE SURGERY.

The great contributions to the surgery of the uterus and its appendages are McDowell's radical method of

treating ovarian tumors by excision, Hodge's pessary, Dr. J. Marion Sims's operation for recto-vesico-vaginal fistula, Dr. Atlee's paper on encysted fibroid tumors, and Dr. G. Thomas's ingenious provision for early descent of the umbilical cord, wherein he converts the anterior walls of the vagina and uterus into an inclined plane by placing the patient on her elbows and knees.

MCDOWELL AND OVARIOTOMY.

When the circumstances under which McDowell devised and performed his first operation for ovariectomy are considered, it makes it altogether the most remarkable contribution ever made to general surgery, living as he did at that time in a remote Western village, only accessible by bridle paths or very imperfect roads, and where opportunities for the study of morbid anatomy must, to say the least, have been very few. He not only recognized the true nature of the morbid growth, but instituted the radical operation for its relief. The only explanation of this marvel is that he had time for reflection, opportunities for free thought, and was removed from the dogmatic teachings of the schools.

Almost as much may be said of the operation for vesico and recto vaginal fistula, originated by Dr. Sims, who is also the inventor of most of the instruments, of which there are quite too many, now used by the gynecologists. Dr. Thomas's provision against primary descent of the cord belongs to the same order of discovery. All of these remarkable operations were bestowals on an extended and comprehensive science. But after this province revolted and made a predatory raid on the empire of general surgery, it gained no victories, and since its organization into a special corps, with its exclusive society and separate and distinct journals or organs, few laurels have been won, no triumphs proclaimed, and little except detail has been added to the knowledge of uterine affections.

The secession carried with it all the brilliant discoveries which had previously been made in this department of surgery, and in fact there would have been nothing to gain by a raid had there not been much to carry off. The gynecologists would have been able to make just as good a showing had they continued under the banners of general medicine and surgery.

It is curious, but nevertheless true, that, abroad at least, those who repeat these operations, whether for ovariectomy, vesico-vaginal fistula, extraction of fibroids, or returning the cord on nature's inclined plane, seem to think that they all deserve equal credit, and are entitled to stand on the same platform with McDowell, Hodge, Sims, Atlee, and Thomas.

As well might a telegraph operator regard himself as equal to Morse, an exhibitor of chloroform the peer of Morton, the taker of a photograph the image of Daguerre, or he who adopts the new application of the law of gravitation consider himself the equal of Dr. Thomas. Perhaps they think that as none of these operations are European in their origin, but all imported from America, each surgeon has a right to win and wear parasitically the honors deducible from them.

It is the simplicity of these operations which constitutes their great merit. Ovariectomy in its performance according to the rules established requires only moderate skill and attention to details. There are no important blood-vessels or nerves to be avoided, and therefore acquaintance with anatomy is not called into

play. As a proof that no great surgical proficiency, knowledge, skill, or experience is required in ovariectomy, it is only necessary to remark that Dr. Keith, of Edinburgh, who as a specialty took up this operation, having never performed any other, was not educated as a surgeon, nor had he any experience in that department, and yet his tables show better success than those of any other ovariectomist. I had this statement from the lips of Keith himself.

There lived in a district near Baltimore a famous character, rejoicing in the name of Jack Beach, widely known amongst country people as the right man to spay and castrate pigs, caponize chickens, make geldings, and emasculate other animals. His instruments consisted of a clasp knife with a blade about four inches long, a rough curved needle, and horse-hair for sutures and for making draw-loops for caponizing fowls. I have seen him spay a dozen female pigs and castrate as many boars within the space of two hours. When asked why he operated, the reply was, "Cause, ye knows, it makes de animals take on fat." Of all the operations on living creatures, caponizing fowls is one of the most delicate, requiring a rare combination of knack, dexterity, and adroitness of touch, possessed by only a few individuals. Jack was known as and believed himself to be, as he certainly was in his way, a great "cracker." His operations, amounting in his latter days to thousands, were generally successful, and with the exception of losing a few caponized cocks, a fatal case in other creatures was never mentioned. If Jack's biography had been written and his fame known, the renown of Frère Jacques, the lithotomist, would have paled before it.

THE PRESENT STATE OF GYNÆCOLOGY.

The truth is, gynæcology lacks the dignity of the older specialties, — those of the eye and ear, for example. It came into being less than a score of years ago, and, like the juvenile and rollicking student just fledged, with a diploma and invested with the title of M. D. after a probation of eight months at an alma mater never known to produce anything but premature fruit, its disciples feel replete with all knowledge, believe that their particular art is perfect, and has only to be kept free from heretical accretions of every sort, whether from within their own charmed circle, or without from the profession at large. They engage in angry disputations and personal conflicts. Instead of wasting their time and talent in this manner, would it not be better for them to apply both in investigating the anatomy and physiology of the uterus and its appendages, the knowledge of both being very defective? — besides which they have before them the entire field of embryology. We all believed for a long time that the anatomy of the eye was tolerably well understood, and yet when I was in Berlin, in 1867, Von Graefe and Virchow were engaged in examining microscopically the cornea, and the latter showed me a drawing which had just been finished by one of his students, exhibiting minute nerves passing through this structure in lines corresponding with the diameter of its arc. Investigations of this sort applied to the uterus and its appendages, about which comparatively little is known, might prove of great value to the profession at large.

A famous gynæcologist boasted to a friend of mine that he had not in ten years read a single line in any medical book or journal. Fortunate man, to have his aspirations tally with the limited professional sphere

in which he lives, moves, and has his being, and the perfunctory operations he is called on daily to perform! With rich and promising fields before them, the gynæcologists have added not a jot to our previous knowledge of the anatomy and physiology of an organ which, though deficient in sensibility and voluntary motion, is nevertheless endowed with organic instincts of the highest order; and yet, in the absence of such knowledge, they go on to cut, hack, slash, and probe the uterus, besides using too frequently sponge and sea-tangle tents to dilate its neck, and throw into its cavity Churchill's mixture and other fluids of a highly irritating and exasperating character. They claim to be considered the directors, administrators, and trustees of important branches of medicine and surgery, and show that some master hand is needed to lay before them and others the work to be accomplished. If an individual limits his horizon to the os externum, his explorations to the os internum, and employs his time in the unvaried monotony of operations related therewith, there is danger, if he be a man of broad views, that he will in time become himself either hysterical, or a hysteromaniac.

From non-observance of the precepts herein contained the practices or *cliches* of all general practitioners have been and must continue to be hot-beds and nurseries wherein blooming cervixes, fibroids, ovarian cysts, and numerous other flowers and fruits are germinated, reared, and preserved exclusively for the conservatories and surgical tables of the gynæcologists.

The views expressed in this paper were taught and practiced in the women's ward of the Baltimore City and County Almshouse during 1848 and previous years, and it is hoped that the writer will be pardoned for bringing forward at this late date an epitome of ideas which advanced gynæcologists will no doubt regard as so very primitive and extremely elementary. The work of gynæcologists for the past twenty years has been almost exclusively surgical. Had they done as much in elucidating the anatomy of the fibrous structures, arteries, veins, lymphatics, nerves, erectile tissues, endometrium, and ovaria, besides showing the relations of these different structures to and dependence on each other, both in a state of rest and in the conditions of evolution, and had given more attention to embryology, the whole subject would at this time have been better understood. We have hope at least that biologists will in the next twenty years anatomize the different layers and important muscular bands of the uterus and its appendages, and not only measure their force, but point out the direction in which, and to what end, the power is applied.

Nor has anything been done in the past thirty years to teach the value of internal remedies in affections of the womb. Plenty of steel is used, but in a very compact form and having a very keen edge. Dr. Tilt has published a volume on Uterine Therapeutics, but it is disappointing to find that, beyond giving a list of remedies and speaking in general terms only of their therapeutic qualities, little is said except about surgery and topical applications. There are many good gynæcological surgeons, but no therapist capable of diagnosing and treating uterine affections without a resort to the knife has yet appeared. A surgeon in Paris probed the wound of a man who had shot himself through the brain with a large pistol ball. The charge for the operation was, say, six thousand francs. The executors protesting, he said, "Had I written a prescrip-

tion for the late Mr. C., my charge would have been ten francs; but when we take up an instrument and use it, the patient or his estate is expected to pay liberally."

SUMMARY.

I endeavored to show at the beginning that the active state of the constrictor cervicis muscle is in the period of gestation, during which process it is transformed into the constrictor oris uteri, but that in the dormant condition of the unimpregnated uterus this muscle becomes very often like an idle individual, mischievous, converting by morbid compression the veins underlying it, not into mythical, but into actual closed Pandora boxes. From the very beginning to the end of pregnancy, the life of this muscle is evolution and growth, and its office that of a support, whereby it is prepared for a supreme effort during and after parturition; but in the dormant state of the unimpregnated uterus its slow, feeble, and stealthy, but persistent, contractions are, when they occur, always morbid. The relation this constrictor muscle bears to the veins of the cervix, and the agency or *vis morbi* it possesses of becoming by closing them a *causa morborum*, thereby producing multiform diseases, have never, so far as is known, been even hinted at, much less described, by any medical, surgical, or physio-pathological writer.

The disease-producing power of this muscle and the antagonist to it, that is to say, the agency exerted by the bougie in preventing, dissipating, or annulling the decrees of this autocratic band of fibres, are both well expressed in the phrase *vis morbi distracta per artus*; here the muscle represents the *vis morbi*, while the *distracta per artus* is typified in the use of the bougie to arrest its morbid action. It may be doubted whether in the whole field of medicine and surgery an example can be found to illustrate more clearly the truth and significance of the above aphorism. Dilating the cervical canal to its *normal calibre, not beyond*, and allowing the bougie to remain in it *sufficiently long to fatigue the constrictor cervicis muscle*, are also the best means of relieving what Virchow and Dr. Gaillard Thomas have been pleased to call areolar hyperplasia, in lieu of the engorgement of Li-franc and the subinvolution, chronic metritis, or hyperæmia of other authors, who, under various synonyms, have made this condition such a terrible bone of contention as to its mode of production and true character. I have always regarded it as a hæmorrhage, or passive congestion, and in its advanced stages, as hypertrophy of all the tissues, caused by morbid nutrition resulting from obstruction to the venous circulation. In this condition *ergot* should be used as the adjuvant, and in chronic cases dilatation may have to be repeated at intervals of ten, twenty, or thirty days.

For this muscle, occupying a perfectly unique position, and capable by its morbid contractions of producing not only numerous diseases of the uterus and its appendages, but also disturbances of the entire female economy, a new name is wanted.

Dr. Mackintosh, of Edinburgh, reports twenty-four cases, out of twenty-seven, relieved by dilatation of the cervical canal with metallic rods, a practice unwisely abandoned, showing as it did most excellent results, especially when it is remembered that the metallic rods were not permitted to remain in the uterus for any length of time, and that they were used without knowledge of the mode in which relief by dilatation was to be obtained.

In Dr. T. Gaillard Thomas's admirable work on the diseases of women, it may be seen that in his chapters on areolar hyperplasia and dysmenorrhœa he speaks of the obscurity of uterine pathology and the want of some undiscovered key to the knowledge of it. It is hoped that this short paper may assist him and others in finding the missing key.

It has been seen that the object of this paper was and is to explain the ætiology of numerous uterine affections, but the inquirers after truth, who do not like the foregoing explanations, and believe that the key to these diseases has not been discovered, are free to search after some more satisfactory solution of their mode of production, remembering, however, that where one ascertained cause is sufficient to account for a series of sequences, it is unphilosophical to look for any other, and recollecting also that as the simple method of dilatation by freeing the veins removes, as it has been shown to do, the cause, its disease-producing effects must in like manner be prevented.

[NOTE. The author was in error in attributing to Sir Astley Cooper the plate referred to in the beginning of this article.

T. H. B.]

BALTIMORE, November 29, 1879.

RECENT PROGRESS IN THE TREATMENT OF CHILDREN'S DISEASES.¹

BY D. H. HAYDEN, M. D.

Clinical Studies of the Hemorrhages in Whooping-Cough, and of Hemoptysis and False Hemoptysis.—Professor Henri Roger,² at a meeting of the Academy of Medicine of Paris, held September 16, 1879, read a paper on the above subject. He first spoke of the epistaxis which is produced by the convulsive shaking of the cough, and which rarely becomes dangerous by its abundance or by the frequency of its repetition, unless associated with an alteration of the blood; of subconjunctival or palpebral ecchymoses, equally dependent upon the paroxysm, and seeming sometimes to differentiate the cough of pertussis from common bronchitis; of otorrhagia purpurica; and of certain visceral hemorrhages.

The study of hæmoptysis and hæmatemesis was then taken up, and M. Roger demonstrated by numerous observations that these hæmorrhages are altogether exceptional in infants, being in nearly all cases a false hæmoptysis, the blood coming from the nasal fossæ, pharynx, mouth, or gums, and never from the pulmonary organs.

After epistaxis the more frequent source of the blood is from the mouth. In this region the congestion is excessive at the time of the paroxysms; the gums become swollen, fungous, and bleeding; the tongue, violently thrust out of the mouth at this time, becomes eroded by the rubbing of its inferior surface against the lower teeth, as the frequent ulcerations of the frænum bear witness to; sometimes it is bitten. The lips are dry, and the little patient often tears off the epidermis. Every ulceration or erosion, however small, pours out blood during the paroxysm. The source of the bleeding in buccal hæmorrhages is sometimes the gums, sometimes a solution of continuity of the mucous membrane of the mouth or tongue; and

¹ Concluded from page 59.

² Gazette hebdomadaire, September 19, 1879.

the blood can come, too, from the pharynx or the nose, throwing into the shade that originating in the mouth.

It is only at the end of the paroxysm that the child ejects a bloody frothy sputa, caused by the intimate mixture of the blood with mucus from the bronchial tubes, which has been beaten up and aerated by the shaking of the cough. This has no serious significance, and yet there are few symptoms that occasion greater alarm to the relations, and even to the physician, the reason being that they confound this symptom with hæmoptysis. M. Roger has more than once rectified errors in this respect, and has been able to calm inquietude, all the more legitimate that children with prolonged cases of whooping-cough are often suspected to be tuberculous. An examination of the mouth would show the source of the bleeding; and in interpreting the facts it is necessary to remember that a pulmonary hæmorrhage of tuberculous origin is excessively rare in children. Even if the hæmoptysis were a real one, it would not be rational to conclude from this the existence of pulmonary tuberculosis. It is only after the tenth year that children are liable to hæmoptysis, and even then it is rare that this accident marks the commencement of phthisis, as is the case with adults. In early infancy it can be said that hæmoptysis never occurs as the initial symptom of phthisis.

In the same way that in whooping-cough there is a false hæmoptysis, there is also a false hæmatemesis. By examination of the nasal fossæ it will be always found that the blood comes from an epistaxis, having run down from the posterior nares, often insensibly, into the cavity of the stomach, where it can accumulate in large amount. If the blood should be expelled all at once by an intolerant stomach, the bleeding from the anterior or posterior nostril would be still visible; if evacuated slowly after the epistaxis had ceased, a few drops or clots in the nose could signalize the source of the hæmorrhage.

It is essential to recollect that hæmatemesis, like hæmoptysis, is altogether exceptional in early life, and is met with only in very rare cases of purpura hæmorrhagica. If in any disease whatever, — and this holds good especially in whooping-cough, — a mother in great alarm shows a vessel filled with blood ejected by the mouth, the physician, guided by the laws of infantile pathology, can reassure both her and himself; for it is almost a certainty that it is the result of an epistaxis, the blood having penetrated into the stomach, and subsequently been expelled by an attack of coughing.

Two kinds of hæmorrhage should therefore be erased from the list of complications of whooping-cough, namely, hæmatemesis and hæmoptysis, and by a more accurate diagnosis the errors of prognosis will become thereby corrected, and a more proper estimation be placed upon facts which might otherwise be thought alarming, but which will be seen to offer no forebodings of danger.

*Treatment of Pertussis by Inhalation.*¹ — During last April and May several cases of whooping-cough were received in the quarantine wards of the New York Foundling Asylum, and as treatment by the remedies which are in common use (belladonna, quinia, and the bromides) had not been as successful in former cases as was desired, Dr. Smith decided to try inhalations. The spray of the following mixture was in-

haled from the steam atomizer three times daily, and from two to five minutes at each sitting: —

Ry	Acidi carbolici	3ss.
	Potass. chlorat.	ij.
	Glycerinæ	ij.
	Aquæ	3vi. M.

The treatment was begun about the middle of April and continued through May. The number of patients submitted to this treatment was twelve. While this was too small a number to furnish any positive conclusions as to the utility of the spray, the effect was sufficiently favorable to justify further trial. The cases were milder than the average, occurring in the declining period of an epidemic. Seven of the cases, the youngest being eight months and the oldest five years, are reported, and all show a decided diminution in the daily number of paroxysms following the employment of the inhalation.

The chief danger in this disease is in the period of spasmodic cough, and is usually proportionate to the severity of the cough. If the cough is mild, complications, as convulsions, atelectasis, pneumonia, etc., are not apt to occur. Hence the physician very properly endeavors to ameliorate the cough, knowing that in proportion as it becomes mild the prognosis improves. The cough can no doubt be rendered milder and less frequent by a considerable number of medicines, chiefly such as diminish "reflex irritability" and procure sleep. Hence there is a long list of remedies which have been recommended by physicians of experience. In the *Index of Therapeutics*, appended to Stillé and Maisch's *National Dispensatory*, thirty drugs are named which are supposed to be useful in whooping-cough. Agents to diminish the frequency and severity of the cough, the bromides to prevent convulsions, quinia to reduce fever and support strength when the bronchial catarrh has extended so as to become a complication, or pneumonia has arisen, the timely use of opium and bismuth to check intestinal catarrh, and the more general use of stimulants have in recent years greatly reduced the mortality from pertussis. Therefore, cases now have a favorable issue which with the different treatment of former times would inevitably perish. From having been one of the most fatal maladies fifty years ago, so that in New York one died of whooping-cough in every seventy-six deaths from all causes, it is now less fatal than almost any other severe contagious malady.

It is obvious that if a spray can be inhaled with perfect safety which controls the paroxysms, thus enabling us to dispense with the use of active internal agents, except as special indications arise, an important gain will be achieved in the treatment of pertussis, and Dr. Smith feels encouraged, by the results of the above treatment, in the belief that inhalation will yet be more generally used to ameliorate the cough.

There appears to be an exaggerated sensitiveness of the laryngeal filaments of the pneumogastric in this malady, so that inspiration of air, as in crying or laughing, or a current of cold air passing over the laryngeal surface, or the lodgment of mucus upon it, immediately excites the cough, notwithstanding the efforts of the patient to repress it.

The good effect of the spray in the above cases seems to have been largely due to the carbolic acid, which, when used locally, is known to produce an anæsthetic effect on mucous surfaces; but in one or two instances in which the chlorate was temporarily omitted from the mixture patients seemed to do better with than without it.

¹ By J. Lewis Smith, M. D., Clinical Professor of Diseases of Children in the Bellevue Hospital Medical College, New York. The *American Journal of the Medical Sciences*, October, 1879.

However desirable it may be to ameliorate the cough, sustaining measures are required in most cases during the spasmodic stage and in convalescence. Dr. Smith speaks highly of beef, wine, and iron, as now prepared by pharmacists, for these patients, given in teaspoonful doses every two hours to a child two years old.

[Birch-Hirschfeld¹ reports to have had very satisfactory experiences with the use of carbolic-acid inhalations in the treatment of pertussis. In his cases the patients were confined in a room (otherwise well ventilated) the air of which was impregnated with carbolic-acid spray (twenty per cent. solution) by means of a steam atomizer. Dr. E. Thorne, of Berlin,² reports a very beneficial effect upon the number and violence of the paroxysms with the use of a one to two per cent. solution of carbolic acid in a steam-inhaling apparatus. The method of employment was quite similar to that recommended by Dr. Smith. — REP.]

*Sixteenth Annual Report of the Jenner Children's Hospital in Berne for 1878.*³ — Professor Demme, after giving a statistical summary of the hospital and out-patient practice for the year, speaks of the intestinal troubles of infants, and especially of the abundant development of vegetable parasites (entero-mycosis) found in the intestines of these patients. In two fatal cases of this description, with a high terminal fever, as in Buhl's case,⁴ the lacteal vessels and mesenteric glands were found filled with micrococci. In addition to a careful regulation of the diet (the mother's milk, if possible) and an avoidance of amylaceous or sugar-containing substances, Demme has found cognac, properly diluted and freely given, to be extremely useful in these cases, with or without creasote, opium, etc.; also benzoate of soda.

The latter remedy was used with good effect in cases of diphtheria (scarlatinal and idiopathic). Of twenty-seven severe cases of diphtheria thus treated six terminated fatally. It was given internally in daily doses of two and a half grammes (thirty-seven grains) to infants from three to six months old, and five grammes (seventy-five grains) in the twenty-four hours was the amount employed for those between six months and one year of age, gradually increasing this quantity with increasing age, so that children from eight to fifteen years took daily twelve to fifteen grammes (three to four drachms) without injurious effect. It was also applied locally by insufflation, or in a more or less strong solution as a gargle.

Among other diseases reported is a case of diabetes insipidus in a boy six years old, where a swelling of the right leg and light multiple swellings of the glands excited the suspicion of syphilis. Treatment with iodide of potash produced a partial, mercurial inunction a complete cure. In a case of congenital encephalocele in a boy six years old, the swelling was brought down to a level with the bones of the cranium without any disturbance by means of a gentle steady pressure, with gradual increase. When this was rapidly augmented there followed sometimes convulsions, paleness of the skin and mucous membrane, loss of consciousness, and retention of urine lasting several hours.

In pursuance of his experiments with anaesthetics, Demme states that a mixture of one part of chloroform with one hundred parts of chloroform effects a somewhat slow but very quiet narcosis.

¹ Vide JOURNAL, July 19, 1879, page 89.

² Deutsches Archiv, xxii., 3 and 4 11-ft., 1878.

³ Berne, 1879, 8vo, pp. 68. Centralblatt für die medicinische Wissenschaft, No. 15, 1879.

⁴ Centralblatt für die medicinische Wissenschaft, 1868, No. 1.

Two cases of operation for incarcerated inguinal hernia in infants two months old are reported; also the successful treatment of scrofulous swelling of glands by subcutaneous dissection, and a few cases of struma in children.

Hospital Practice and Clinical Memoranda.

BOSTON CITY HOSPITAL.

CASES IN THE SERVICE OF DRs. ARNOLD AND MASON.

[REPORTED BY DR. H. HUN.]

Cases of Pelvic Inflammation. — CASE I. E. H., aged twenty, entered the hospital May 23d. She had been married two years, but never had had children. Catamenia regular. She had been well until eight weeks before entrance, when she began to have pain in the lower part of abdomen, which grew steadily worse, so that she could not lie on either side. She had had a number of chills and moderate diarrhoea. There had been night sweats, and she had lost much flesh and strength. The patient was very pale, emaciated, and weak.

She presented an elastic, obscurely fluctuating swelling behind the uterus, which was punctured by Dr. Arnold with Bixby's trocar on June 2d, and a pint of highly offensive pus was evacuated. The cavity was washed out with carbolic-acid solution, and a silver canula tied in. An abdominal poultice and hot vaginal douche were ordered.

June 4th. The silver canula caused so much distress that it was removed, and a drainage tube inserted. The drainage tube slipped out every few days, but was replaced each time, and the cavity washed out daily. The discharge of pus at first amounted to one or two ounces daily, but gradually diminished until the middle of July, when it ceased, the drainage tube having been omitted a few days before.

July 17th. The patient sat up for the first time.

August 10th. The uterus was slightly movable, anteflexed, and there was a hard mass in the right cul-de-sac, perceptible by abdominal palpation. At this time the patient had more color, was sitting up several hours every day, and was steadily improving. She had been taking quinia, iron, and laxatives.

August 23d. Discharged for misconduct.

September 4th. Dr. Arnold was called to see the patient outside the hospital, and found marked aggravation of all her symptoms, with tumefaction the size of a large orange, but no fluctuation in the region of the right ovary. The inflammation ran its usual course.

October 4th. Slight sense of fluctuation felt to the right and anterior to os uteri; tumefaction still to extreme right. Sound passed to the right thirty degrees from the median line; uterus fixed; pulse, 112; temperature, 102.4° F.; slight chill. Aspirator used, and about ten ounces of excessively fetid pus evacuated. The swelling in the abdomen subsided for a few days, and then began to return in the left side.

October 19th. A distinctly fluctuating mass was felt to the left of and anterior to the uterus, and was punctured with a bistoury, and afterwards dilated forcibly so as to admit the finger. This was followed by a carbolicized injection through a single catheter every third or fourth day. She has steadily im-

proved, and on December 9th was sitting up and moving about her room.

CASE II. E. D., aged twenty, single, entered the hospital May 31st. The catamenia had been rather irregular. Three weeks before, she began to be "unwell," continued to flow a little for about ten days; the flow then ceased, but began again three days before entrance. There had been much pain in the back and lower part of the abdomen, shooting down both legs. There was constant leucorrhœa.

The patient presented a soft, very fluctuating tumor in the right side of the pelvis, which could be felt above the pubes, and projected into the vagina as a small, tense bag just behind the cervix. On June 2d the tumor was punctured by Dr. Arnold with a Bixby's trocar, and a considerable quantity of purulent or fœtulent matter was evacuated. The cavity was washed out, and a silver canula tied in.

June 4th. The canula caused so much distress that it was removed, and a drainage tube was inserted. An abdominal poultice was applied, and the patient was given a hot vaginal douche twice a day.

June 6th. The drainage tube slipped out, and was not replaced, the cavity being washed out daily with a double catheter until June 22d, when this was omitted. The fistula in the vagina continued to discharge a small amount of pus.

Early in August the patient began to sit up every day. At this time the uterus was low down in the vagina and fixed. Some discharge continued, and there was marked tenderness, with moderate tumefaction in the right cul-de-sac. A small, hard mass was felt in the left cul-de-sac. The patient had taken iron, quinia, and laxatives. Towards the end of the month cod-liver oil and extract of malt were given, and she made marked improvement.

At the end of September the vaginal discharge had almost entirely ceased, and by the first of November the patient had much better color, though still pale, was out of bed all day, and could walk about without pain. At this time the cul-de-sacs were free, though some tenderness remained.

On November 21st she was discharged, to go to St. Luke's Convalescent Home, where she was seen about the middle of December, when she was looking and feeling perfectly well.

CASE III. B. A., aged nineteen, single, entered the hospital June 5th. The catamenia had been regular. The patient had never been very strong, and for the previous two months had had a poor appetite. For a week there had been constant pain in the left inguinal region, increased by standing. There had been one or two chills. No leucorrhœa.

The uterus was pressed down and back. The sound passed the normal distance, without pain, towards the promontory of the sacrum. There was a considerable tumefaction in the left pelvic region in front and at the side of the uterus, about the size of a large orange, with a sense of indistinct fluctuation.

This tumor was punctured on June 8th by Dr. Arnold with Bixby's trocar, and about half a pint of clear, yellow serum was evacuated. The cavity was not washed out. No canula nor drainage tube was left in. An abdominal poultice and hot vaginal douches were ordered.

From June 12th to 25th the patient had a severe attack of tonsillitis.

On June 27th, the pelvic tumor having refilled with

fluid, it was punctured again with Bixby's trocar, evacuating a considerable quantity of fetid purulent matter. A silver canula was tied in, and the cavity was washed out daily with a solution of carbolic acid.

On June 30th the canula was removed on account of the distress which it caused, and a drainage tube was inserted, which was also removed in a few days.

Patient continued to have for some time abdominal pain and slight diarrhœa, the discharge from the cavity gradually diminishing in amount.

August 20th. She sat up for the first time.

September 1st. Having previously been given quinia and iron, she began to take cod-liver oil and extract of malt, which was followed by rapid improvement.

September 27th. She left the hospital. At that time she had gained much flesh, and was looking well. There was no tenderness in either cul-de-sac. Slight induration about old seat of puncture. Uterus fairly movable. Little discharge, without odor. The patient was seen about a month later, after she had been at work two weeks, and was looking and feeling quite well.

CASE IV. E. C., aged twenty-three, married, was admitted July 29th. She had had two children, the youngest being two years old. Since the last child was born she had been weak, and had had pain in the lower part of the abdomen and leucorrhœa. Defecation had always been a little painful. In March, 1878, she entered the Massachusetts General Hospital, where she was operated on for laceration of the cervix and perineum. For the past few months she had been troubled by night sweats, and for two weeks had been quite sick, with pain in the lower part of the abdomen and vomiting. During the past week had had a number of chills. The night before admission she went down to supper as usual. Later in the evening she began to vomit and to have chills, and then had much pain in the abdomen. She did not sleep at all, and in the morning was cold and very faint, but rallied somewhat.

She was brought to the hospital at seven p. m. in a condition of collapse, with great abdominal pain. Pulse 122, very weak; temperature 103° F. Whiskey and morphia were given, but she did not rally well.

The os was pushed forward against the pubes. A large, tender bag of fluid pressed down the posterior cul-de-sac, not tense, but yielding readily before the finger. The abdomen was distended and tympanitic. The patient was etherized, the sac in the vagina was aspirated, and twenty ounces of thin, serous fluid of great fetor were withdrawn. The pulse was then scarcely perceptible and the skin cold.

On the afternoon of the next day, her pulse being a little stronger, the condition otherwise unchanged, she was brought into the operating room to have a drainage tube inserted, but no tumor could be felt in the posterior cul-de-sac.

From July 29th to August 9th she suffered from an attack of acute general peritonitis, the pulse varying for the first three days from 100 to 120, and afterwards from 120 to 130; the respirations from 38 to 50; the temperature from 100° to 103° F. for the first six days, afterwards from 99° to 100° F. The patient had great abdominal pain, tenderness, and tympanites, profuse perspiration each morning, diarrhœa, retention of urine, almost constant vomiting; she could retain a little milk, but no stimulants. The thighs were flexed on the abdomen. An abdominal poultice was applied, and the patient was given morphia in sufficient quan-

tity to control the pain: At first she required nearly a grain a day, later about half a grain.

On the evening of August 5th she was able to retain brandy for the first time, and after August 6th took eight ounces of brandy daily.

Ever since the entrance the patient had had an offensive, thin, watery vaginal discharge, very small in amount. On August 8th this discharge became very abundant, and on August 9th a pint of thick, yellow pus escaped from the vagina; in the afternoon the discharge was again watery, abundant, and very offensive. At this time she was having warm carbolized vaginal douches three times a day, and frequently in the day carbolic acid was sprinkled about the room to control the odor.

From this time the patient steadily improved. The offensive vaginal discharge continued. For several days it would be very scanty, and then a large quantity of thick pus would be discharged, but on the whole it steadily decreased in amount. The patient's temperature was usually normal in the morning, and every evening rose to 102° or 103° F., occasionally to 104° F. An exceptionally high evening temperature was usually followed by a free escape of pus. The pulse continued from 110 to 120; the respirations from 20 to 30.

September 5th. The cervix was in the normal position. There was some induration and tenderness in the posterior cul-de-sac.

September 15th. The patient sat up a little while to-day for the first time.

October 8th. Lately she has had almost no discharge from the vagina. Sits up most of the day, and walks about a little. Temperature still rises to 101° or 102° F. in the evening. Feels quite well, and insists on going home.

[REMARKS.—The four cases reported above, which remained in hospital for an average period of fifteen weeks, illustrate the usual tedious and exhausting course of pelvic inflammations, which are neglected at the outset often because they are unrecognized. The emaciation, debility, and anorexia in all were extreme; nutrition was with difficulty maintained. Case IV., however, which was the most unpromising, being complicated with general peritonitis, and in which constant drainage with washing out was not resorted to, made the quickest recovery.

In this case it was thought that a latent serous effusion of very fetid character ruptured into the peritoneum. It will be observed that the evacuated fluid in two instances was serous, subsequently becoming purulent.]

Shoulder Presentation, with Spontaneous Evolution in the Seventh Month.—H. L., aged twenty, married, was admitted September 7th. The catamenia had been regular. She had one child, three years ago, after an easy labor. The patient thought that she was last unwell in February. She felt the motion of a child two months before entrance. The day before admission she did considerable lifting, but felt no discomfort from it. About five o'clock in the afternoon, September 7th, she began to have slight gripping pains in the abdomen. Shortly before seven o'clock the pains became regular and severe. Half an hour later she noticed that she was flowing, and entered the hospital at eight p. m.

On entrance, the fundus was one inch above the umbilicus. The fetal head was felt in the left iliac fossa,

the breech slightly above the right iliac fossa. The fetal heart was heard (148) below and to the left of the umbilicus. Os high up, the size of a silver dollar. A peculiar, boggy-feeling mass on the right side of os. No fetal part was felt.

At 8.50 p. m., as the head could not be brought into the axis of the pelvic strait by abdominal manipulation, and there was considerable hemorrhage, the membranes were ruptured. The hemorrhage stopped almost completely. The head could now be felt far up on the patient's left, but could not be brought into the axis of the pelvic strait.

At 10.15 p. m., the pains were feeble and infrequent; the os was about half dilated, and slight hemorrhage had begun. A basinful of water as hot as the hand could bear was injected into the vagina. The pains then became of more force and more regular. Flowing ceased almost entirely; a little later a strong pain came on, and the left hand descended into the vagina, and protruded from the vulva. The appearance of the hand at the vulva was soon followed by the expulsion of a considerable amount of clotted blood. The left side of the thorax next presented at the vulva, then the buttocks, and the right hand came down spontaneously, and the fetus was expelled. There was no pulsation in the cord. There was very little hemorrhage. The fetus was fourteen inches in length; weight twenty-seven and a half ounces. The placenta presented at one portion of its circumference a dark red discoloration (apoplectic).

The convalescence was perfectly natural. The temperature did not rise above normal, except on September 13th, when it was 99° in the morning and 99.8° at night.

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. ROTCH, M. D., SECRETARY.

JANUARY 13, 1880. DR. JAMES C. WHITE, permanent chairman, presided.

NEUROTOMY OF THE OPTIC AND CILIARY NERVES.

DR. H. W. WILLIAMS read a paper on Neurotomy of the Optic and Ciliary Nerves as a Substitute for Enucleation of the Eyeball, which is printed in full on page 73.

DR. H. DERBY spoke as follows: If the character given the operation of neurotomy by its friends is ultimately confirmed by experience, its adoption will mark a decided advance in ophthalmic surgery. Its advantages may be briefly recapitulated. If the eye left in place is a small one, an artificial eye receives better support and greater motion than could be the case after enucleation. If a large one, the expense and annoyance of an artificial eye are avoided. In the case of children enucleation impairs the development of the adjacent parts, while neurotomy would not interfere with it. Last, but not least, is the fact so justly dwelt on by Dr. Williams, that many a patient of limited intelligence or strong prejudices might consent to have the nerve cut, while steadfastly refusing to have the eye cut, and thus be saved from blindness.

While possessing these advantages, neurotomy is open to certain strong objections. First among these I reckon the attendant hemorrhage. This is in some

cases slight, in others considerable; is sometimes rapidly absorbed, at others disappears slowly. On theoretical grounds, why may not a clot of some size, pressing against the cut extremities of the optic and ciliary nerves, act as a source of irritation, and transmit an evil influence along these channels of communication with the other eye? It may also act in another way, and excite a proliferation of connective tissue that shall remain after its own disappearance. Pflüger¹ reports a case of neurotomy, attended by moderate hemorrhage, where the patient returned in a month and begged him to remove the eye, there being a feeling "as of a wall" behind it. He enucleated, and found, growing to the back of the eye, a mass of connective tissue, sixteen millimetres long and four millimetres thick. After this operation all symptoms of discomfort at once disappeared.

The other objection to neurotomy is a serious one: it is the danger that some of the severed nerves may reunite. The practical nature of this consideration may be illustrated by two cases. Schoeler² himself did a neurotomy for the prevention of sympathetic ophthalmia. Nine months later redness of the operated eye came on, and the patient presented himself. An application of atropine was made. As is well known, after neurotomy the pupil becomes motionless, failing to respond to light or darkness, to atropine or eserine. But in this case the pupil *dilated under atropine*, and some nerve reunion may hence be inferred. Unfortunately, the subsequent history of the case is wanting, as the patient disappeared.

A more striking instance is reported by Mauthner.³ An eye had been lost by a blow from a stick of wood. Vision had disappeared, tension diminished; the pupil was closed, and there was ciliary tenderness on pressure. The sound eye had lately exhibited intolerance of light, was occasionally the seat of pain, and could not be used continuously at his work. Neurotomy was at once performed. It was followed, as was to be expected, by anaesthesia of the cornea and disappearance of ciliary tenderness. The cornea subsequently regained sensitiveness, and the ciliary tenderness returned. Professor von Jaeger now enucleated, and the parts were found in the following condition: "The end of the optic nerve, attached to the bulb, consisted of two parts. The optic nerve had been indeed thoroughly divided at the neurotomy, but the two nerve ends had grown together again, the apposition of their surfaces being somewhat inaccurate, and the line of the cut distinctly visible." With the remote possibility, then, of the bleeding causing irritation, and a yet nearer possibility of nerve reunion, it seems to me that the operation of neurotomy cannot yet be unqualifiedly recommended as a substitute for enucleation.

DR. WADSWORTH said that the advantages of neurotomy were certainly very great, as had been well set forth by Dr. Williams. In the present state of experience on the question, however, he felt we could not decide positively just how much freedom from danger of subsequent sympathetic ophthalmia it conferred. Besides the cases referred to by Dr. Derby, in which pain had occurred after the operation, Schmidt-Rimpler had reported one where enucleation was required a year afterward on account of pain starting from the

eye. Dr. Wadsworth had operated only in six cases, but in one of these was obliged to enucleate later. The man was a patient in the Massachusetts General Hospital. He suffered from general rheumatism, and also had in the left eye total posterior synechia, cataract, loss of sight, and severe pain which lasted for a long time and was not relieved by the usual remedies. Neurotomy stopped the pain immediately, and the man went to work on a farm. But two months after the operation attacks of pain began again in the eye. He was seen still a month later, and had then had four or five attacks of pain, generally coming on during sleep, and lasting a few hours or through the next day. The globe was moderately congested, and there was some tenderness over the upper and outer ciliary region. The eye was enucleated. Over a space of about half an inch in diameter, the posterior surface of the eye was firmly attached to the parts behind it. Dr. Wadsworth was inclined to believe that the pain here was not due to reunion of the ciliary nerves, for the pain was confined to the eye and the cornea had remained anaesthetic, but to some rheumatic affection of the episcleral tissues, and that the pain was felt through the conjunctival nerves.

It should be admitted that both operation and after-treatment were of more moment in neurotomy than in enucleation. The operation of enucleation was simple, the after-treatment usually nothing; the patient could often re-sume his work in a couple of days. Neurotomy was more difficult and the after-treatment of more importance and longer, but it possessed more than corresponding advantages. Dr. Wadsworth had performed the operation in a somewhat different manner from that described by Dr. Williams. After division of the optic nerve, he had rotated the eye till its posterior surface was brought into view and he could satisfy himself by ocular inspection that all the ciliary nerves had been cut. Hemorrhage of any considerable amount he had seen little mention of in the cases reported abroad, and had found no inconvenience from it in his own cases. Considering the anatomical conditions, that Tenon's capsule with its prolongations backward to the apex of the orbit inclosed a lymph space between it and the sclera, that this space could be injected from the cranial cavity, the fluid even passing through the sclera along the sides of the vena vorticosae to the space between choroid and sclera without penetrating the orbital tissues, it seemed that hemorrhage into the orbital tissues could hardly occur unless Tenon's capsule had been wounded, the blood flowing into the tissues through the cut, or a vessel outside the capsule having been divided also. The first case in which he had done neurotomy was shown to the society more than a year ago. For three or four months the only change in the appearance of the eye was some atrophy of the iris; more change had taken place since, and now, fourteen months after the operation, the eye was slightly, but not markedly, smaller, the lower part of the cornea was cloudy, and a whitish membrane had formed across a large part of the pupil. The man was a boot-black, had worked steadily the past thirteen months, and had experienced not the slightest discomfort. It could not be doubted that in his condition he had been far better off than he would have been with an artificial eye, aside from the matter of expense. Another man operated on eleven months ago had been seen that day. He was a laborer, exposed to all weathers. The cornea was insensibile, and had retained its transparency perfectly.

¹ Augenkl. in Bern. Bericht über das Jahr 1878, S. 65.

² Jahresbericht über die Wirkksamkeit der fruher Ewers'schen Augenkl. im Jahre 1878, S. 16.

³ Vorträge aus dem Gesamtgebiete der Augenheilkunde, Zweites Heft, S. 104.

The power of resistance to injury which the eye possesses after neurotomy was well illustrated by a man who had staphyloma of the whole cornea. During the first few days after the operation there was a little superficial ulceration. Afterward the staphyloma increased, and the aqueous was evacuated several times by paracentesis. Three or four months after the neurotomy he again entered the City Hospital, in the medical wards, with Bright's disease, and at that time Dr. Williams saw him, and twice divided the cornea across nearly its whole width without the eye suffering.

An instance of the value of neurotomy in another direction was given by a case operated on by Dr. Wadsworth last summer. The patient had lost the sight of one eye by a blow three or four years ago. Since that time, as he said, he had been alternately able to work for three or four months, and then disabled three or four months by pain. Though the eye was somewhat shrunken and disfigured, though he had then had severe pain for some weeks and lost flesh and strength in consequence, neither he nor his wife would listen to the proposal of enucleation. They did accede to neurotomy. As a result of the previous inflammation, there were many adhesions between sclera and capsule, making the operation somewhat difficult, and there was so much swelling for a few days as to cause fear of orbital abscess. But the man kept his eye, and has been in good condition since.

Dr. HAY thought that the deeper wound behind the eye in the neurotomy was less safe than the comparatively open one left after enucleation, and referred to the circumstance that Tenon's capsule at the back part of the eye does not reach quite to the optic nerve, so that a way is left open through which blood or pus might pass to a deeper portion of the orbit.

Dr. F. P. SPRAGUE remarked that in regard to the cosmetic advantages of the operation of neurotomy they applied not only to the well-to-do classes, but especially to the laboring man, exposed to the contingencies of the weather. In such a person the irritating effects of out-door exposure on an empty orbit were apt to be a constant source of annoyance and discomfort, so much so that Mr. Critchett, of London, had advocated destroying the mucous surface of the orbit, and bringing the lids together in persons of this class; moreover, that artificial eyes, when carelessly worn, were liable to produce great irritation and even inflammation, and that such cases often presented themselves.

In reply to the objection of Dr. Derby as to the danger from hemorrhage, Dr. WILLIAMS said that though the bleeding was often so considerable as to press the globe forwards, and cause subsequent ecchymosis of the lids, yet there could not be a sufficient amount to create apprehension, inasmuch as the eyeball, held in place by the conjunctiva and by Tenon's capsule, would itself serve as a tampon to arrest the hemorrhage. In other cases, as for instance in a lady operated on two days before, the effusion was very considerable, while relief from pain and from the dimness of vision which had begun to be noticed in the other eye was observed on the day following the operation. Proliferation does not seem to have been observed in any other case than the one cited. As regards reunion of the divided nerves, it might be possible that the optics, having considerable size and rigidity, without much displacement of its cut extremities, should form a new connection, at least so far as its sheath was concerned; but the minute filaments of the ciliary

nerves, which are the conductors of the sympathetic irritation, would be extremely unlikely to reunite. Klein, of Vienna, in a work just published, speaks favorably of neurotomy.

OVARIOTOMY.

Dr. JOHN HOMANS said: At the last meeting of the society I showed three ovarian tumors, and as I was called away before the cases were commented on, your chairman has asked me to make a few remarks upon ovariectomy, merely as introductory to a discussion of the subject. First, let me say that the patient operated on a few days before I showed the specimens at our last meeting has recovered.

Ovariectomy is especially one of the greater operations of surgery in which success is almost sure to follow careful attention to necessary details; there is no operation where a good result may be so confidently expected; in many cases you can assure the patient that she will recover. What has made ovariectomy so successful within the last few years has been the antiseptic method of Lister grafted upon the most careful and perfect practice of every detail of cleanliness. Now in regard to the character of the tumor. The removal under the carbolic spray of a unilocular cyst without adhesions to the intestines and but a few to the omentum or abdominal wall is followed by speedy recovery. The more solid a tumor is and the more adherent, the less likely is the subsequent recovery, and this is perfectly natural; for a large, solid tumor requires a long incision, and extensive adhesions require long handling and more or less forcible treatment. Again, the physical state of the patient affects the chances of recovery. The more robust the patient is, the better she recovers,—that is my experience; the most rapid and striking recoveries that I have had have been in patients of this description. It is difficult, for me at least, to classify some of the almost solid cystic tumors of the ovary, that is, whether to call them cancerous or not, but there is a class of malignant tumors which I have removed three times. I refer to the papillomatous or "wart-like" ovarian tumor. These tumors usually burst through their enveloping cyst wall early in their career, and the cystic fluid poured out sets up an ascites, so that at the operation you have generally more ascitic than cystic fluid. These tumors stand up like cauliflower, and involve, sooner or later, both ovaries. Soon after recovery from ovariectomy, in one of these papillomatous cases, a new growth takes place in the other ovary and in the peritoneum and other organs, and the patient dies within six months. Such cases are spared much suffering, and sometimes enjoy a few weeks of health; however, as a general rule their recovery is not rapid, and their subsequent decline in health takes place before its reestablishment is completed. But little is said in the books to which I have had access, and yet I have met with three cases in twenty ovariectomies.

This operation should always be done under the spray; the vapor of carbolic acid seems to be entirely unmitigating to the peritoneum. Three years ago, in 1877, I first operated under the spray, and I am inclined to think that this was the first antiseptic ovariectomy in this part of the country. I always have the patient placed on a narrow board (eighteen inches wide), and I surround her with hot sand bags or hot-water bags, so as to keep her warm, instead of warming her up after she has become chilled from shock or loss

of blood. I like to have five good assistants and sometimes six, if many sponges are used. In my last operation we used forty sponges, and these were each wrung out four times. This was rather more than one man could do easily. There are two points to be observed in operating: one is to allow no blood nor cystic fluid to enter the abdominal cavity, and the other is to sponge out clean and dry before sewing up. No matter how much you may handle the bowels and other organs, you will do more harm by leaving a teaspoonful of blood or other fluid than by all your handling and rubbing. In regard to the treatment of the pedicle (that is, the tissue which connects the cyst with the uterus, consisting of the broad and round ligaments, the Fallopian tube, and the vessels and nerves nourishing the cyst), you must choose between the extra and intra peritoneal methods. The divided end of the pedicle may be held just outside the sewn-up abdominal wound by a clamp, a pin, or a ligature, or the uterine end of the pedicle may be tied and dropped back, or burnt off and dropped back. The most successful ovariotomist (Dr. Keith, of Edinburgh) has always used the actual cautery, and I presume that he does now. I have never dared to trust to it, but Dr. Keith has had seventy successive recoveries and only three deaths in his last hundred cases. I have almost always tied the pedicle in two halves and dropped it back. The only objection is that hemorrhage may begin and go on unknown to the nurse or surgeon from the slipping of some part of the pedicle out of one of the loops; this has happened to me once, but I do not think it will ever happen again. I generally constrict the pedicle with Dawson's clamp, which I have had made round and smooth, as you see, so that it cannot cut. I then perforate on the uterine side of the clamp, and thus secure the firm constriction of the pedicle. The intra-peritoneal treatment is followed by the most brilliant results, and does not twist nor pull upon the uterus, which the clamp is very apt to do. Adhesions may be torn with the fingers, or tied and then divided, or burnt off with Paquelin's cautery. It seems to make no difference whether you use silk or catgut in tying. As a rule, nothing is ever heard of the ligatures.

In regard to the treatment of patients before and after ovariotomy, it is best to feed them on simple gruel for a couple of days before the operation, so as to have the bowels out of the way, and to give a cathartic the night before the operation, and an enema just before. After the operation, give no food until flatus is passed per anum. This happens either on the second, third, or fourth day. Ice may be given freely, and stimulants and nourishment by the rectum, if required. I never advise a subcutaneous injection of morphia unless the pain is excessive and the case looks fatal; but little opium is generally desirable, sometimes none. The wound is not to be examined till the seventh day, and then is found thoroughly united, and you may remove all the sutures. Thrust and tympanites are the principal troubles, and these soon pass away.

Dr. LYMAN remarked that the changes which had taken place in less than twenty-five years with respect to ovariotomy were remarkable. In 1856 the whole number of operations which had been reported in the literature of the medical world did not exceed three hundred. Now one man alone in New England had done nearly that number, and in England Mr. Wells was approaching his one thousandth case. Then the mortality was over forty per cent., now it was

less than any of the capital operations, and bid fair soon, in the hands of Mr. Wells and Dr. Keith, to be no more than would follow the simplest operation of the dentist. At that time thirty per cent. of the operations were abandoned after being commenced on account of errors in diagnosis, or from adhesions; now errors in diagnosis were extremely rare, and adhesions were considered of little consequence, unless unusually extensive and complicated. At that time surgeons were nearly unanimous in condemning the operation, threatening not only professional ostracism, but even the interference of the grand jury, and the originator of the operation, if known at all beyond his home, was known only as an obscure backwoods surgeon; now the name of McDowell is honored throughout the world, and the profession in America has raised a monument to his memory, while surgeons everywhere are proclaiming their successes. In the history of surgery what operation has made such rapid strides in professional recognition, or what operation, even when most successful, gives equally good results to the sufferer? And it must be remembered that a successful ovariotomy restores the sufferer to perfect health. No crutch is required as after amputation, no artificial eye as after evulsion of that organ, but the wretched invalid is, as by a miracle, restored to life, with all her functions perfect for the duties of married life.

What is the cause of this rapid improvement in the results? At first, opinions were very diverse as to long and short incisions, an early or late removal of the cyst, etc., but all these things have gradually fallen back into the domain of ordinary surgical principles, and, when these are intelligently followed, do not probably affect the general result. The real answer seems to be that fatal results are not so much dependent on shock, hemorrhage, peritonitis, etc., as upon septicæmia, and since attention has been fixed more earnestly upon that, we may claim that the good results which follow the ovariotomy of to-day are due, first, to the excessively scrupulous care as to cleanliness of hands, instruments, bedding, and surroundings; second, the removal of every particle of clot or blood from the abdomen before closing the wound; and, third, the thorough use of carbolic spray and antiseptic dressings. Every surgeon has his own notions as to the management of adhesions, the use or not of drainage tubes, the method of dividing the pedicle, the use of this or that clamp, of the cautery, etc., but the really important factors for a successful issue may be considered with tolerable certainty to be the three above named.

Dr. WHEELER remarked that it was by no means the young and robust who made the most favorable cases for operation, and that the greatest care should be used in determining on the proper time for the performance of ovariotomy. He had used Dawson's clamp once only, and he found, practically, that if there were much tympanites the small end of the clamp acted as a wedge into the abdomen.

In conclusion, Dr. JOHN HOMANS said that Dawson's clamp was merely used temporarily to obtain firm compression while the ligatures were being applied. Dr. Homans also remarked that Dr. Keith was a doctor of medicine, not Mr. Keith.

—We are very glad to observe that *The Lancet* begins the new year with cut leaves, a good example which all journals should follow.

Recent Literature.

The Pathology and Treatment of Venereal Diseases.

By FREEMAN J. BUMSTEAD, M. D., LL. D., etc., etc. Fourth Edition, revised, enlarged, and in great part rewritten by the author and by ROBERT W. TAYLOR, M. D., etc. With one hundred and thirty-eight Wood-Cuts. Pp. 835. Philadelphia: Henry C. Lea. 1879.

Contemporaneous are the appearance of this magnificent treatise and the demise of its talented and industrious author; of twin birth the earliest reviews of the book and the obituaries of the workman. The best eulogy of the master hand is that which it has created, and of all moments that in which to pass away is the moment of victory, of the completion of a great labor admirably performed.

Each of the three previous editions, practical hand-books as well as scientific monographs, has ranked *facile princeps* among literary productions in the English language upon these topics. The present edition is a marked advance upon the preceding ones.

We say "these topics" advisedly, for the volume treats of "gonorrhœa and its complications," of the "chancre and its complications," and of "syphilis." The first subject appertains justly to genito-urinary surgery, the second to dermatology, while the last, included theoretically in dermatology, is practically as comprehensive almost as the science of medicine, if, indeed, it be not the chief fountain-head of the stream of physical ills inherited by the "heirs of all the ages." The writer admits that "in future it will be impossible to include venereal diseases in a single treatise." "Venereal diseases" are in fact not necessarily of venereal origin. The individual characteristics of a virus give rise to definite special results in the living tissues with which they are brought in contact, ignoring the means of transportation, whether it be the fang of a cur or the consecrated wafer of a Borgia. Neither etiologically nor pathologically do "venereal diseases" constitute a specialty in medical science.

Previous editions of this work, comprehensive, clear, and practical, have been the text-books upon the subjects of which they treated. But during the nine years which have elapsed since the publication of the third edition, many most valuable contributions have been made to the branches of knowledge therein considered, and these have been fully and thoroughly embodied in the edition before us. The reading matter has been increased nearly fifty per cent. Every chapter has been revised, and improvement has been made in the order of subjects by a more logically scientific rearrangement of the topics treated, some chapters being extended and developed, while eleven new ones have been created. Among them are found such as treat of affections until recently unknown, or of tissues formerly supposed to be exempt from the ravages of syphilis, and also such as introduce for purposes of differential diagnosis various diseases of the skin or of the serotol organs. The chapter upon the *syphilides*, more properly syphilodermata, that upon nervous lesions, and especially the one upon "hereditary syphilis," in which subject of late great progress in knowledge has been made, are worthy of special consideration.

We trust that it may not seem in bad taste to call attention, for the sake of what we believe to be truth,

to the introductory chapter, upon the History of Venereal Diseases, wherein a "distinct, specific virus" is denied as appertaining to the so-called chancreoid. A dualism based upon this tenet is doomed, it seems to us, to extinction, while the fact that sores not to be distinguished from each other clinically are yet totally distinct in nature, each one being inoculable upon healthy persons, but one being followed by constitutional symptoms, while the other is not so followed, is patent to every observer. We may inoculate pus with or without the virus of syphilis, or the latter with or without pus, and sufficient stress has never yet been laid upon the anatomical structure of that part of the integumental tissue, follicle or otherwise, which has been invaded.

In these days of spots on the sun a review is hardly complete unless some fault is found, and that it is difficult to do in the present case. Possibly, if we strain a point, we may say that in certain cases the diction is somewhat more Anglo-Saxon than picked; yet even this, if an error, is a rare one, and in the right direction.

In accordance with the tenets entertained ever since the torture of Galileo, the metric system has been employed. In abbreviations of the titles of periodicals the method of the *Index Medicus* has been followed. The errata are few. The illustrations are increased, and a list of them has been added. Thanks to the labors of Dr. C. H. Knight, an excellent and complete index is appended to the work. Paper, typography, proof-reading, and binding do credit to the well-known firm by which the volume is published.

The treatise has lost nothing by the addition of the advanced views, the active brain, and the industrious pen of the new co-editor, whose aim has been, through "bringing the volume up to date, by including all affections thus far known in the shortest and clearest manner, to present a book worthy of the American medical profession."

E. W.

With General Grant in the East. By JOHN M. KEATING. Philadelphia: J. B. Lippincott & Co. 1879.

The attention of the profession is called to this entertaining little book, originally published as a series of letters to the *Philadelphia Evening Telegraph* while its writer was journeying around the world. Dr. Keating is a quick and accurate observer, and his literary style is fluent and vivacious. He accompanied General Grant's party round the world as private physician to Ex-Secretary of the Navy Borie, yet his professional capacity does not often appear in the text of the book under consideration. A notable exception occurs on page 122. On pages 26 and 27 we find valuable information on the disadvantages of the climate of Egypt for consumptives, which, like the disadvantages of Southern California, are too often overlooked. In his journey the author saw many beautiful sights, but his enthusiasm seems to have reached its height on viewing the Taj Mahal at Agra. The book is interesting throughout.

PAX.

— New Jersey. 1879. Marriage Contract; Breach; Impotent Person. Opinion by Beasley, C. J. A promise to marry made by a person physically and incurably impotent is contrary to the statutory policy of the State, and its breach will not constitute a cause of action.

Medical and Surgical Journal.

THURSDAY, JANUARY 22, 1880.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly by Houghton, Osgood and Company, Boston. Price, 15 cents a number; \$5 00 a year, including postage.

All communications for the Editors, and all books for review, should be addressed to the Editors of the Boston Medical and Surgical Journal.

Remittances by mail should be sent by money-order, draft, or registered letter to Houghton, Osgood and Company, Boston, Mass.

HARVARD UNIVERSITY AND FEMALE PHYSICIANS.

THE annual report of the president and treasurer of Harvard University was presented to the overseers at a late meeting. In regard to the Medical School, we observe that its prosperity continues and increases. In 1878-79 the number of students increased ten per cent., and the excess of receipts over expenditures was \$9540.07, although each of the clinical instructors received an honorarium, which was a new charge upon the school. The number of students who possess literary or scientific degrees has doubled in ten years, and now amounts to forty-eight per cent. of the whole number.

President Eliot reviews in detail the movement for the admission of women to the Medical School in connection with Miss Hovey's proposal, which, as our readers may remember, was an offer to give the sum of ten thousand dollars to the school on condition that women should be admitted to its advantages "on equal terms with men," and he concludes as follows: "The passage of this vote (a vote of the overseers declining Miss Hovey's offer) disposed of the subject so far as the offer of Miss Hovey was concerned, but the prolonged discussion was, nevertheless, not without fruit. It is *obvious*¹ that both the governing boards are in favor of giving medical education to women in the university under suitable restrictions, and it is also apparent that the reasons given by the faculty for not admitting women to the school are *temporary* in their nature. Since these transactions, the councilors of the Massachusetts Medical Society have taken action which goes far to prove that the *majority* of the medical profession recognize the fact that there is a legitimate demand and an appropriate field of work for well-educated female physicians. At their meeting of October 1, 1879, it was voted, yeas forty-eight, nays thirty-two: 'That the councilors instruct the censors of the society to admit females to examination as candidates for admission to fellowship.' This action cannot but suggest the inquiry whether it be expedient that Harvard University should make no provision for educating a class of persons who are *admissible* as members of so ancient and respectable a professional body as the Massachusetts Medical Society."

If our information serves us correctly, — and we have taken some pains to follow the discussion of this subject, — we must permit ourselves to say that President Eliot's sympathies and well-known love of progress and innovation have apparently led him to give a

¹ The italics are ours.

coloring to his language which the facts alone would hardly justify. When saying "it is obvious that both the governing boards are in favor of giving medical education to women in the university under suitable restrictions," we suppose the president to have in mind a resolution to that effect which was introduced by himself without previous notice, and passed, without discussion, by a vote of sixteen to ten, at the close of a meeting at which it had previously been resolved by a vote of seventeen to seven that it was inexpedient to accept Miss Hovey's proposal.

When the managers of political meetings secure the passage of pet resolutions in this manner, they are said to "spring" them upon their victims. As was stated in the editorial in our issue of June 5, 1879, we have good reasons for supposing that several members of the board of overseers did not at the moment appreciate the inconsistent or hostile attitude of this eleventh-hour resolution, and we believe they did not anticipate the use to be made of it; under these circumstances the word "obvious" seems ill chosen. Again, it may perhaps, to some minds, be "apparent that the reasons given by the faculty for not admitting women to the school are temporary in their nature," but the language of the following resolution, passed by the medical faculty, after full discussion, by a vote of fourteen to four, is plain: "Resolved, that it is not advisable to open the course of study at the Medical School to women."

It is at least problematical how far the action of the councilors of the state society, in regard to the admission of women, goes to prove anything, but it is certain that no woman has as yet been examined for admission, and, as has been pointed out, it is very doubtful whether the councilors *can* represent the society in this matter. Moreover, of those who voted in the affirmative, some did so on different grounds from those suggested in the remarks quoted above.

The practice of medicine by women will doubtless find its own level, whatever that may be, and we see no occasion for dwelling further on the subject at present; but we do deprecate the treatment of such a question in so serious a document as the annual report of Harvard University, by the chief officer of the university, in a manner which suggests to the mind of the reader the word — jesuitical.

THE TRANSACTIONS OF THE AMERICAN MEDICAL ASSOCIATION. VOLUME XXX., 1879.

THIS volume is the result of the meeting of the American Medical Association at Atlanta, Georgia, last May, and presents itself with an imposing bulk of over one thousand pages, and an equally imposing array of topics treated. The first hundred and twenty-five pages are consumed by the minutes of the preceding meeting, the reports of the officers of the association, and the address of the president. These are followed by the minutes of the five different sections, the addresses in each section, and no less than thirty-six different papers on as many different subjects in the various sections. It is not necessary to consult the treasurer's report to be persuaded that the ex-

penses of the association for printing must be large. Among these thirty-six papers there are certainly some of much interest and value; but a number of others, though adding to the size of the volume, do not increase its worth. A more rigid censorship of the material for publication would be a gain at once to the treasury of the association and to those who become possessed of its printed transactions. From the report of the committee appointed to confer with the superintendent of the Signal Service Bureau of the United States government, relative to the addition of daily observations concerning the electric and ozonic conditions of the atmosphere to the items at present included in the meteorological records made at the several stations in that service, we observe that, whilst the superintendent manifested a disposition to render the work of the bureau as useful as possible in the advancement of medical investigations, yet he was not willing to attempt the proposed additional records until the association or its committee could point out more definitely the best methods of making the proposed observations and the best instruments for the purpose. The suggestions of this committee were adopted, and it was continued, the name of Dr. H. O. Marcy being substituted for that of Dr. Billings, with instructions to pursue the objects suggested by General Meyer. The field which this committee has before it is very extensive, and we shall watch with interest its progress. The volume ends with the prize essay of the year, a paper by Dr. Alvan McLane Hamilton, of New York, entitled *A Consideration of Certain Forms of Primary and (Local) Secondary Degeneration of the Lateral Columns of the Spinal Cord, with Especial Reference to an Infantile Rare Form.*

THE NEW HAMPSHIRE MEDICAL SOCIETY.

THE New Hampshire Medical Society has lately published its proceedings for the past year in a full and interesting volume. At the annual meeting in June, the retiring president, Dr. Alonzo F. Carr, after congratulating the society upon its eighty-ninth anniversary, referred to the growing knowledge on the part of the public in matters of health and disease, and the consequent diminution in the number of irregular practitioners. Forty years ago, Dr. Carr said, "the burden of many papers read before this society was some scheme for the suppression of quackery, the authors not recognizing the fact that they were pursuing the only course possible to suppress it by educating themselves up to a higher standard of excellence; so that the result of treatment as directed by the well-trained physician, compared with the result of the treatment of the untrained quack, literally left the latter without a foot-hold in the community." This foot-hold, however, does not appear to be so easily lost in all our communities, even in those which maintain a relatively high educational standard. It is not necessary to inquire into the causes of such perversity, but it may well be questioned whether the public powers of observation are sufficiently keen to

counterbalance the innate credulity and hankering after the miraculous of those who, it is thought, make a mild form of protection desirable both for us and themselves. The question of a medical license law for Massachusetts is assuming a tangible form under the auspices of the Social Science Association, and we shall have occasion to refer to it again.

Dr. Carr concluded his address with some interesting remarks on fractures of the lower end of the radius, in the treatment of which the splint invented by him has been so extensively adopted.

Dr. George B. Twitchell, in a paper on Medical Ethics, points out in poetical language the hardships which the attending physician must still undergo at the hands of the unscrupulous consultant and other violators of the unwritten code. He also calls attention to the scandalous practice of advertising, directly or indirectly, in the public prints, and to the degrading freedom with which many "noted physicians" lend their names for the furtherance of commercial enterprises. We are happy to be able to say in this connection that no elixir or mineral water has yet appeared capable of exciting the enthusiasm or relaxing the self-respect of our Nestors to that extent.

Dr. Odlin portrayed in pleasant terms the sorrows and the joys of The Country Doctor, and was followed by Dr. D. S. Adams, with a paper on the Differential Diagnosis of Mammary Tumors, and by Drs. Wheeler and Whittier with reports on Surgery and Gynecology.

A valuable historical paper on Dover Physicians, giving a sketch of every regular physician who had practiced in Dover from 1631 to the present time, seventy-five in number, was contributed by Dr. John Randolph Ham.

A short paper by Dr. L. G. Hill points out the frequent inconsistencies and worthlessness of medical testimony under the present mode of summoning witnesses, and the discredit which is brought upon the profession thereby, both in the eyes of the court and of the public.

An Epidemic of Diphtheria in the village of Groveton is described by Dr. Watson. At the time of the outbreak there was no diphtheria in Groveton, or in any of the surrounding towns. The first twenty-five cases were in children who attended the same school, but whose homes were far apart. Twenty-two of them developed the disease within ninety-six hours, and subsequently there were one hundred and fourteen cases in all. Dr. Watson treated one hundred and twelve cases with thirteen fatal results. Two of these, however, had previously been under homœopathic treatment, and did not long survive; this fact, the author naïvely states, is mentioned, not to disparage the treatment of others and compliment his own, but to complete the record. Careful hygiene, tincture of the chloride of iron in full and frequent doses, alimentation, and spraying with lime-water and carbolic acid were the chief agents in treatment. The author did not perceive much benefit from the use of alcohol. The epidemic began in May. No cases of simple tonsillitis were called diphtheria. The common source

of infection was thought unquestionably to be a filthy and ill-drained school-house.

The transactions conclude with a lecture by Professor Oliver P. Hubbard, on the Origin of the New Hampshire Medical Institution at Dartmouth College.

We are glad to observe that Dr. M. C. Lathrop, who represented the society, as delegate, at the meeting of the Connecticut State Medical Society, says in his report that a good résumé of the president's address, and of the different papers may be seen in the Boston Medical and Surgical Journal, "the publication which most worthily, and with justice, lays first claim to the patronage of every New England practitioner." This view accords so nearly with our own that we cannot refrain from mentioning it.

Dr. Pray, of Dover, was elected president, and Dr. Conn, of Concord, formerly secretary, vice-president.

MEDICAL NOTES.

— Dr. J. Winthrop Taylor, who died in Boston on the 19th inst., was born in New York, August 19, 1817. He graduated at Princeton College, and afterward pursued his medical studies at the University of Pennsylvania. Immediately afterward he entered the navy — March 7, 1838 — and from that time forward saw more than thirty years of active duty, serving through the Mexican war and the war of the rebellion. He accompanied the expedition sent to bring the filibuster, General Walker, away from Nicaragua, and commanded in person the detail which conducted the prisoner by a long and perilous journey to the coast. Few men in the navy saw more sea service, he rising rapidly through the various grades until 1852, when he was made a surgeon, with the rank of commander. He was in the midst of the severest battles through the war, was surgeon of the Pensacola when she ran the blockade of rebel forts along the Potomac River, and on the same ship accompanied Farragut in his memorable passage of the forts on the Mississippi, and assisted in the capture of New Orleans. Last year Dr. Taylor was stationed at Washington, with the rank of surgeon-general, and in October was placed on the retired list, he having reached the age of sixty-two, required by the regulations of the service. Previous to his appointment as surgeon-general, Dr. Taylor lived for many years in Boston, having been repeatedly attached to the rendezvous and the receiving ship at Charlestown, and to the naval hospital at Chelsea.

— Dr. Swift, port physician, having resigned, the board of health has promoted Dr. Woodbury, the assistant physician at the quarantine, who will now perform the duties heretofore devolving on Dr. Swift.

— *Appleton's Journal* contains a calculation by Berthelot, the eminent chemist, of the number of combinations which may be made of acids with certain alcohols. He says, "If you give each compound a name, and then print one hundred lines on a page, and make volumes of one thousand pages, and place one

million volumes in a library, you will want fourteen thousand libraries to complete your catalogue."

— In the *Practitioner* for August, Dr. Rabagliati claims that in many instances he has been able to check incipient pneumonia, peritonitis, pleurisy, and tonsillitis, especially in children, by administering small doses of aconite every ten or fifteen minutes, until a fall of pulse and temperature, moisture of the skin, and sleep have been induced.

— At the meeting of the Medical Society of Munich, in October, Professor Rüdinger exhibited some remarkable results of his manipulations of the human body by frozen sections. Eight of these are carried longitudinally from the crown of the head to the sacral region, and are so connected that they can be opened or closed like the leaves of a book. When exposed, the fourteen surfaces exhibit in their natural form and color all the anatomical details of the various organs. "A most interesting spectacle it was to have the body in an erect position, and open and shut any of these sections." The society was excited to enthusiasm by the exhibition. Professor Ziemssen designated it a "European unicorn."

— In the Transactions of the College of Physicians, of Philadelphia, volume iv., Dr. Bridges reports, on behalf of Dr. John L. Atlee, of Lancaster, Pa., a "remarkable case of congenital ventral gestation, the subject being a girl six years old, who recovered after the discharge of the fetal mass from her abdomen, and lived seventeen years."

— According to the *Medicinische Wochenschrift*, there are this year only one hundred and thirteen females in the medical school of St. Petersburg, against two hundred female students in the same institution last year.

— The Heliotype Printing Company lost, by the recent fire, the materials collected during its existence of seven years. Twenty-five thousand negatives, some forty to fifty specially designed hand and power presses, twenty or thirty lenses and cameras of all the best known makers, carefully devised appliances, tools, and fixtures for the various processes employed, original engravings, works of art, designs, drawings, in fact, every implement that went to make up its working whole was destroyed. The process of heliotype printing was brought to this country by the enterprise of Mr. James R. Osgood, who secured the patents for the United States at the end of the year 1872, when he also secured the services of the inventor, Mr. Ernest Edwards, to superintend their working. The first pictures offered for sale were views of the burnt district, caused by the fire of 1872, and a map of the same. The first pictures now produced by the company in its new printing office are views of its own burnt district. The success of the company is well known to the business community, and the scope of their work has been increasing year by year, until, at present, there is a permanent demand for their goods among all classes of citizens, professional and otherwise. The company has leased the building Nos. 124-126 Pearl Street, and the rooms are being rapidly fitted up for their special purposes.

—The *British Medical Journal* writes as follows: "Dr. J. Milner Fothergill, writing to the *Philadelphian Medical Times*, makes the following extraordinary statement: 'In the United States of America, a doctor holds at least a respectable social status. In this country, with few exceptions, his position is anomalous, and his wife is a social pariah.' Under what singular inspiration this amiable physician could have penned so extraordinary a paragraph for the information of our medical consins, it is difficult to imagine. We hope that Dr. Fothergill considers himself at least one of the exceptions, and that he does not find his position particularly anomalous. On the conjugal question, he is, we believe, a bachelor; and perhaps not, therefore, altogether in a position to estimate the social status of other men's wives; but where and how he has arrived at the conclusion that the wives of his medical friends and colleagues are to be designated by this uncomplimentary Indian term is a mystery which perhaps he alone can clear up. At any rate, as Dr. Fothergill is a writer who enjoys some credit both here and abroad, it is as well to notice the singular statement to which he lends the weight of his reputation as a London correspondent of American papers, although we are sorry to say that, in doing so, we can only characterize it as a statement which is utterly absurd and without a shadow of foundation. It must have been written as Dr. Fothergill's idea of a 'goak'; but, from the notices we have seen of it abroad, it is evidently supposed that he was serious when he wrote it. A gentleman who professes to represent his country abroad should be a little more careful in his statements."

—Professor Erb has been called from Heidelberg to Leipsic. — Professor Hebra is still sick. Kaposi temporarily takes his place in the school.

—Dr. E. L. Peck, a writer of many interesting letters to the JOURNAL from Europe, has now established himself in New York, and in addition to two large dispensary services for diseases of the eye and ear he has recently received the appointment of visiting surgeon to the ophthalmic wards of Charity Hospital, Blackwell's Island. Dr. Peck's abilities and thorough education well qualify him for the position.

—The following are the conclusions at which Mr. Vincent Richards arrived with regard to opium eating in India, as given in the *Indian Medical Gazette*: (1.) That opium is taken habitually by about eight to ten per cent. of the adult population of Balasore, and that the average daily allowance for a man is seven grains, and for a woman five grains. (2.) That moderation is the rule. (3.) That moderate doses include from two to sixteen grains per diem, according to circumstances. (4.) That opium-eating is much more common in unhealthy than in healthy localities, even though they are situated in the same district. (5.) That the drug is sometimes taken in very large doses—thirty grains and upwards—without producing any very serious ill-effects, much depending on the constitution of the individual and his habituation to its use. (6.) That whatever the effects of the excessive use of the drug may be, when taken in moder-

ation it is positively beneficial where such diseases as fever, elephantiasis, rheumatism, etc., are present, and when food is scarce. (7.) That the effects of even the most excessive use of opium are harmless, both to the individual and to society, compared to the excessive use of alcohol.

The *Quarterly Journal of Inebriety* thinks that these conclusions are not confirmed by the experience of investigators in this country or Europe, and sound very much like a defense of opium.

—The same journal states that a curious case has been contested in New Orleans, of a gentleman who from misfortune began to drink, and finally, after an attack of delirium tremens, died suddenly. The physician gave a certificate of albuminuria, and the insurance company contested it on the ground of intemperance. At the time of being insured the patient was temperate, but after, from misfortune, he drank hard, and died. The question of the disease of inebriety will be a prominent feature of the case.

NEW YORK.

—General Patrick, the New York State Cattle Commissioner, has made his annual report for the year 1879 to Governor Cornell. It is a condensed history of the contagious pleuro-pneumonia that prevailed among horned cattle during the year. The report begins with an account of the embargo laid upon the importation of American cattle into England by the British government in consequence of the prevalence of pleuro-pneumonia among some stock in this country. All American cattle were slaughtered upon being landed at Liverpool. This action of the British authorities led Governor Robinson to appoint Prof. James Law, of Cornell University, a commissioner to investigate the disease in Kings and Queens counties, where it chiefly prevailed. Professor Law subsequently reported that the disease was of a very dangerous character. The legislature promptly appropriated ten thousand dollars to stamp it out. Governor Robinson then appointed General Patrick as his agent for the expenditure of the money. General Patrick at once inspected the infected stables on Long Island, and ordered the animals in many of them quarantined. Many stables in Brooklyn were inspected, and much disease was found among the animals of the city. Infected animals were condemned, their value appraised, and they were then slaughtered. Out of eight hundred and seventy-nine cows quarantined at Blissville on February 12, 1879, all except one hundred and forty-six were, by March 10th following, either slaughtered for beef, or condemned and slaughtered. British cattle that arrived at the port of New York were also quarantined. A few cattle that had been taken to Dutchess County were followed, placed in quarantine, and the stables disinfected. Through the spring months systematic inspections of cattle-yards and stables were made in New York, Brooklyn, and in Queens County. A large number of cattle that were found diseased were slaughtered. All railroads were prohibited from unloading any cattle in New York and Brooklyn except at designated places. In

May the cattle plague was discovered among the herds on the "Great Montaux Pasturage," in Suffolk County. General Patrick went to the range and had the diseased animals killed. This stamped out the disease. It has been almost driven from New York and Brooklyn, but still exists in Blissville. The disease has also been subdued in Putnam County, where it was discovered among the herds in October last.

—The New York chamber of commerce has adopted the following resolutions:—

Whereas, a national board of health was last year chartered by Congress, for the purpose of promoting the sanitary welfare of the whole country, and especially of those sections which are unable to take adequate measures for protection against the ravages of disease; and whereas the work already done by this board has been of great value, and has demonstrated that a wide field of usefulness is open to it, and that there is urgent need of a permanent national organization of this kind; and whereas, at a recent conference between the National Academy of Sciences and the National Board of Health, a plan for increasing the usefulness and efficiency of the latter was agreed upon, and additional legislation is to be asked from Congress; therefore,

Resolved, that in the opinion of this chamber it is important that the National Board of Health should be maintained, and its usefulness developed in the manner indicated by the National Academy of Sciences.

CHICAGO.

—The *concours* for the lectureship on gynaecology in Rush College spring course has occupied the two evenings of January 6th and 7th. There were six contestants: Dr. E. B. Ellis, of Galesburg, Ill., who lectured on abscess of the vulvo-vaginal glands; Dr. D. T. Nelson, of Chicago, who lectured on sympathetic disturbances; Dr. W. L. Ransom, of Roscoe, Ill., who lectured on membranous dysmenorrhoea; Dr. D. C. Camp, of Chicago, lecturing on peritonitis; Dr. A. J. Stone, of St. Paul, Minn., lecturing on sarcoma uteri; and Dr. R. Stansbury Sutton, of Pittsburgh, who discussed the subject of dermoid cysts. The choice clearly lay between Drs. Nelson, Stone, and Sutton. Dr. Stone desired, if elected, to remain a resident of St. Paul. The college authorities would not consent to the appointment of a man who would not be a resident of Chicago. The place was offered to Dr. Sutton, on condition that he comes to Chicago to reside.

—President J. Adams Allen, professor of the practice of medicine, of Rush College, in accordance with an arrangement made months ago, leaves for New York on the 13th inst., to sail for Europe on the 17th inst., by the steamer Germania. He will remain abroad several months in quest of health and in professional observation. Overwork in the duties of his chair, in professional labor, and in carrying the burdens of some of his colleagues, who were abroad last year, have made more necessary this well-earned respite, which has been long contemplated. The course on practice of medicine will be completed by the lecturer on that branch in the spring course.

—Considerable public indignation has been occasioned by the escape and flight from the small-pox hospital recently of a woman who had been sent there by mistake, and who made loud complaints of the bad management of the institution. The woman had nursed her husband in a genuine case of variola, and nine days thereafter was taken sick and had a few pustules about the face. Very naturally she was supposed to have the disease. Now it appears that the diagnosis was mistaken. Her stories about the bad condition of the hospital were exaggerated, but those about the management by the parties in charge, it appears, were well founded. The authorities have made the best amends they could by taking steps to remove the superintendent. What is amazing and scandalous is that the city officials should have needed such an outrage as the one that has occurred to acquaint them with the fact that this institution, which, as patients of all classes are forced to go there, more than any other should be above reproach and past criticism, has been conducted in an inefficient manner, if not with brutality.

—Prof. D. W. Graham has returned from his sojourn in the South, and resumed his practice. He comes back apparently in perfect health.

ST. LOUIS.

—The annual election of officers of the St. Louis Medical Society was held on the 3d inst., resulting as follows: president, G. M. B. Maughs, M. D.; vice-president, F. W. Wesseler, M. D.; recording secretary, M. H. Post, M. D.; corresponding secretary, J. R. Lemon, M. D.; treasurer, W. E. Fischel.

—A urinary calculus weighing one pound six ounces avoirdupois was removed by Dr. John Hodgen on the 3d inst. The stone was nearly spherical, and measured eleven and a half inches in circumference, and about four inches in diameter. The removal was accomplished by the supra-public operation, and the calculus was necessarily broken. The patient was sixty-two years old, and up to within a few days had been in the habit of walking from two to four miles daily. Fifteen years ago he had two stones removed from his bladder by Dr. C. A. Pope, and from that time till the present has enjoyed remarkably good health for a man of his years, except for some vesical irritation, and, during the last two years, incontinence of urine. Before the operation the stone could be distinctly felt as a hard tumor in the hypogastrium. The stone is composed chiefly of phosphates. On the 6th there were some evidences of inflammation.

—The Transactions of the Medical Association of the State of Missouri, 1879, have just come from the press. They make a book of 143 pages, and of very good appearance. They comprise a number of valuable articles. One, upon two cases of false hypertrophy of the muscles, by Dr. A. J. Steele, is particularly interesting on account of the rarity of the disease of which it treats. This month has also brought from the press the first volume of the Proceedings of the St. Louis Medical Society, extending from March 2,

1878, to December 28, 1878. Both of these publications are illustrated.

LONDON.

—The *London Lancet*, in an article entitled *Sisterhoods*, speaks as follows:—

"Since it became the fashion to hand over the nursing of hospitals to associations of ladies whose bond of union is something outside the institution which they are called upon to serve, we have frequently been edited by squabbles between the ladies and those to whom they should be subordinate. These ladies often enter upon their duties with the conviction that they are conferring a favor upon the hospital, and they imagine that the obligation is all on one side, notwithstanding that the sums paid by hospital committees to the various associations with which the ladies are connected are in most cases greater than those previously paid to the ordinary nurses.

"We cannot unreservedly subscribe to the popular belief that nursing (that is, professional nursing) is an occupation which is at all suited to ladies who have been delicately brought up, and we feel sure that the lady who is ready to perform all those disagreeable duties which are necessary (let us say) for the prevention of bed-sores, must be a rarity, although we admit that such have been and are occasionally found. Such work is, we feel sure, better intrusted to strong, properly trained women of the lower class, who have been accustomed to dirty work from their youth up, and who are never squeamish over their duties. That a governess should be looked down upon, while a lady-nurse is regarded as a heroine, is an anomaly due to a fashion which, like other fashions, will have its day. It is a notorious fact that nurses dislike working under sisterhoods, because promotion into the higher ranks of the profession thereby becomes impossible, and nurses of experience invariably cut themselves adrift for the purpose of gaining something like independence and advancement."

—From the *Lancet*, December 25th, we learn that on the 11th inst. Mr. Berkeley Hill operated for vesico-vaginal fistula in University College Hospital, while the vagina was lighted up by Mr. Coxeter's application of the glowing platinum wire. The apparatus consisted of a fine wire twisted into a small knot. Through this knot was sent a continuous galvanic current, strong enough to maintain the wire at a white heat. The wire was inclosed in a glass chamber, which was itself also inclosed in another glass cover. Through the space between the glasses a current of water was allowed to flow, in order to preserve a low temperature round the light. The afternoon, which was dark and foggy, afforded a good opportunity of testing this plan of lighting up deep interiors, and the illumination was completely successful. A strong light was maintained for more than an hour close to the margins of the fissure without impeding the manipulations of the operator.

MEDICO-LEGAL.

— "At a recent meeting of the Medico-Legal Society of New York," says the *Chicago Medical Gaz-*

ette, "Mr. Amos G. Hull, in connection with the subject of malpractice, then under discussion, suggested two very important points by which physicians might in most cases avoid the disagreeable consequences of a prosecution. The first was, that as soon as they are satisfied, upon a careful examination of the case, that they have made a mistake, they should go and compromise with the aggrieved parties, and propose to do what is just and fair. The second was, that if a surgeon is threatened with a suit, and is satisfied that his practice has been correct, and he is guilty of no negligence or malpractice, he should bid defiance at all hazards to his adversary. He should immediately, when threatened with a suit, seek an honest, respectable, judicial forum, and prosecute for the collection of his bill. The patient would be legally bound to set up negligence or malpractice as a defense to the bill. If he did not, and judgment was recovered, that judgment would be forever a bar to the recovery by the patient for any malpractice, for the judge will hold that he had no such defense. If he had, he should have set it up then and there, or forever hold his peace."

—Supreme Court of Wisconsin: Case of Bastardy; Doubt as to Parentage. The Attorney General,* for defendant in error. *Orton, J.*, in delivering the opinion of the court, said: The testimony of Ann E. Swagger, the prosecutrix, is positive that her last menstruation was the first of September; that she had sexual intercourse with the defendant about two weeks thereafter, and with one C. Green last, about two weeks after that; that her child was born the 25th of May; and that the defendant is its father. In such cases the paternity of the child is the main and material fact to be found by the jury, and this fact the jury must find beyond a reasonable doubt. Whatever the probabilities may be, from this evidence, that pregnancy resulted from the first act of sexual intercourse, which was with the defendant, because of its being the nearest the termination of the period of menstruation, and of the longer time before the birth of the child, yet they are mere probabilities, and, by the best medical authorities, very questionable, and by no means without reasonable doubt.

The prosecutrix having had sexual connection with two persons within so short a time, it was impossible for her to testify which act produced pregnancy, and which person is the father of the child. In view of these undisputed facts and of the most creditable authorities, the jury could not have found the defendant guilty beyond a reasonable doubt. Physiological speculations, natural probabilities, or merely probable cause are quite insufficient upon the trial to establish the fact of paternity in such a case. There must be, from the very nature of such evidence, great and certainly very reasonable doubt as to this main fact. It is urged that if this is to be the rule a conviction can never be attained when more than one person has had sexual intercourse with the complainant about the same time. This consequence of the rule is far less important and serious than the wrong and injustice of a conviction upon insufficient evidence. In such a

case the question is not whether the defendant is guilty of having had illicit intercourse with the complainant, but whether by such intercourse the child was begotten, and this fact must be found beyond a reasonable doubt. This being the true legal rule, the consequence of its strict observance by courts and juries is not to be considered, except in changing or abolishing the rule itself; but while the rule exists the consequences will not be presumed to be wrong or mischievous, but rather right and just. Reversed and remanded.

Correspondence.

THE SENSIBILITY OF ARTICULAR SURFACES.

MR. EDITOR. — I wish through your pages to appeal to your surgical readers for information concerning the sensibility of articular surfaces. If any surgeon who may happen to read these lines meets with a case where, by accident, a joint has been laid open, or where an operation has involved the denudation of healthy articular cartilage, he will greatly oblige me by testing the sensibility of the cartilage in three ways, and either publishing the result in the JOURNAL, or communicating it to me by letter.

First, test the sensibility by the compass points, and find out the minimum distance at which they are felt as two. Second, pass the finger, or some hard, smooth body like the back or handle of a scalpel, over the surface, and see whether, in case the surface be, for example, the distal end of a proximal phalanx, the patient does or does not feel as if the next phalanx is being flexed upon the one in question. Thirdly, I would suggest that if the last experiment succeeds one side of the articular surface should be firmly pressed, with the view of ascertaining whether this treatment suggests to the patient that the succeeding parts of the member are being forcibly bent towards that side. I suppose we can hardly hope for opportunities for such observations on large joints, the opening of which would, if accidental, cause shock, and if operative require ether; but surely surgeons in busy practice must frequently see finger and toe joints laid bare with the patient's consciousness undisturbed.

The scientific interest of the question is this: The consciousness we have at any time of the position of our own members has always been rather a puzzle. Most observers have ended by concluding afferent sensations from the joints to be its source. This conclusion has been reached, however, not so much by direct evidence as by way of exclusion; that is to say, pathological cases have been successively adduced in which the consciousness of position remained unmodified, though feelings of innervation, feelings of muscular contraction, and cutaneous feelings were each in turn abolished. Only within a few months has Lewinski brought forward something like direct proof.¹ He found a patient who felt when he stood as if he were knock-kneed in his anæsthetic leg. When he lay down the illusion disappeared. Lewinski thought it might be due to greater anæsthesia medially than laterally of the surfaces of the knee-joint. This would produce, when the surfaces were pressed together by his weight in standing, the feeling that the lateral edges of the joint

were in forced contact, whilst the medial edges hardly touched, — a state of things which might be brought about in a knock-kneed position. Lewinski then found in patients with semi-anæsthetic feet that when he bent the toes passively, and at the same time exerted traction, the patients were not aware into what position he had bent their toes. When, on the contrary, he pressed the toe which he was bending against the foot, instead of drawing it out, they were fully aware of the extent of its motion.

Possibly some of your readers may be able to refer me to published observations of which I am ignorant. If these lines have the effect of arousing the interest of any one who will communicate his observations, I shall feel greatly indebted, for the matter is connected with important theoretic consequences.

I am, with respect, yours truly,

WILLIAM JAMES, M. D.,
Assistant Professor of Physiology.

HARVARD COLLEGE, CAMBRIDGE, MASS.

THE NATIONAL BOARD OF HEALTH.

MR. EDITOR. — In reference to the reply to my letter about the National Board of Health,² please let me say this: My statements in regard to the part Dr. Woodworth took in promoting the success of the Public Health Association, and especially of its meeting at Richmond in 1878, are true, and I reassert them. The facts were given me not by one, but by several members of that association. Dr. Woodworth did his best to prevent the organization of the National Board of Health in its present form, but not of a National Board of Health. The statement of your correspondent is misleading.

The assertion that all the power of the board has been virtually in one man is essentially true. The fact is not insulting to the members of the board, but is an unfortunate fault in its constitution. Its powers must necessarily be delegated. The insinuations of intrigue in regard to the refrigerating ship were of the vaguest kind, and the writer lays no emphasis upon anything except the essential absurdity of the scheme. Distinct charges in this direction, with offers of proof, have been made, we believe, in *The Nautical Gazette*, an able and reputable journal of this city.

The Marine Hospital Service, with which I have no connection whatever, does not, so far as I know, desire to assume the powers and duties of the National Board of Health. The accusation is unwarranted certainly by any action or expression of the present surgeon-general, whatever may have been the views of his predecessor, and your correspondent falls into the fault of which he accuses me in making the charge.

The statements made in my previous letter were all made with care. I had then, and still have, every reason to believe them to be true. Dr. Folsom has simply denied the truth of my statements, and I have reasserted them. This is a profitless form of argument; but the pages of a medical journal cannot be filled with elaborate testimony *pro* and *con*.

I attack no person, but only an organization, and therefore do not feel obliged to sign my name.

NEW YORK, December 31, 1879.

¹ Virchow's Archiv, vol. lxxvii. p. 134.

² See JOURNAL, December 18 and 25, 1879.

THE PILLS OF POWER.

It was the Baron of Mucklebille,
His looks were sad and sour;
Come hither! come hither, my trusty leech!
And bring me the Pills of Power.

And tell me, as thou art learned clerk
And I am a Baron true,
What mystic potion or secret art
To still my pains may do.

Oh, I am a wight of mickle might,
And skilled in Gramarye;
And the living I've blest, and I've cut up the dead,
In parts beyond the sea.

And I have learned, from ancient bokes,
And the Prince of the Powers of the Air,
The spells that wait on the Mighty Pill,
No mortal bowels may bear.

Oh, is it my liver has played me false?
Or are my lungs untrue?
Or has too much Old Ale made my stomach fail?
As Ale too much will do?

Oh, leave your liver and lungs alone,
And let your stomach be.
I can't explain to unlearned folks,
So leave all that to me.

The Baron he put out his long, long tongue,
The Doctor shook his head.
In nomine omium viscerum!
I conjure thee, go to bed!

The Baron he put in his long, long tongue,
And a fearsome vow swore he.
I'll see thee hanged on a gallows first,
With all the Facultie!

The doctor took, from a secret nook,
His pencil, good at need,
And he darkly wrote, on the back of a note,
What mortal may not read.

This mystic scroll will make thee whole,
If used at the mystic hour;
In the name of Jalap and Castor-Oil,
And eke the Pills of Powers!

REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 10, 1880.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Deaths under Five Years.	Percentage of total Deaths from					
				The Principal "Zymotic" Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.	
New York.....	1,085,000	548	214	15.15	17.15	5.11	.73	.55	
Philadelphia.....	901,380	301	88	10.30	6.98	4.98	1.33	1.33	
Brooklyn.....	564,400	202	—	16.34	14.85	9.90	2.48	.99	
Chicago.....	—	163	81	31.29	13.50	15.95	5.52	1.84	
St. Louis.....	—	126	41	11.11	7.94	2.38	—	.79	
Baltimore.....	393,796	136	48	17.65	12.50	8.09	5.88	2.21	
Boston.....	365,000	157	66	19.75	14.01	11.47	1.27	1.91	
Cincinnati.....	280,000	91	33	15.38	10.99	7.69	3.30	2.20	
New Orleans.....	210,000	90	28	17.78	12.22	2.22	—	2.22	
District of Columbia.....	170,000	—	32	—	—	—	—	—	
Cleveland.....	160,000	53	22	28.30	9.43	7.55	13.21	3.78	
Pittsburgh.....	145,000	53	24	32.08	18.87	15.09	5.66	5.66	
Milwaukee.....	127,000	33	14	12.12	30.30	12.12	—	—	
Providence.....	101,500	49	19	28.57	12.24	2.04	24.48	2.04	
New Haven.....	60,000	12	5	8.33	8.33	—	—	—	
Charleston.....	57,000	21	8	9.52	19.05	—	—	—	
Nashville.....	17,000	13	2	30.77	15.38	—	—	15.38	
Lowell.....	34,000	22	6	13.64	4.55	13.64	—	—	
Worcester.....	53,000	16	5	18.75	25.00	—	—	—	
Cambridge.....	50,400	24	9	25.00	12.50	16.67	—	—	
Fall River.....	49,000	29	19	37.93	3.45	6.90	31.04	—	
Lawrence.....	38,600	18	8	16.67	27.78	5.56	—	11.12	
Lynn.....	34,000	14	4	28.57	21.43	21.43	—	7.14	
Springfield.....	31,800	6	2	33.33	16.67	16.67	16.67	—	
New Bedford.....	27,200	11	4	18.18	—	—	9.09	—	
Salem.....	26,500	10	2	30.00	10.00	20.00	—	—	
Somerville.....	23,500	11	6	54.55	—	45.45	9.09	—	
Chelsea.....	21,000	6	3	33.33	33.33	—	33.33	—	
Taunton.....	20,200	2	0	—	—	—	—	—	
Holyoke.....	18,400	7	4	57.14	14.29	42.86	14.29	—	
Gloucester.....	17,300	10	4	20.00	30.00	10.00	10.00	—	
Newton.....	17,300	—	—	—	—	—	—	—	
Haverhill.....	15,350	4	1	—	25.00	—	—	—	
Newburyport.....	13,500	7	1	—	14.29	—	—	—	
Fitchburg.....	12,600	6	3	16.67	16.67	—	16.67	—	
Fifteen Massachusetts towns.....	118,560	32	6	9.38	15.63	9.38	—	—	

Two thousand two hundred and eighty-three deaths were reported; 812 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 409, consumption 321, lung diseases 305, diphtheria and croup 175, scarlet fever 74, typhoid fever 34, diarrhoeal diseases 30, measles 28, whooping-cough 27, malarial fevers 15, erysipelas 14, cerebro-spinal meningitis 10, small-pox two (In addition, District of

Columbia reports 18 deaths from lung diseases, consumption 16, small-pox three, diphtheria and croup, typhoid fever, and diarrhoeal diseases two each, whooping-cough one,—total deaths not given.) In the cities, excluding District of Columbia, from measles, New York 20, Chicago six, Philadelphia and Brooklyn one. From whooping-cough, Boston seven, New York six, Philadelphia, New Orleans, Pittsburgh, Charleston, and Cambridge two, St. Louis, Cincinnati, Cleveland, and New Bedford one

From malarial fevers, New York five, New Orleans four, St. Louis three, Brooklyn, Baltimore, and New Haven one. From erysipelas, New York four, Brooklyn three, Philadelphia two, St. Louis, New Orleans, Cleveland, Worcester, and Salem one. From cerebro-spinal meningitis, New York, Philadelphia, Chicago, and St. Louis two, Pittsburgh and Worcester one. From small-pox, Philadelphia and Worcester one.

The total number of deaths reported is a little less than for the previous week,—of children under five four per cent. greater; consumption, typhoid fever, diphtheria, and small-pox were considerably less fatal; whooping-cough, malarial fevers, and measles caused more deaths; scarlet fever and lung diseases remained about the same. In 33 cities and towns of Massachusetts, with an estimated population of 380,910, the death-rate was 20.65; there was an increased mortality from scarlet fever, diphtheria, whooping-cough, and lung diseases; decreased from typhoid fever.

For the week ending December 20th, in 147 German cities and towns, with an estimated population of 7,615,550, the death-rate was 26.5 against 26.3 of the previous week. Three thousand eight hundred and eighty-one deaths were reported; acute diseases of the respiratory organs 510, pulmonary consumption 492, diphtheria and croup 200, diarrhoeal diseases 172, measles 97, scarlet fever 79, whooping-cough 65, typhoid fever 46, puerperal fever 26, varioloid (Berlin) one. The death-rates ranged from 10.8 in Libeck to 38.7 in Augsburg and Essen; Dantzig 30.1; Königsberg 29.4; Breslau 24.8; Munich 27.1; Dresden 21.0; Cassel 19.3; Berlin 24.0; Leipzig 31.4; Hamburg 29.1; Hanover 22.0; Bremen 22.6; Cologne 26.4; Frankfurt 19.8. Also Vienna 28.2; Prague 37.6; Paris 34.1. In 49 Belgian cities and towns, with an estimated population of 1,476,090, there were 946 deaths reported: bronchitis and pneumonia 215, pulmonary consumption 99, diarrhoeal diseases 46, small-pox (in

three towns) 33, typhoid fever 18, measles 13, whooping-cough 12, croup nine, scarlet fever four, diphtheria one. The death-rates were: Brussels 30.4; Antwerp 36.5; Ghent 33.9; Liege 37.4; 23 large towns 29.7; 22 smaller towns 34.5. Lung diseases, scarlet fever, diphtheria, and measles continued prevalent in Holland. The order of fatality of the prominent acute diseases in France continued to be lung diseases, diarrhoea, typhoid fever, small-pox (chiefly in Paris and Marseilles, slightly in Nice), diphtheria, and measles. In six cities of Austria, lung diseases, diphtheria, diarrhoeal diseases, small-pox (Vienna, Prague, and Trieste), measles, and scarlet fever were most prevalent. Typhoid fever is very rife in St. Petersburg, Milan, and Bologna.

For the week ending December 27th, in the 20 English cities with an estimated population of 7,383,999, the death-rate was 27.4 against 30.5 and 30.6 of the previous two weeks. Three thousand eight hundred and seventy-seven deaths were reported: diseases of the respiratory organs 652, whooping-cough 181, measles 160, scarlet fever 153, fever 37, diarrhoea 21, diphtheria 20, small-pox (London) two. Scarlet fever, lung diseases, and measles were declining; whooping-cough was especially fatal in London and Liverpool. The death-rates ranged from 16.8 in Brighton to 46.3 in Plymouth; London 27.1; Bristol 30.3; Birmingham 25.0; Liverpool 35.6; Manchester 28.7; in Edinburgh 21, Glasgow 27, Dublin 45. In the 20 chief towns in Switzerland, population 445,790, there were 49 deaths from acute diseases of the respiratory organs, diarrhoea 11, diphtheria eight, typhoid fever four, small-pox, scarlet fever, measles, whooping-cough, and erysipelas each one. The total death-rate was 28.0; Geneva 18.7; Zurich 29.8; Basle 31.0; Berne 44.9.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
Jan. 4	30.158	45	55	29	91	61	84	79	SW	SW	SW	8	18	12	O	F	F	—	—
" 5	30.555	35	45	30	45	19	50	38	W	NW	NE	9	16	12	C	O	C	—	—
" 6	30.342	32	38	29	69	100	89	86	SE	SE	NW	10	13	12	O	R	R	—	.46
" 7	30.452	36	45	32	100	50	70	73	N	NE	NE	8	12	2	F	C	C	—	—
" 8	30.422	35	45	25	100	74	90	88	Calm.	E	NE	0	6	7	F	C	C	—	—
" 9	30.197	35	39	32	89	100	100	96	N	NE	N	12	16	8	G	R	R	—	.17
" 10	30.233	41	49	32	91	31	38	53	SW	W	W	6	18	3	O	C	C	—	.05
Week.	30.337	37	45	30				73	Northeast.						Clear.			27.25	.68

¹ O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, snow; R, rain; T, threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JANUARY 10, 1880, TO JANUARY 16, 1880.

TAYLOR, B. D., first lieutenant and assistant surgeon. Assigned to temporary duty at Governor's Island, New York harbor. S. O. 7, Department of the East, January 12, 1880.

CHANGES IN THE MEDICAL CORPS OF THE NAVY DURING THE WEEK ENDING JANUARY 17, 1880.

ASSISTANT SURGEON W. G. G. WILSON to the Naval Hospital, New York, as the relief of Assistant Surgeon M. H. Crawford, detached and waiting orders.

Assistant Surgeon N. H. DRAKE to the Naval Hospital, New York.

Passed Assistant Surgeon D. O. LEWIS detached from the receiving ship Independence, and ordered to the Jamestown, at Alaska.

Passed Assistant Surgeon F. H. TERRILL ordered to the receiving ship Independence, Mare Island, Cal.

BOOKS AND PAMPHLETS RECEIVED.—Atlas of Histology. By E. Klein, M. D., F. R. S., and E. Noble Smith, L. R. C. P., M. R. C. S. Part IX. Philadelphia: J. B. Lippincott & Co. London: Smith, Elder & Co. 1879. (From A. Williams & Co.)

A Manual of the Practice of Surgery. By W. Fairlie Clarke, M. D. (Oxon.), F. R. C. S. Third edition, revised, enlarged, and illustrated by 190 engravings on wood. New York: G. P. Putnam's Sons. 1880.

Minor Gynecological Operations and Appliances for the Use of Students. By J. Halliday Groom, M. B., M. R. C. P. E., F. R. C. S. E. Edinburgh: E. and S. Livingstone, 57 South Bridge. 1879.

The Structure and other Characteristics of Colored Blood Corpuscles. By Louis Elsberg. Printed in the Annals of the New York Academy of Sciences, vol. I, Nos. 9 and 10. New York: G. P. Putnam's Sons. 1879.

A Manual of the Practice of Surgery. By W. Fairlie Clarke, M. A. and M. B. (Oxon.), F. R. C. S. From the last London Edition. Revised and edited, with additions, by an American Surgeon. New York: William Wood & Co. 1879.

Transactions of the New Hampshire Medical Society. 1879. The Alienist and Neurologist. A Quarterly Journal of Scientific, Clinical, and Forensic Neurology. Edited by C. H. Hughes, M. D., and an Associate Corps of Collaborators. Vol. I. No. 1. St. Louis, January, 1880.

Annals of the Anatomical and Surgical Society. Monthly. Edited by Charles Jewett, M. D. New York: G. P. Putnam's Sons. Vol. II. No. 2. January, 1880.

Quarterly Report of Medical Officers, United States Army, with their Stations and Duties. January 1, 1880. Washington: Surgeon-General's Office.

Original Articles.

THE JOHNS HOPKINS UNIVERSITY AND HIGHER EDUCATION, WITH A GLANCE AT THE HOSPITAL BUILDINGS.

BY GEORGE HALSTED ROYLAND, A. M., M. D.

HIPPOCRATES complained of affairs, educational and professional, at Athens. A few centuries later, in the Augustan era, distinguished alike for its science, art, and literature, it was the custom to praise the past at the expense of the present. In the nineteenth century civilization and culture have attained such a high standard that the reverse is the case, and the present is praised at the expense of the past; at least, it is so with the authors of certain pamphlets and articles that within the past year or two have made their appearance in our current literature.¹ These productions, whilst deploring the low status of the medical profession in particular, and the mismanagement of American universities, medical colleges, and institutions of learning in general, impress strenuously upon the public mind the glaring necessity for a more elevated *esprit de corps*, with greater scientific attainments among practicing physicians and professors, together with the urgent need of a higher standard of education in every department. These deprecators hold, in some instances, diplomas of the very institutions they cry down, and are among the first, when perplexed, to call in consultation the more aged and experienced members of a profession whose status at other times only merits their contumely. The strifes and jealousies of rival schools are brought to light and dwelt upon.

And now, amidst all this educational anarchy, appears the Johns Hopkins University, with its brilliant array of talented professors and tutors (embracing some foreigners), to rescue our institutions, both general and special, from the total wreck that threatens their systems. Just as the Renaissance of arts and letters was commenced by the savants and artists of Byzantium, who, after the capture of Constantinople by Mahomet II., emigrated to France and Italy, and really did for them then what was later ascribed to the munificence of the De Medicis and François Premier. Such is the picture drawn of affairs, professional and educational, in their relation to the Johns Hopkins University, a production varying in ability according to the talent of the artist, but not true to nature, as will presently be demonstrated. Ten years ago the standard of educational requirements had made great advances as compared with the preceding decade, and from then up to the time of founding the Johns

Hopkins University it had been raised higher and higher, until the utmost was required of students, until examinations became more frequent and more stringent, and until admission examinations were instituted in our medical schools. In a word, during the last twenty years the rise and progress in medical, scientific, and academical education has been so gradual, yet so steady and so sure, that our present fault-finders, not perceiving it, have alone remained behind, ignoring the fact that we had, when the Johns Hopkins University was founded, a system of training in our universities, schools, colleges, and academies comparing favorably with those in any part of the world. This university of the future begins, then, where the others end, and comes to us as the natural outgrowth of advanced civilization and education, as the child of the elder ones, not inventing any new or patent method of intellectual schooling, but taking what is best from this one and that one, and what is deemed best adapted to the requirements of higher education.

The medical department, though not yet fully organized, will, it is understood, be represented to some extent by physicians and surgeons from our own city, and Baltimore can pride herself on having the varied talent, the many distinguished men, as well as the learned and ethical general profession belonging to a great medical centre, in which original research is encouraged, and the science and art of medicine are improved.

It was ascertained that much of the regular four years' college course could be omitted, especially by those intending to follow scientific or medical pursuits; consequently seven very concise courses of three years each are open to students as regular collegiate courses, which thus allow them to enter upon the university course, whether it be law, medicine, or theology, one year sooner. These seven courses are varied to meet the wants of all, and such branches are taught in them as bear directly upon the student's course in the future. Much stress is laid upon modern languages throughout, also upon philosophy and chemistry during these three years, whilst the introduction of biology into the preparatory medical course is an entirely new feature. It is well known that this is almost the last branch taught in foreign universities, but a study that requires such particularization may be useful as a disciplinary agent at first, not forgetting that an acquaintance with morphology should form an important part of a course preparatory to the final study of medicine; moreover, the mind of the student will have been sufficiently trained by his schooling in chemistry and physics during the first year to grapple with a subject that hitherto has erroneously been thought worthy of introduction only near the end of a five or seven years' university course. At the close of the third and last year of this preparatory course, which includes also German, English literature, history, and psychology, it is proposed to confer upon the successful candidate the degree of M. B., and thus give to this diploma a value in America. Although the recipient will not rank as does the English "medical man" who may practice upon it, yet it will be an advance in our educational gradations, and the American interpretation of the initials M. B. will probably be the more correct of the two. The biological course, which cannot be overestimated, will be one of wide scope, embracing the laws of life in general, whether exhibited in animals or plants; it is designed at the same time to give students at least a didactic knowledge of human anatomy and physiology;

¹ In the following article the author has made free use of the programmes of the Johns Hopkins University and of the Fourth Annual Report, edited by President Gilman, in order to show from them directly the relation of the new university to other institutions of learning, especially to the medical schools and the medical profession of Baltimore. The discussion on this point is just now going on with considerable vigor. The most striking article that has yet appeared is a pamphlet by John S. Lynch, M. D. This gentleman, for years a practitioner and professor of medicine in one of our leading colleges, ably handles his subject, and depicts the true condition of educational and professional affairs in our city. He has "seen none of the evils" denounced and deplored, but has noted many improvements and advances; among them are the establishment of several hospitals for the treatment of special diseases, the establishment of an out-door clinic at which more than thirty thousand patients are treated annually, courses with the use of the laryngoscope and microscope, etc. The increased number of professors in our medical schools, the high standard of the profession and their many and valuable contributions to literature, as well as their thriving societies, will give the gist of Dr. Lynch's article, which is heartily indorsed by all with whom the writer has spoken.

comparative anatomy and botany will not be required, as their general principles and more important facts are taught in the course of general biology. It will thus be seen that the student after such a course will be well advanced in his professional studies, and that the science of medicine proper will present to him fewer difficulties. It is of course understood that work in the physical and chemical laboratories forms a prominent feature in the schedule.

With respect to medical instruction in connection with the Johns Hopkins Hospital, the plan has not yet been definitely agreed upon by the trustees, but we may be sure that whatever system is determined upon will not be in imitation of any one routine, but will comprise what is best from the best. That this has been a ruling principle in the university organization throughout, the following lines from the Fourth Annual Report of the Johns Hopkins University, by the president, will attest. After referring to the extension of its influence beyond provincial limits, he says, "Having these aims, the next question to be considered was the interior organization of the university: Should it follow an American, an English, a French, or a German model; or should it gather from many sources educational methods to be adapted to the wants of this country, and brought into harmony with our conditions, political, ecclesiastical, and social? There was no hesitation on this point. The new foundation was to base its operations upon the experience of many and diverse institutions, ascertained by inquiries at home and abroad, among the most enlightened teachers and administrators."

Little has been said of scientific apparatus in this connection, but when we state that \$27,761 have been expended in that direction it will be readily understood that such appliances have been purchased of the best European and American makers, with especial reference to researches in regard to electricity, magnetism, and heat.

Another advance in higher education is the system of fellowships for the purpose of affording to young men of talent, from any place, an opportunity to continue their studies in the Johns Hopkins University, while looking forward to positions as professors, teachers, and investigators, or to other literary and scientific vocations. These Fellows are appointed by the trustees, and submit to examination; a small stipend is granted to them.

The new university has been favorably received by the medical profession of Baltimore, many of whom countenance the lectures and patronize the scientific courses.

Almost any day practitioners may be seen in the laboratories, and the library has become a sort of Pierian Spring (new books are kept on a stand and sold at a reduced price after three months), but no more so than the rest of the university, from which those who do not intend to "drink deep" are expected to withdraw. The Johns Hopkins University, recognizing the great benefit to be derived from a literature such as exists in other institutions of the kind, has given out the first volume of the *American Journal of Mathematics*, four numbers being promised annually; also the *American Journal of Chemistry*, six numbers annually. The writings from the biological department have been communicated to the *Journal of Physiology*, published in London and Cambridge. The influence of the university will doubtless be extended to a certain degree by the Fel-

lows, some of whom have been and others of whom will be called to different posts in this country, and by the scientific publications sent abroad. Nevertheless, it is more than likely that its usefulness and reputation will be principally local. Significant is the note that of the ninety-one collegiate students enrolled during the past three years almost all come from Baltimore and vicinity. All legitimate means will be employed to gain renown.

But fellowships are not altogether new; neither are university organs. This fact is mentioned in sustaining our claim that the higher standard attained is one that has been raised by the older universities, colleges, academies, and institutions of learning in general, not forgetting the much-abused medical schools, which certainly have contributed their full share in the onward march. The Johns Hopkins University, then, so far from being a deliverer from educational ruin, merely borrows what is best from all our institutions, merely comes under the standard already unfurled by them.

Before closing, let us leave the university proper, and take a casual survey of the hospital buildings, situated on an elevated piece of land something more than a mile distant. Seen from a distance, this collection of buildings forms an imposing memorial pile, more to the purpose than a sarcophagus of porphyry. For a description of the plan of these buildings the reader is referred to an article on this subject by the writer, and published in the *JOURNAL*, November 7, 1878. It is his intention at present to make a brief survey of the buildings themselves as they are now. The lot on which they are being built is fourteen and a half acres square, and when completed they will be twenty-five in number and in the form of a parallelogram. The main building, being the front, is on Broadway, but only the foundation, which is of brown stone, is laid. The height will be two hundred feet from the marble flooring to the lantern. On the right and left, and distant some sixty feet from it, are the male and female paying wards, each forming a separate building. These wards are arranged in such a manner that all the rooms open on corridors leading to the centre of the building, where is a skylight considerably over one hundred feet high. There are several floors of rooms. The next building in order, going to the left, is the kitchen, the first floor being divided into butcher's-rooms, store-rooms, pastry-rooms, etc.; but the kitchen proper is on the second floor, and is thirty feet by seventy. From this building all the meals will be furnished by means of a car, with hot-water chamber and on india-rubber wheels, pushed from building to building in the long and lofty connecting corridor. This corridor will be of artistic design, and will have a walk on top. Next in order comes the octagon building, so called from its shape. In the middle of this ward is the octagonal shaft to conduct off foul air. The beds will be arranged around this, feet to the shaft, the walls of which will be neatly finished and ornamented with works of art. It is thought that this will rest the weary eye of the patient, as well as break the view in such a manner that the sufferings of other patients will be in a great measure hidden, and their cries and groans during bedside operations more or less deadened. This ward is to be something of an experiment, and the idea has already been carried out in the Massachusetts General Hospital, the only difference being that the square is used there instead of the octagon. At the other end of this ward are small rooms for various pur-

poses, such as sitting-rooms and the like. Then come, at a distance of sixty feet, and at the same distance from each other, three charity wards; the only difference between them and the octagon ward is that they are parallelograms in form. Crossing the lot, the nurses' home is reached, a large, square building,—from the basement to the top seven stories high. The lower floors are devoted to dining-rooms, parlors, library, lecture-room, etc., and the upper ones to bed-rooms. There are, then, eleven buildings in process of construction,—eight actually under roof. It goes almost without saying that they are built in the best and strongest manner, with modern improvements, double ventilators, etc. Inside, the staircases are supported by iron pillars, and all the beams and girders are of the same material. The flooring and partitions are of lime, an imported French product, to which sand and cinders are added here. It is put up in large blocks, and the partitions in their present unfinished state resemble stone walls. The tiles, of the same material, for the ceiling and flooring are made so as to fit together between the iron beams and form an arch in themselves, leaving the ceiling and floor perfectly level. The buildings are all of brick, with black pointings, slate roofs, pinnacles, cupolas, and towers. The style selected is the so-called Queen Anne style, and the plan chosen seems to be a mixture of those of the Imperial Hospital of Leipzig, and St. Thomas's Hospital of London. It is hardly necessary to draw attention to the fact that for the exterior arrangements also the Johns Hopkins University is indebted to architectural designs already existing, both at home and abroad.

The surgical wards, waiting rooms, and clinic will form a separate department, and it is suggested to form eventually a school of surgery. The graduates would then receive some such degree as Bachelor of Surgery, Master of Surgery, or Licentiate. If such a diploma should not confer the right to practice, that right could easily be obtained from the Medical and Chirurgical Faculty of Maryland. The domain of gynecology will probably be included in that of medicine.

As to the length of the medical and surgical courses, the American system of three years is for our country and our needs decidedly the best, and is the one most likely to be adopted by the Johns Hopkins University. That graduates who have studied but three years have a less variety of scientific knowledge than those who have studied five years at a German university, or seven at a French one, other things being equal, is self-evident. But after graduation, in either case, a decade will, as a rule, elapse before the graduate gets into regular practice. During this period, by occasional cases, by reading, and by hospital study, the American will learn much. And it is fair to assume that the Frenchman or German, with his brain more or less overloaded, as he comes fresh from his laureate, will in these ten years have forgotten much in the way of botany, mineralogy, comparative anatomy, zoology, and even physics (which branches, except the last named, Huxley says ought to be rigorously excluded); so that time, the great leveler, will put them all on even footing when the hour arrives to enter into the active duties of brisk practice.

Without doubt, the critic will say, there is a certain similarity between the Johns Hopkins University and other existing institutions, just as in writing we sometimes speak unconsciously the thoughts of others. How could it be otherwise? True, but enough has

been adduced to prove conclusively the conditions under which the new university comes into being. That it may be grand and great cannot perhaps be denied; that it is original cannot be pretended; that it will be a success as a flourishing university, with crowded lecture-rooms, the future alone will show. In its struggles for existence it will be armed with wealth and intellect sufficient to place it on a par with, but not above, other American universities and medical schools. The Johns Hopkins University will owe its existence and status directly to an immense fortune that has been in possession of the trustees since the testator's death. But from the realm of departed spirits come back to-day the weird strains of the lyre. Listen: the immortal bard no longer sings alone his "Exegi monumentum ære perennius." It will¹ owe its intellectual standard to those very American universities, colleges, medical schools, and institutions of learning generally which from personal and selfish motives, too apparent to need further mention, have been ridiculed, as well as to the scientific attainments of the learned professions, especially that of medicine, which has been most unjustly sneered at by a minority so small as to be barely of sufficient consequence to remind that they owe everything to the very men they have sought to undervalue. Let the older institutions of education, then, welcome the Johns Hopkins University; let them take by the hand the child of their adoption, and invite her to march with them in the way of civilization and culture, to walk with them in the paths of knowledge, and to unite with them in the search for truth.

"That which hath been is now; and that which is to be hath already been, and God requireth that which is past."

MECHANICAL COMPRESSION IN ORCHITIS.

BY OCTAVIUS A. WHITE, M. D., NEW YORK.

WHATEVER is imperfect about the resources of art cannot remain, but must give place to every recognized improvement until perfection is attained. An inventor may zealously urge the importance of a cherished *eureka*, but the true value of the invention remains to be finally decided upon by a majority of those to whom its use is commended. In introducing, therefore, a novel treatment, a few preliminary remarks are necessary, setting forth what means to meet requirements are already at hand, what exigencies exist for something better, and, lastly, whether or not any one of these sufficiently fulfills the prime indications in view.

In the management of all affections of the male genital organs, acute or chronic, common or specific, idiopathic or traumatic, primary or secondary, necessity continually arises for the application of some form of mechanical support, combined with systematic and persistent pressure around the morbidly distended and

¹ The future tense is used because it will be three or four years yet before the hospital can be utilized for the reception of patients, and then a beginning will be made with only fifteen buildings. It is designed to receive four hundred patients. The space in the middle of the lot will be devoted to grass-plots, flower-beds, walks, benches for convalescents, etc., after the manner of many of our hospitals. We have already several large and well-appointed ones here, and with the new one the supply might perhaps exceed the demand. The floral display is evidently intended to be very fine, as in addition to the plots already mentioned there will be a green house one hundred and fifty feet long on the hospital grounds. What the precise object of this is I am unable at the present time to state; being left in the dark as to whether the flowers will adorn the beds of sickness exclusively, or whether anything in the way of renown or pecuniary gain is also expected from a source which, though it may be æsthetic, can hardly be considered very lucrative.

suffering contents of the scrotum. Past experience has amply proved that compression, timely adopted and judiciously regulated, to which rapidly disperses swelling and induration, to which these glands are prone, but absolutely preserves their delicate stroma from ruinous inflammatory changes liable to occur during a period of protracted intumescence. Nor is this recourse of value alone to effect resolution of swelling during the various stages of active engorgement. Orchitis is far more commonly a consecutive than a primary affection, and the result of repeated trial has shown that hereditary involvement of the testes, from propagated inflammation along the deferent duct or from the prostate gland, can possibly be averted by an early resort to this positive procedure. Even when the epididymis is attacked by primary disease, which is rare, or the urethra has been specifically assailed, moderate compression with support about the pendulous scrotum has always proved an effectual prophylactic against extension of the disease, and a measure of certain relief to the suffering patient.

Mechanical compression around the testes when in a state of disease requires no clamping at the present day to impress its importance. Attention to its expediency was no sooner directed by Fricke, of Germany, than the surgeons promptly recognized its value, and by the force of popular teaching this practice became permanently established wherever enlightened surgery is cultivated. So well established, indeed, is this mode of treatment that professional incapacity or culpable neglect may well be imputed whenever, in the management of affections of the testes, this salutary means of relief has been omitted. I further assert that when compression, with support, fails to improve the condition of an engorged testicle, the mode must be blamed, never the measure employed.

The act, however, of adjusting the imbricated dressing of Fricke to a diseased testicle is most commonly attended by great irritation and suffering on the part of the patient, and aggravated vexation and perplexity on that of the surgeon. All familiar with this method, so long in vogue, are well aware that the dressing, adjusted to day must, without fail, be removed to-morrow, and renewed with reinforced degree of compression, in order to follow up, *pari passu*, any advantage gained, as the swelling notably diminishes after each first application. When this process comes to be repeated every twenty-four hours for several successive days, the tender integuments are fretted, and often so intense is the degree of irritation that the surgeon is compelled to desist his treatment, thus affording the disease time and opportunity to rekindle into activity. It is necessary, moreover, that the adhesive-plaster dressing should be applied in narrow strips and successively. These must be laid on circularly, belting the tumor and overlapping each other, and the very best directed efforts have continually failed to subject every part alike of the tunicked organ to an equal degree of compression.

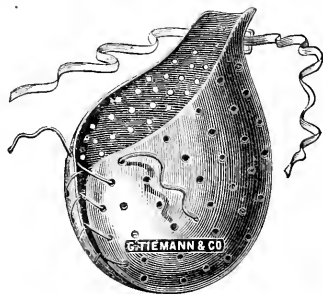
The theory of compression in respect to glandular swellings has been long in advance of its mode of application, and ingenuity has been kept exercised to invent some method of accomplishing the object in a manner at once convenient to the surgeon and painless to the patient. Among the various devices put forth at different times to meet this intention, none have thus far proved superior to the air-bag of Dr. Hutchinson.

surgeon to subject the parts *en masse* to such positive yet gentle compression as the exigency of each case demanded. But the bulk, weight, clumsiness, and liability to acquire and retain fetid odor so abundant about the region of the scrotum have always operated against its general use. Similar objections apply also to every other elastic or netted means intended to exert compression about the genitals for any length of time.

The announcement, therefore, of a new, safe, and painless method of instituting the desired amount of compression to effect resolution in engorged conditions of the testes should command favorable attention, not from sufferers alone, but also from surgeons, whose specialty induces a large share of genito-urinary cases to apply to them for relief.

The substitute which I have to propose, to carry out the above intention, will enable the surgeon to either moderate or intensify compression promptly and in accordance with his own sound views respecting the requirements in each particular case; and, while it never fails to accomplish the desired purpose with celerity and adequate firmness, the salutary aim is effected within the bounds of patience and toleration.

The instrument, as can be seen by reference to the subjoined wood cut, is shell-shaped, very light, and symmetrically molded to receive and accommodate within its cavity a swollen testicle, surrounded by its



scrotal integuments. The material of which it is composed is hardened rubber, special care being taken by the manufacturer to render the walls as thin and light as possible. About one third of the upper section of this shell is removed, leaving a preponderating portion of the base, which gives it the appearance of a scoop or dipper. The object of this configuration is of course apparent, and the peculiar shape selected has been found by experience to afford the very best mechanical support to the pendulous organ.

The cleft, which will be noticed, running down the front of the shield is intended to admit of free overlapping of the two thin edges. By this means ample provision is made for all necessary reinforcement of compression which is to be practiced during the management of a case.

In the fashioning of this splint special care has been taken to have that portion which is intended to surround the neck of the tumor smoothly everted, in order to insure against concentrated pressure, which might otherwise determine about the vessels of the cord when the shield is continuously worn.

The usual preliminary details to be observed in the act of applying compression to an enlarged testicle are

of course to be strictly observed. The patient must be placed in a recumbent posture sufficiently long to secure a certain amount of local depletion about the vessels of the part by gravitation. The affected testicle is separated from its sound fellow within the scrotum and fitted into a suitable-sized shield. At this juncture a narrow roll of bandage is cast around the upper part of the instrument, corresponding to the neck of the scrotal sac. This is to prevent the testicle from retreating upwards and outside the cavity in which it has just been placed. When this step of the process has been well effected, the surgeon has the testicle at his entire command, and can now subject it to any desired amount of compression by simply drawing upon the opposing lacing strings, which are immediately at hand.

Each shield is provided with a light elastic cord of sufficient length, by which the entire fixture can be suspended to the body with an ordinary figure-of-eight carried around the thigh and loins.

The mechanical difficulty of adjusting suitable compression to the pendulous scrotum will thus be found reduced to a very minimum by the very great simplicity of this device, and the apparatus, while inclosing the tender parts requiring treatment within its smooth and unyielding walls, safe from external violence and friction, can be habitually worn without personal inconvenience, and without attracting the least attention.

The rapidity, neatness, and comparative painlessness with which this fixture can be applied cannot fail to be favorably contrasted with the tedious, complicated, suffering, and uncleanly processes commonly employed, not one of which either surgical experience or mechanical skill can ever render more than tolerable. So rapidly, indeed, has reduction of swelling about these glands been effected by this means that it often becomes necessary, during its employment, to remove and readjust the shield twice instead of once in every twenty-four hours, — a convincing proof, surely, of its controlling power and comfortable accommodation.

Should at any time this appliance threaten to cause pain during the absence of the surgeon by inflammation gaining ground and giving rise to undue constriction, the dressing can be relaxed by the patient himself with promptness and ease.

It must be an exceptional case that will complain of pain either during or after the proper adjustment of this neat and gentle mode of applying compression to these glands; indeed, the patient is shortly relieved of all sense of aching, weight, and throbbing, which may have been primarily urgent, by the close adaptation of the dressing, and a degree of comfort is soon experienced not attained by any other means.

The prominent features of this scrotal shield, support, and compressor are remarkable lightness, the weight not exceeding eight grammes; great readiness and facility of application; consummate command afforded the surgeon over the degree and duration of direct pressure to the testicles, either singly or collectively; uniformity, firmness, and general diffusion of compression; entire painlessness attending and during its application or removal, even though the scrotal sac be well covered by hair; and, finally, perfect cleanliness, the fixture being so conveniently taken off and washed.

In cases of varicocele and inobscure sarcocele, upon which this instrument has been kept steadily applied, the relief has been speedy and highly satisfactory. Pending the necessary course of treatment in distress-

ing cases of neuralgia of the testes, I invariably employ it, and with most happy effect. When no other covering could possibly be borne upon the irritable organ, this has not only afforded protection and ease, but has enabled the patient to go about unrestrained in the open air, and attend to his ordinary avocations, 222 SECOND AVENUE, NEW YORK.

LITHOLAPAXY.

BY EDWARD T. CASWELL, A. M., M. D.

As every instance in which a new operation is successfully performed tends to establish still more strongly its claims upon the profession, I place this case on record. It affords one more proof that the procedure brought forward by Dr. Bigelow has been a contribution of positive value to surgical science. The case was reported in brief at the last meeting of the Rhode Island Medical Society.

J. L., aged seventy-one, had suffered for three or four months with pain referred to the penis, frequency and scalding in micturition, and stoppage of the stream. An examination showed the presence of a small calculus, and on November 10, 1879, four days after the examination, I proceeded to perform litholapaxy at the home of the patient, in the country.

I found the urethra capacious, being able to pass without difficulty No. 30 (French) of Van Buren's sounds. The prostate gland was considerably enlarged, the bladder sufficiently roomy. The first crushing was done with Bigelow's lithotrite, but subsequently, for the purpose of comparing the two instruments, I used Keyes's modified lithotrite. Bigelow's evacuating apparatus was also used, although it had not the modifications recently introduced.

I first attempted to pass the straight tube No. 30, but as I did not succeed it was withdrawn, and No. 29 curved was passed. Through this a few fragments were evacuated, but as it did not seem satisfactory I withdrew the tube and made another and successful attempt to introduce the straight one, No. 30. Quite an abundance of debris now passed, and I continued to use this tube, although with each introduction the same difficulty was experienced, and to this is to be ascribed a large part of the time consumed in the operation. The crushings and evacuations were repeated four or five times, and at last I failed to find any further evidence of stone with the searcher.

Many of the fragments were quite large. One, which was removed early in the operation, and which was by far the largest, measured five eighths by three eighths by two eighths of an inch, and weighed ten grains. It showed a nucleus perfectly imbedded in a complete portion of the shell. This piece was drawn into the eye of the tube in such a fortunate manner that it presented a perfectly smooth surface to the urethral walls, and was removed without inflicting the slightest injury upon the urethra. Another nucleus was found entire in the contents of the bottle, showing that there were two stones. The nucleus was pure uric acid, and the shell contained about two per cent. of phosphatic salts, the remainder being uric acid. The whole amount evacuated weighed, when dried, ninety-eight grains, and the time occupied in the operation was about two hours and a half. There may seem to be a great disproportion between the time employed and the amount

removed, but much of the time was spent in introducing the straight tube, and in making a final search. Something also was to be attributed to the fact that it was the first time I had performed the operation. I had the satisfaction of knowing that the bladder was thoroughly freed from stone; for although the water was passed through a strainer for several days, no fragments of sand passed after the first forty-eight hours, and in that time only a few small fragments weighing four grains.

Scarcely any blood was lost in the operation. The patient rallied from the ether, and complained of but little pain. In seven days from the operation he walked out, and was "feeling better than he had for months." Up to this date he has not had the first sign of any return of his former trouble, has resumed his vocation, and considers himself perfectly well.

PROVIDENCE, R. I., January 10, 1880.

RECENT PROGRESS IN FORENSIC MEDICINE.

BY F. W. DRAPER, M. D.

Sub-Epicranial Ecchymosis and Cephalhematoma.—According to M. Charles Féré,¹ these two lesions, so common in new-born children, and so important from a medico-legal point of view, are to be carefully distinguished the one from the other. Sub-epicranial ecchymosis is oftenest seen on the parietals, along the sagittal suture; but instead of being, as is the case with the cephalhematoma, limited to a small region, it can extend so as to include the greater part of this bone, and it may even be found in other regions of the cranium, as the frontal and occipital. When this lesion is examined on the dead body of a new-born infant, the pericranium is found in great part detached, and its union to the subjacent bone is by a few isolated points only; it is raised by a layer of blood, which is more or less liquid, according to the age of the effusion. If, however, one has to do with such an ecchymosis in the reparatory stage, one finds the periosteum no longer separated from the bone by a layer of blood, but firmly adherent to the bony surface; the bone itself, when stripped, presenting a dark red color. In cephalhematoma, in the stage of repair, section of the bone presents superficially, under the pericranium, an ossiform layer which covers the bloody effusion, and underneath, the bone itself appears porous.

The anatomical characters of these two lesions, macroscopic as well as microscopic, show very well the differences in their manner of production and of repair. It is always a subperiosteal hemorrhage; but in cephalhematoma the effusion which is made by the rupture of a relatively large vessel is sufficiently abundant to raise the periosteum completely; while in ecchymosis the effusion caused by the laceration of many small vessels is not sufficient to detach all the adhesions of the pericranium and to form a distinct tumor.

A Case of Rapid Post-Mortem Emphysema.—Dr. William G. Porter has presented a case² which has a medico-legal interest in its relation to the question of decomposition as a means of determining the time of the death in any given case. The patient was an Englishman, fifty-eight years old, of stout build, of temperate

habits, though a large eater; he was a healthy man, so far as was known, until his last illness attacked him. Dr. Porter was called at five A. M., October 4th, to prescribe for the relief of excruciating epigastric pain which had supervened after several days of nausea, with occasional vomiting. Morphia, given hypodermically, controlled the pain; and other measures were adopted to palliate the attack and to prevent its recurrence. Moderate fever developed, and in the course of the day several large, soft, bilious stools were passed. At midnight there was more pain, still referred to the epigastrium; the skin was warm, but the patient was pulseless at the wrist; full collapse developed presently, and death ensued at about one A. M., October 5th. An undertaker was immediately summoned, and the body was placed in ice within two hours after death. At eight o'clock in the morning the body had swollen "enormously;" at nine the corpse by its distention had lifted the lid of the ice box several inches, carrying with it a layer of ice that covered it. The whole surface of the body was jaundiced. The features were distended beyond recognition, and the face was smeared with clotted blood which had been forced from the bloated mouth and nostrils.

When at this time (eight hours after death) the usual post-mortem incision was made in the median line of the body, air without appreciable odor escaped from the cellular tissue; the tissues receded from the knife as if they had been stretched to the utmost. A large amount of air, also without odor, escaped from the peritoneal cavity, although there was no peritonitis. The liver, kidneys, and spleen were emphysematous and buoyant. The heart was empty, and its tissue was friable. There was no odor of putrefaction.

Cremation in its Medico-Legal Aspects.—This subject has received the attention of the Société de Médecine légale de France, a full and interesting discussion having ensued on the presentation of an essay on the topic by M. Ladreit de Lacharrière.³ The sanitary relations of the theme received ample consideration also, but with these we are not now concerned.

M. Lacharrière took the ground that, from a medico-legal point of view, cremation is open to the gravest objections. Before any dead body is submitted to incineration, there should be, he says, certainty upon two points: the fact of the death itself and the cause of the death. Verification of the death is not difficult, especially in cities which can adopt the Parisian system. But accuracy as to the cause of the death is not an easy matter to manage; medical certificates do not solve the question, nor is the ordinary autopsy, performed, as it is, without any presumption or suspicion such as forms the basis of a medico-legal examination, a sufficient safeguard against crime. Therefore it would be unsafe to proceed, upon such inadequate means of detecting in the body the true cause of death, to destroy the body by cremation, and thus throw away the opportunity for reinvestigation. Finally, M. Lacharrière supposes two instances, either one of which is likely to occur: A person dies, presumably of heart disease, but really by a poisonous dose of digitalis administered with criminal intent. The autopsy establishes the presence of heart disease, and the crematory furnace is allowed to do its work, whereby the real evidence of the crime is destroyed, and the criminal escapes. Or, in the second case supposed, no crime

¹ Bull. Soc. anat., 1878, page 160; Le Progrès méd., 1879, page 424.

² Traus. Coll. Phys. of Phila., Third Series, vol. iv., page 79, 1879.

³ Annales d'Hygiène publique et de Médecine légale, June and July, 1879.

has been committed, but popular gossip accuses unjustly one of the relatives of the deceased. What proof will the accused be able to furnish, after cremation of the body, that he is really innocent?

Thus, by enabling the traces of a crime to disappear, cremation leaves society defenseless; it can likewise make it impossible for an innocent man to answer baseless calumny.

In the discussion which followed the reading of this paper, M. Napias expressed the opinion that cremation offered no real obstacle to the detection of crime in cases of death by violence, and that burial had no special advantages in this regard. If a death has been the result of mechanical violence, the case presents no difficulty, since the injuries could hardly escape observation. In cases of poisoning, however, there would be more difficulty. In this connection, M. Napias would divide poisons into two classes: those which could not be recovered from the ashes of a cremated body, such as organic substances, mercury (because of its volatility) and phosphorus (normally present in the body); and, secondly, those which can be traced after incineration, such as arsenic, antimony, and copper. Poisons of the first class disappear in case of burial as well as in that of cremation; poisons of the second class are found just as readily in ashes as in the remains of buried bodies. Moreover, as a matter of fact, the majority of exhumations are made to determine the nature of mechanical injuries, not of toxic agents.

In cases of death occurring without an attending physician, M. Napias would not permit cremation, except after a complete autopsy; and if the slightest suspicion were entertained as to the manner of the death an inquest also should precede the final disposition of the body.

M. Gallard argued that the autopsy was an ample safeguard against any medico-legal misadventures of cremation. This will almost always reveal the cause of death, and should invariably be applied. In the exceptional cases where the cause of death is not thus determined, there should be in addition a chemical analysis, and possibly an inquest also. M. Gallard stated that he would subject to cremation all dead bodies not claimed by friends, such as those of executed criminals, of persons dying in hospitals or prisons, and those carried to the morgue and not identified.

M. Riant believed that cremation would expose society to the most serious dangers from a medico-legal point of view, because a crime frequently escapes suspicion till long after the death of the victim, and cremation renders impossible the demonstration of the crime and the punishment of the criminal. He did not think that the ordinary medical certificate of the cause of death, liable as it is to many errors, afforded much protection against the dark deeds of criminals. Cremation, after such a certificate, will have rendered a mistake irremediable and a crime unpunishable; burial, on the contrary, preserves for us the *corpus delicti*, and permits the condemnation of the guilty.

He pointed out the impracticability of M. Gallard's proposal to have an autopsy in every case before cremation; in Paris alone nine hundred autopsies would be required each week. The difficulties in the way of chemical analysis as a prerequisite of cremation would be even greater. In cases of poisoning, in which chemistry lends its aid under present methods, the

chemist has clues and presumptions, if not proofs, which he simply verifies; and even with these advantages much time and great care and delicacy are needed in the processes employed. The chemical search which M. Gallard would impose would be simply a search in the dark, without guide or hint as to the result; such an investigation could not be seriously undertaken.

To the suggestion of M. Napias that the organic and volatile poisons are the only ones liable to loss through cremation, M. Riant replied that these were in fact the poisons most commonly used by criminals, and for obvious reasons. Moreover, granting that the ashes resulting from cremation may be found to retain mineral poisons, it is easy to see how readily these ashes might be scattered or destroyed by the criminal, or other ashes, innocent of poison, substituted. M. Riant also reminded M. Napias that, while gross mechanical lesions would undoubtedly be seen and investigated, there were means and agents not unknown to criminals that would leave slight traces of their fatal work; there are wicked mortals who know that a needle or a pin is useful in infanticide, and that it leaves but scanty evidence of its use.

An inquest before cremation M. Riant deemed of little practical value, since the interval of thirty-six or forty-eight hours available in such a case, between the death and the furnace, is generally much too short for the manifestation of suspicions or pointed rumors, upon which alone an inquest would be well founded, or the machinery for the detection of the criminal set in motion.

M. Riant would reserve cremation for use in seasons of fatal epidemics and for the disposal of the bodies of soldiers after great battles.

Recovery after Severe Injury to the Brain.—The question sometimes arises in court, "Is not such a wound—one, for example, penetrating the brain, or the heart, or the lungs—necessarily fatal?" The first impulse would be to answer in the affirmative; yet a sufficient number of remarkable recoveries is on record to constitute a respectable minority of exceptions to the rule of fatality. The following case,¹ reported by Assistant Surgeon P. F. Harvey, U. S. A., will illustrate the necessity for the use of caution in giving testimony that a bullet wound through the brain is inevitably deadly.

The patient, an Indian-agency physician, received a Winchester-rifle ball three inches and a quarter above and one inch behind the right external auditory meatus. The missile took a transverse direction across both hemispheres toward the left supra-orbital convolution, a grooved director being easily passed in that course, a distance of five inches, without, however, reaching the ball. The patient did not lose consciousness on being wounded, and complained only of "seeing stars" and of some confusion of ideas; he recovered so rapidly that after thirty-five days of convalescence he took a journey of ninety miles, in December, in an open buggy, alighting several times to make his way on foot through deep snow-drifts. At the end of this exertion, however, two convulsions occurred, and the wound in the head reopened. Subsequently, various threatening symptoms supervened, but they were all happily managed, and complete convalescence ensued. Six months after the wounding the patient

¹ American Journal of the Medical Sciences, July, 1879, page 146.

traveled across the plains to his home in Indianapolis, and on his arrival reported himself in excellent condition.

In this connection may be mentioned an instructive paper by Dr. H. R. Wharton, of Philadelphia,¹ wherein he gives an analysis of three hundred and sixteen recorded cases in which foreign bodies were lodged in the brain. Of these 316 cases, 160 recovered and 156 died. There were 106 cases in which the intruding body was removed; the result in these instances was fatal in 34; of the 210 cases in which the foreign body was allowed to remain in the brain, 122 ended fatally in consequence, and 88 recovered. Brodie's opinion, that recovery is more apt to follow wounds of the anterior portion of the brain, is confirmed by an examination of the cases in the present series, where the foreign body penetrated the frontal bone: of these, 132 in number, 58 ended fatally and 74 resulted in recovery. The parietal bone was penetrated 58 times, with 27 deaths and 31 recoveries. The occipital bone received the lesion in 23 instances; 16 of the subjects died and 7 recovered. The foreign body entered the brain through the temporal bone 31 times; there were 12 deaths and 19 recoveries. Wounds of the orbit were by far the most fatal; there were 18 cases on record, all but one of which resulted fatally.

Recent Decisions.—The following are notes of decisions by the courts concerning matters of medico-legal interest:—

(1.) In the trial of a man indicted for rape,² the complainant testified that the defendant and some others seized her on the street at night and carried her into an alley-way, where he and the others ravished her. There was a verdict of guilty, and the defendant moved for a new trial. The defendant requested the court to charge the jury that, to constitute the crime of rape, it was necessary that the prosecutrix should have manifested the utmost reluctance, and should have made the utmost resistance. The court did not comply with this request, and the refusal to do so was made the ground for asking a new trial. The importance of resistance was held by the supreme court of appeals, before which the motion came, to show two elements in the crime: carnal knowledge by force by one of the parties and non-consent thereto by the other; and the jury must be satisfied of the existence of these two elements in every case, by the resistance of the complainant if she had the use of her faculties and physical powers at the time, and was not prevented by terror or the exhibition of brutal force. So far, resistance by the complainant is important and necessary; but to make the crime hinge on the uttermost exertion the woman were capable of making would be a reproach to the law as well as to common sense. Such a test it would be exceedingly difficult, if not impossible, to apply in a given case. If the failure to make extreme resistance was intentional, in order that the assailant might accomplish his purpose, it would show consent; but without such intent it shows nothing important whatever. A new trial was not granted.

(2.) A man murdered a woman by shooting her; his defense was that he was intoxicated, and thus irresponsible.³ The case came before the Nebraska supreme court on exceptions filed by the defendant.

The court reaffirmed the principle, now tolerably well established, that "settled insanity, produced by intoxication, affects the responsibility in the same way as insanity produced by any other cause; but insanity immediately produced by intoxication does not destroy responsibility when the patient when sane and responsible made himself voluntarily intoxicated."

In the same case, it was held that the fact that the prisoner was in a drunken state when he committed the homicide does not in itself render the act of shooting the deceased any the less criminal, nor is it available as an excuse.

(3.) A midwife volunteered to cure an attack of ophthalmia in the infant at whose birth she assisted, and whom she was nursing.⁴ She advised the parents that it was unnecessary to call in a physician, as she had successfully treated similar cases. The sight of the child was destroyed. The mother of the child brought an action to recover damages. At the trial there was medical evidence that if other and more active remedies had been used loss of sight would not have resulted. The midwife did not pretend to know of these remedies.

The case was carried from the superior to the supreme court on exceptions, the lower tribunal having dismissed the suit with a verdict for the midwife, without giving the case to the jury. The supreme court confirmed this disposition of the action, on the ground that a person who without special qualifications volunteers to attend the sick can at the most be required to exercise the skill and diligence usually bestowed by persons of like qualifications under like circumstances. Under the rule requiring ordinary care, as applied to this case, the court saw no evidence of neglect in any degree. [That is to say, the midwife showed no greater skill than she pretended to possess,—a safe harbor for incompetency.]

(4.) The liability of hospitals for the consequences of the acts of their visiting physicians and surgeons on duty has recently been tested anew in a case in New York,⁵ and the principle is reaffirmed that if such institutions have exercised due diligence in securing skillful and careful medical men to treat their patients, they cannot be held accountable for alleged malpractice on the part of these medical officers.

One of the surgeons of the Manhattan Eye and Ear Hospital, after consultation with both his colleagues, advised and performed an operation for chronic glaucoma. The necessity of an operation was agreed to by the three consultants, and there was no accident during its progress. Two weeks later the patient left the hospital with vision exactly the same as when she entered. In a few days after her discharge, inflammation developed, and she returned to the hospital for treatment. Another operation was advised, and the patient consented to its partial performance. The operation had no permanent beneficial effect, and the woman became blind. She brought a suit against the hospital for fifty thousand dollars for the loss of her sight. The trial took place before the New York supreme court, Judge Lawrence presiding. After a full hearing of the testimony, in which, on the part of the hospital, it was shown among other things that no complaint was made at the time of the alleged injury to the surgeons or to any of the hospital authorities

¹ Philadelphia Medical Times, July 19, 1879, page 493.

² State [of Connecticut] v. Shields. The Reporter, 1879, vol. vii, page 140.

³ State [of Nebraska] v. Schlenker. The Reporter, vol. vii, page 207.

⁴ Higgins v. McCabe. Supreme Judicial Court of Massachusetts. 125th Massachusetts Reports.

⁵ The Medical Record, June 21, 1879, page 600.

concerning the surgical treatment; that the surgeons were men of preëminent skill in their profession, and had pursued the usual methods of diagnosing and treating chronic glaucoma, — a disease which almost inevitably ends in blindness, — the judge dismissed the complaint, without giving the case to the jury. This decision in favor of the hospital rested on and reaffirmed the principles set forth in a judgment rendered by the supreme court of Massachusetts in a similar case,¹ the essential points being that the Manhattan Eye and Ear Hospital was a charitable institution which, having exercised due care in the selection of its agents, was not liable for any injuries to a patient caused by their negligence; that, in the present instance, there was no proof that there had been any negligence whatever on the part of the surgeons, who were shown to be men of superior skill, and to have exercised their skill with proper caution.

Hospital Practice and Clinical Memoranda.

CLINICAL LECTURE ON DISEASES OF WOMEN.

DELIVERED AT THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

BY PROFESSOR T. GAILLARD THOMAS.

[Reported by P. Brynberg Porter, M. D.]

PROBABLE CARCINOMA OF THE OMENTUM.

GENTLEMEN: This patient was sent to me by Dr. Campbell, of this city. She is a native of Ireland, is forty-three years of age, and has had seven children, but no miscarriages. Her last child was born twelve years ago.

As the woman is very deaf, it will be necessary to get the history of the case from her daughter, who comes here with her. The latter tells me that her mother has been really ill for three months only, but that she suffered from dyspeptic symptoms for two years before that. Three months ago she began to feel such soreness about the abdomen that she consulted Dr. Campbell, and, on making an examination, he discovered a tumor in the situation where the pain was located. But laying the matter of the tumor aside for the present, let us inquire a little further concerning the symptoms from which the patient has suffered. On doing so, we find that she has wasted away in the most marked manner, and that she has lost so much strength that she cannot now go up-stairs without assistance. Besides, a great change in the color of the face has been noted, and she is to-day excessively pale and anæmic looking. Yet there has been no loss of blood whatever to account for this wasting of strength and cachectic appearance. What she complains of principally now, in addition to weakness, is great pain and soreness about the abdomen. There has never been any derangement of any kind of the menstrual function, so far as we are able to ascertain.

Now here is a woman approaching the menopause who was perfectly healthy up to two years ago. At that time, her daughter tells me, she lost her husband, and her general condition at once began to depreciate. The principal symptoms have been dyspepsia, loss of appetite, loss of flesh and strength, and marked pallor of countenance; and she has at length become so weak

that any exertion is burdensome. When we look at her face, we see at once that some grave trouble is present in her system. It is the face of an individual who might be suffering either from great loss of blood, or from a poison affecting the blood. In some maladies both causes combine to produce such an appearance of countenance. Thus, in Bright's disease there is, first, a loss of albumen, depriving the blood to a greater or less extent of its nutritive power, and, secondly, an actual poison present, which the kidneys do not eliminate, and which accumulates in the blood. Let us now proceed to make out, if possible, what the trouble really is here.

It has been stated that her physician found an abdominal tumor, and it is a matter of great importance that its character should at once be ascertained. When we examine it, we find that it consists of a round, firm mass, of considerable size, which is situated a little to the left and on a level with the upper edge of the umbilicus. Its surface is hard, resisting, and nodular, and feels actually *brittle* to the touch, if I may use the expression. Now, if this is an ovarian tumor, there is an excellent chance of a successful operation and the saving of the patient's life, and you can therefore see of how great consequence it is in such a case to arrive at the diagnosis as promptly as possible. Even if it is a solid tumor of the ovary, her life may be saved; as in the case of the patient who was before you in the early part of the course, and upon whom I afterwards operated at the Woman's Hospital. When she was leaving the hospital, a short time ago, she came up to say good-by to me, and she had actually grown so stout during the past two months that I did not recognize her at all. Yet the present patient looks quite as badly as she did when she first came to the college. The all-important question here, then, is, What is the diagnosis? This being determined, we ask, in the second place, What can we do for her?

After a careful examination of the case, I do not hesitate to say that my opinion is that no operation will ever be performed in this case. There is nothing about the tumor that points either to the uterus or the ovaries; and in the history, as you have heard, the patient has complained of no menstrual disorder of any kind whatever. There has been here simply a gradual failing of strength and health, a general giving way of the constitution. When an examination of the pelvis is made, nothing at all can be felt of the tumor, and there is well-marked resonance over a considerable space between the latter and the pelvis. The mass is entirely immovable; and I believe it to be of malignant character, in all probability connected with the omentum. It does not seem to belong to the intestines; because if this were the case, it would probably give rise to well-marked symptoms, such as tympanites, severe localized pain, and possibly dysenteric diarrhoea.

But you may ask, Why not cut down upon the tumor? In such cases as this the patients themselves are often very anxious to have an operation performed for their relief; but we are to remember that the true surgeon always acts for the good of his patient, and not merely for the advancement of medical science. Here I do not doubt that toxæmia already exists, and I firmly believe that no operative procedure whatever would be of the slightest service. All that we can do is to endeavor to keep up the strength of the patient, and render her as comfortable as possible.

¹ McDonald v. Mass. Gen. Hospital, 129th Mass. Rep., page 423.

POST-UTERINE FIBROID.

Elizabeth C., aged twenty-two years, and a native of the United States. She has been married four years, and has had two children, which were both still-born at full term. Her last confinement occurred five months ago, and she has never had any miscarriages. How long have you been complaining? "Since my first child was born." How have you suffered? "I had severe after-pains just after the birth of the child." How long did these continue? "They have never left me at all, scarcely." And yet you have had a second child since? "Yes." (This is certainly a very strange history.) Did you suffer the same pains while you were pregnant also? "Yes, all the time." Then did they continue after the birth of the second child, too? "Yes, and on up to the present time." How does this pain affect you? "I feel all the time as if I could force something out." And is the pain very bad? "Yes; oftentimes I cannot get any sleep either by night or day." Does the pain ever wake you up at night? "Yes, often." Do you ever have to bear down as if you were actually in labor? "Sometimes." Do you ever expel anything? "Yes, lumps of blood." When is this, — at the time of your monthly periods? "Yes, and between these, too, sometimes." When you are free from these pains you feel pretty well, do you not? "Yes, but I have a discharge all the time." How long have you had that? "Ever since the first child was born." Do you suffer much pain at the time of your monthly sickness? "Not very much." Do you feel easier then than at other times? "Yes, always." How long does your sickness usually last? "About five days."

Now I do not remember ever to have heard just such a history as this young woman has given us; and it naturally excites our curiosity to find out what may be the cause of the peculiar trouble experienced here. When we make an examination, however, everything is clear about the case, except the treatment.

But before giving you the results of the exploration which I made here, let me relate briefly a somewhat similar case, for the purpose of showing the necessity of resorting to a physical examination in every instance where the symptoms point towards trouble about the pelvic organs. Whoever fails to do this, or at least propose it to the patient, is very culpable. A short time ago a lady from out of town came to my office with the story that for the past eighteen months she had suffered such acute pain that her physician was obliged to almost narcotize her in consequence; so that he deemed it prudent to keep a galvanic battery in readiness, lest she should at any time get too fully under the influence of opium. Sometimes he would have to give her two or three hypodermic injections of morphia during the same night. The pain was principally noted in the right iliac fossa, but also extended further up the side and down the right lower extremity. During the eighteen months a number of consultations were held in regard to the case, but no examination was ever proposed. Let me say that the examination in this case is not likely to result in any good to the patient; but it will certainly prove of great service to her physician, because he will now know what the actual condition is, while before he was in total ignorance in regard to it. When I examined the patient, I found that the uterus, was pushed considerably over to the left side, and that a solid fibrous tumor to the right of it was pressing with such force upon the sacral nerves as they entered the

pelvis that no amount of force applied through the rectum could lift it off of them. I believe the mass is wholly immovable and irremediable; still it is well to know what the condition really is.

But to return to the present patient. The woman lying upon her back, I made a vaginal examination, and found the uterus about in normal position, with the exception that it was tilted just a little forward. Behind it, however, I soon ascertained that there is a mass about as large as a hen's egg attached to the organ in the position which I indicate upon the blackboard. This is also a fibroid; but, unlike the one of which I have just been speaking, it is not pressing upon the foramen and the sacral nerves, though it is seriously interfering with the innervation of the uterus.

You remember that the patient said that both her children were still-born, and on questioning her more particularly in regard to her labors I find that in the first one she was delivered with forceps. I do not doubt that the reason why the forceps had to be resorted to was the presence of this fibroid. It is now as large as a hen's egg; but you must not forget that such masses increase with the size of the uterus during gestation, so that at the time of the delivery it was no doubt at least two or three times as large as it is at present. Such tumors are of very much the same character as the mass of the uterus itself; so that Virchow thinks they should not be called fibroids at all, and has termed them myomata. In such a case as this there is a great accumulation of blood in the uterus, — a metro-stasis, as it is sometimes called. But the bearing-down sensation on the part of the patient is not due, you must understand, to blood in the uterine cavity.

Now as to the treatment. Any one who would attempt to remove this tumor by surgical interference, I hold, would be exceedingly culpable; because, as you can easily perceive at a glance, the patient is in excellent general health. Yet, in another case, where death itself may be imminent from the bad effects of the growth, the operation of removing it would be not only justifiable, but imperatively demanded. The surgeon who should hesitate to operate in such a case ought to be considered culpable for his cowardice or negligence. What I would suggest in this instance is the persistent hypodermic injection of ergot; and there is no preparation that I know of better for the purpose than Squibb's fluid extract. This should be resorted to two or three times a week; commencing with five drops, and gradually increasing the amount to fifteen drops. In this way I should hope to control the pain to some extent, at least. Ergot acts by causing the muscular coats of the arteries to contract, and I have known its administration to occasion marked diminution in the size and increase of the firmness of even the radial artery.

But you must remember that the nervous system is affected by such a condition as this; although whether a trouble of this kind will cause much disturbance or not must depend on the state of the patient at the time. In the same way, a woman may have cystitis for a long time, and yet scarcely be aware of its existence until she meets with some affliction or source of anxiety, when she will begin to suffer terribly from it.¹

¹ This patient having come under my care, I tried the experiment of giving ergot by the mouth before resorting to its use by hypodermic injection; and so beneficial did its effects prove in this case that I found it unnecessary to employ the latter. She was placed upon half-drachm doses of Squibb's fluid extract of ergot three times a day, and almost from the first the pain of which she had been com-

RETROVERSION EXISTING FOR A CONSIDERABLE TIME WITHOUT SYMPTOMS.

Our next patient is Margaret H., born in Ireland, and thirty-five years of age. She has been married thirteen years, and has had three children and one miscarriage. She was last pregnant two years ago, and that was the time when she had the abortion. When questioned as to her history, she states that she was well up to two months ago, when she lost a child five years of age, and was greatly overcome in consequence. Since then she says she has had a constant pain in the back and has grown very pale. That is all that she complains of. There is no difficulty whatever about her menstruation, and she has no leucorrhœa.

In connection with this case, also, let me relate another, occurring in my private practice. To-day a lady was sent to my office from a neighboring town who for some time has been under the care of two of the best physicians which I know of within forty miles of New York. Retroversion was supposed to exist, and so all sorts of pessaries were applied for its relief; but all without effect. The diagnosis was incorrect, however, simply because the examination resorted to was not made with sufficient care. When I investigated the case myself, I found that there was no retroversion at all, but, instead of that, an ovarian cyst of slow growth down in Douglass's cul-de-sac. Accordingly, I recommended that the cyst should be evacuated by means of the aspirator, the needle being passed through the posterior wall of the vagina. In case this should fail, I advised that vaginal ovariectomy should be performed.

In the present instance I thought at first that the same condition might exist; but when I felt for the body of the uterus in the usual position, it was wanting. Consequently, I at once changed my view of the case. In the other one, however, I could readily feel the body of the uterus; while below it was the mass described. The trouble in it was that the attending physicians were careless in their examination, and because they found something down in Douglass's cul-de-sac took it for granted that the uterus was retroverted. If they had explored the cavity of the organ with the probe, they would have ascertained that the fundus was in its proper position, and, consequently, that the mass that they felt below must be something else. When I introduced the probe in the case now before us (the patient's position being changed to the side), I found that there was very marked retroversion, the diagnosis being made positive in this way. In such cases the passage of the uterine probe is the *experimentum crucis*.

The question now arises, When did this retroversion occur? I have not the slightest doubt that it was caused two years ago, when her last child was born; and yet it has never given her any trouble at all until lately. You will find large numbers of strong, healthy women who go about perfectly well for a long while with marked retroflexion of the uterus. Then they meet with some trouble or worry, and from that time it renders them miserable. Here, as we have seen, the patient two months ago lost a child, over which she grieved a great deal; and ever since then she has suffered from pain in the back, and has been growing pale. This, you perceive, only goes to confirm the truth of placing so long altogether disappeared. The fibroid also diminished notably in size, and when the patient was last seen (after a prolonged course of the ergot) it was scarcely appreciable in an ordinary uterine examination. — P. B. P.

what I said, in connection with the last case, in reference to patients not infrequently being the subjects of serious disease, and yet suffering no bad effects from it until some trouble occurs which produces a depressing effect upon the nervous system.

The next question is, What is the prognosis? There are so many cases which come here in which I make the diagnosis for you, and then have to confess that little can be done for the patient, that I am always glad to meet one, as in the present instance, in which the prognosis is altogether favorable. All that is necessary here is to restore the uterus to its normal position, and then apply an appropriate pessary to retain it there. This restoration should be made by lifting up the fundus with two fingers if possible, and not by means of the sound or repositoir, if it can be avoided, as any instrument whatever is liable to do injury if carried up into the uterine cavity. In this way I believe the patient may be entirely cured, although she may have to wear the pessary for six months, or even a year.

The treatment here, you observe, is a mechanical affair altogether; and it would simply be a piece of folly to put in the pessary before the uterus has been restored to position, as is not infrequently done, even by those who ought to know better. It is such men as this whom you will hear declare that "pessaries are perfect humbugs." But not only can a cure not be effected by such a procedure, but an attack of pelvic peritonitis is very apt to be set up in consequence of it. As well might a surgeon, when called to treat a fracture (of the forearm, for instance), apply a splint, while he leaves the fragments of the bone overlapping each other. The design of splints in such cases is merely to maintain what it is necessary first to establish, *apposition*.

Is any other treatment called for in addition here? Not at all. When the uterus has been restored to its natural position, and kept there, the source of irritation of the nervous system will be removed, and the patient will get well. Anything that affects the nervous system injuriously interferes with nutrition, and when such irritation is withdrawn nutrition will go on regularly once more.

A CASE OF ATTEMPTED SUICIDE BY CHLORAL HYDRATE. SUICIDE BY CANTHARIDES.¹

BY FRANCIS F. BROWN, M. D., READING.

E. C. Q., aged forty-two, insane, phthisical, took with suicidal intent, on an empty stomach, eighty grains of chloral hydrate, December 17, 1879, about nine A. M. He was found snoring within five minutes after taking it. I saw him thirty or forty minutes afterwards, and found him comatose, breathing stertorously; twenty-four respirations per minute; pulse 80, of fair strength; pupils contracted. I gave him a teaspoonful of water, which provoked no effort to swallow; believing that emetics would be useless, even if swallowed, I concluded to wait and watch, as his respiration and pulse were good. At 10.15 both suddenly failed. The pulse became a feeble flutter, diastolic, scarcely to be counted, but I thought it was 100; respiration 21, increasing soon to 30. A few deep, snoring respirations would be followed by a number of shallow ones, in which the air seemed scarcely to enter the lungs at all. The tongue fell back, and partially obstructed the wind-

¹ Read before the Middlesex East District Medical Society.

pipe. I pulled it forward, shook him, and gave half a drachm of rum subcutaneously. The pulse slightly improved; the same dose was repeated in half an hour, and afterwards in drachm doses till one p. m., then every hour till three p. m., the last dose at five p. m. Nine drachms in all were given. This alarming condition continued a little more than an hour, from 10.15 to 11.30 A. M., during which time the tongue had to be kept pulled forward, and it seemed as if the heart and respiration would stop. At noon the respirations were 30; the pulse was 90, distinct, gradually falling to 68 at five p. m. After three p. m. he moved occasionally, and partially recovered consciousness at ten p. m., thirteen hours after taking the chloral, but he did not regain his speech till four hours later. The contraction of the pupils lasted about an hour, after which they were normal.

There are some points in this case which, though not unusual, are of interest:—

First. The suddenness of the soporific effect of the chloral. He had not been left more than five minutes when he was found snoring and unconscious.

Second. Absence of alarming symptoms for about one hour. During this time his pulse was 80, of fair strength and volume, and his respirations were 24.

Third. Sudden onset of the physiological effect of a poisonous dose of chloral, namely, failure of the heart's action and respiration, lasting about an hour and a half. Prof. H. C. Wood's *Therapeutics* speaks of *slowing* of the heart's action and respiration, as well as weakening of the same, as characteristic of chloral poisoning. Others do not lay so much stress on this effect, which in this case did not follow; but when the action of the poison was most marked the pulse was a rapid flutter, scarcely to be counted, dicrotic. After these alarming symptoms had subsided, the pulse was 90, gradually falling to 68 five hours afterward. His usual pulse lately had been from 75 to 80. The respirations, instead of being slow, as in opium poisoning, were quickened, ranging from 24 at first to 30 an hour or two later. Their alarming character was manifested in an entirely different way, as described.

Fourth. The good effect of hypodermic injection of alcohol was marked. Apparently it saved the patient's life.

Fifth. There was some anesthesia. Water did not provoke an attempt to swallow, and the needle punctures were not felt. The patient seemed as if a surgical operation would not rouse him, but I made no experiments.

The quantity of chloral requisite to produce death varies greatly in different cases. Forty-five and even thirty grains have produced alarming symptoms, and cases are on record in which so small a dose as thirty grains, and even less, has been followed by death. On the other hand, four hundred and sixty grains have been taken without fatal result.

Not satisfied with this the patient made another attempt on his life the next day, which was successful. Soon after eight A. M. he swallowed, on an empty stomach, half a pint of the following mixture:—

℞ Cantharidal colloidum	ʒi.
Sulphuric ether	ʒi.
Strong alcohol	ʒxvi. M.

This had been left by a former medical attendant for external irritation, and when somewhat freely used had produced vesication. I saw him in about half an hour. Attempts were at once made to excite vomiting. He

resisted strongly, and his jaws were set like a vice. We managed to pry his mouth open several times, and in all an ounce and a half of fluid extract of ipecac were poured into it. How much reached his stomach I do not know; probably but little. Considerable time was thus occupied. On account of this, and the further delay before a stomach-pump could be obtained, and the improbability that anything could be effected by it, I concluded that his fate could not be averted. He vomited between ten and eleven A. M., but mucus only. During all this forenoon, although he resisted us so strongly, he seemed in a semi-conscious state. Passed urine first at noon, and frequently and in considerable quantity—two quarts, his wife said—that afternoon. At first it was normal in appearance; then it contained something looking, I was told, jelly-like, or like the white of egg,—this I did not see; and finally it was bloody. In the evening it grew scanty, and frequent unsuccessful attempts were made to void it. He passed a little about midnight, none again till seven or eight A. M. and no more during the remaining twelve hours that he survived. The pain that he complained of most to me was over the region of the kidneys. That he said was severe. There was a good deal also over his bladder and the course of the left ureter, and scalding of the urine. No priapism. He never admitted to me, though repeatedly questioned, that he suffered in the stomach or bowels, but to his wife he said he was "burning" there. Mouth and throat were raw and sore, and from them he raised fluid freely, at first clear, later purulent and bloody. Signs of pain and distress did not make their appearance during the first forenoon; for four hours he lay quiet except when attempts were made to make him swallow. The pulse throughout was small, about 100, gradually growing weaker. The skin was cool; hands and feet tended to become cold. Opiates were freely used after signs of suffering made their appearance. He died thirty-five hours after taking the dose.

Autopsy, eighteen hours after death: present, Drs. S. W. Abbott and George E. Putney. Lungs contained tubercles, not softening; most in the left upper lobe, less in lower, a few in the right upper. Heart healthy, filled with fluid blood. (Esophagus, stomach, and duodenum inflamed; the two former deeply congested, the latter of a brownish hue. Bowels also congested, the redness growing less from above downward. Kidneys enlarged, the left larger than the right, intensely reddened, and gorged with blood. Dr. R. H. Fitz, who examined the specimens, found no evidence of fat in them. The interior of the bladder was reddened, and it contained two ounces of bloody urine. The liver and spleen were both gorged with dark blood, and the latter was somewhat enlarged.

— In commenting upon a death from chloroform, the London *Lancet*, instead of recommending the substitution of ether, says: "The lesson to be learned from accidents of this nature is that every operating theatre should always and constantly be provided with all the proper appliances to meet the fearful emergencies which, however rare [?], are liable to occur whenever anesthetics are given!"

— Says the *Western Lancet*: "All the homœopathic doctors ran away from Memphis on the appearance of the plague. Of the forty-six regulars ten did likewise."

Reports of Societies.

PROCEEDINGS OF THE NEW YORK ACADEMY OF MEDICINE.

ELECTION OF OFFICERS.

At the first meeting of the new year, held January 8th, the annual election of officers occurred, and among those chosen were the following: vice-president, Dr. Frank H. Hamilton; recording secretary, Dr. Edwin F. Ward; corresponding secretary, Dr. John G. Adams; and treasurer, Dr. H. P. Farnham. There was no election for president, Dr. Fordyce Barker's term having not yet expired.

On this occasion Dr. J. W. S. ARNOLD, professor of physiology and histology in the medical department of the University of New York, delivered an attractive address on

THE GRAPHIC METHOD AS APPLIED TO PHYSIOLOGICAL INVESTIGATION.

In commencing his remarks, he said that the graphic method, which within the last few years had been employed with such brilliant success in the field of physical science, had of late been adopted to such a wide extent in physiological researches that it would be quite impossible for him, in the limited time at his command, to describe or even allude to all its various applications in this department; but he trusted to be able to give those who were unacquainted with its advantages some slight idea of the method and the general manner of using it in these investigations. In the practical study of physiology it was frequently necessary to record a succession of acts, in regard to which, on account of their rapidity or the situation of the parts in which they occurred, it was impossible to make any accurate observations by means of our senses; but with the assistance of the graphic method, we were not only able to make observations of perfect accuracy, but also to record them in such a manner that we could study them at our leisure. The method was precisely the same as that now employed in all departments of science, and by it we were enabled to make definite measurements of the time and force expended in such acts.

The starting-point of the system was a space or distance moving in a horizontal direction past a fixed point in a certain period of time. This line in geometrical language was known as the *abscissa*. A line meeting this at a greater or less angle of inclination, according to circumstances, was known as the *ordinate*, and if the act which it represented were very rapid it would be at right angles, or nearly at right angles, with the *abscissa*; while if it were of a slow character, the angle described would be an oblique one. By studying the relations of the *abscissa* and the *ordinate*, which together constituted the coordinates, in the actions of the various portions of the economy, we could calculate almost anything in physiology. Especially could we thus obtain an accurate knowledge of muscular movements, and hence we had been able to determine much in regard to the heart and the circulation of the blood which had been hitherto unknown. This, however, was but one of the claims of phenomena which had been satisfactorily investigated by means of the method; and there were many others of equal importance or interest, such as the determining of the rapidity of nerve conduction and the time occupied by the brain in the exercise of its powers of volition and reason.

Dr. Arnold then proceeded to explain some of the applications of the graphic method, and some of the results that had followed these applications. The first essential was a traveling surface that moved at a uniform rate of speed, and this was most conveniently secured by means of a brass cylinder propelled by clock-work of great accuracy, which was regulated by a governor, and which could be made to go at a faster or slower rate, according as the observer desired. This cylinder, which was so arranged that it could be changed from a vertical to a horizontal position, served as the means of transmitting the various kinds of motion to the writer. The latter should be constructed to move with the least possible amount of friction. In this connection he described and exhibited the drum lever of Professor Marey, and pointed out the convenience of its application, as well as its other advantages. With this instrument such actions as the motion of the muscle of the ball of the thumb, and the movements of the elbow could be accurately recorded. For determining the character of the apex beat of the heart, a larger drum, fitted with rubber feet was required; and this enabled us to record both the rhythm of the heart and the respiratory movements at the same time.

In order to obtain accurate observations of the movements of the interior portions of the heart, Professors Marey and Cheauveau had successfully employed the cardiac sound, or cardiograph, which was introduced into the cavities themselves through an opening made in the jugular vein of a horse, and recorded the contractions of the auricle and ventricle at the same time. In certain physiological investigations it was found desirable to use a number of drums at the same time, and there was no difficulty about doing this, provided the writers or recorders were placed one above the other on exactly the same line.

Time measurement, Dr. Arnold continued, was always an element of great importance in such investigations, and the most convenient way of obtaining this was by means of the vibrations of a tuning-fork. Tuning-forks were not, however, always strictly accurate, and in order to be assured that the time measurement was correct in any case, it was necessary to verify the tuning-fork. This was accomplished with the assistance of a second pendulum, dipping as it swung into a little cup of mercury, which made and unmade a galvanic current, the battery furnishing which was in connection with an induction coil. In determining time it was sufficient to have an instrument delicate enough to indicate five hundredths of a second, as physiological action was quite slow in comparison with that frequently met with in the physical world. Thus, the process of thought occupied about one ninth of a second, while a flash of lightning was infinitely more rapid.

By this graphic method we were able, then, to secure definite observations in regard to form, the amount of force, the relation of one act to another, and the time occupied by various phenomena belonging to physiology. Dr. Arnold then explained the use of the sphygmoscope, the sphygmograph, the myograph, and various other instruments; after which the lights were turned down, and he exhibited numerous illustrations of these and the methods of employing them by means of the magic-lantern. Several of the representations were of unusual novelty and interest, such as the manner of accurately measuring the movements of the legs of a horse, and the flight of birds by the motions of the wings. By means of the myograph, the movements of the leg of a

frog, recently separated from the body and excited by a galvanic current, were then recorded in the presence of the Academy, and, with the assistance of the oxy-hydrogen light, the tracings, while being made, were beautifully thrown upon the wall. It was thus demonstrated that, while the movements under the electric stimulus were very rapid, the relaxation which followed these was more gradual.

In conclusion, Dr. Arnold remarked that the graphic method afforded us the means, not only of investigating much that still remained to be discovered, but also of confirming the correctness of what was already known. So much had already been learned through this instrumentality (especially in the Leipzig and Munich schools) that it was utterly impossible to study advanced physiology at the present time without a knowledge of the method.

The president, Dr. FORDYCE BARKER, in offering the thanks of the Academy to Professor Arnold for his brilliant and interesting address, said that such papers were of great service in fostering a love for science among its members, and in helping the institution to carry out its mission as a teacher in the profession. He did not doubt that some among the younger men present would be stirred up by the address to emulate its author's worthy example in the pursuit of scientific study.

PROFESSOR JOHN C. DALTON remarked that the chair had well expressed the indebtedness of the Academy to Professor Arnold for his lucid presentation before it of the graphic method, the adoption of which, he said, was undoubtedly to be regarded as almost, if not quite, the most important advance made in physiology during the last twenty years. By this means the physiologist had been enabled to determine a great variety of facts with a precision which could not otherwise have been arrived at. There was no question at all that Dr. Arnold was better acquainted with the method and had acquired more proficiency in its use than any one else in this vicinity, and perhaps in the country; and it had occurred to him that, possibly, on account of his own familiarity with the subject, the latter was inclined to underrate some of the difficulties which those less experienced might encounter in its practical application. For instance, *abscissa* and *ordinate* were rather formidable terms to the beginner, and some confusion was apt to exist in regard to them; but if we simply bore in mind that one represented movement and the other time, there would be no trouble about the matter. Seeing a thing, moreover, was always very much better than reading about it, and hence a practical demonstration like this was of the highest possible value. Thus, to see the law of falling bodies actually proved by the graphic method impressed it on the mind in a way that it could never be forgotten; and it was certainly of great interest to know that the same accuracy had been arrived at in the observation of physiological phenomena that had previously been reached in that of physical ones. In physiology there were such numerous movements, and so many variations of these, that it was utterly impossible for us fully to appreciate them by the senses or the mind; and it was well known that two individuals frequently differed entirely in the results of their observation of the same action, especially where several movements occurred in rapid succession. Under ordinary circumstances, therefore, the greatest incongruity must exist in the accounts of different observers; but, on the contrary, with the

graphic method absolute precision could be secured, because the record was made by the *thing itself* while it was actually taking place.

The only matter about which there was liable to be any source of error was as to whether in any case the instrument itself was strictly accurate; but so perfect had the method now become that the means were provided not only for correcting instruments, but also for ascertaining that such corrections were right. It was certainly a marvelous advance. Take, for instance, the cardiograph, he continued. It has always been supposed that the heart was the most delicate and sensitive of organs, and that any interference, however slight, would be followed by the most serious consequences. Yet by way of the jugular vein what is in reality a small walking-stick is introduced into its very cavities, and by this instrumentality their contractions are accurately recorded while they are actually taking place in their normal and regular order and intensity. Dr. Dalton had seen Dr. Arnold testing the cardiograph with the greatest facility in a horse, which was so little disturbed by the process that in the intervals between the experiments he munched his hay with the most profound satisfaction; and he did not doubt that the animal was still munching his hay, as good a horse as he had ever been before.

Remarks were also made by PROFESSOR MEYER, of the Stevens Institute, Hoboken, who is considered the greatest living authority on the correctness of tuning-forks, and PROFESSOR ROOD, of Columbia College.

Recent Literature.

The American Journal of Otology. A Journal of Physiological Acoustics and Aural Surgery. Edited by CLARENCE J. BLAKE, M. D., in conjunction with PROFESSOR A. M. MAYER, ALEXANDER GRAHAM BELL, PROFESSOR A. E. DOLEBEAR, of Tufts College, DR. ELLIOTT COUES, U. S. A., DR. J. ORNE GREEN, DR. A. H. BUCK, of New York, DR. T. SEXTON, of New York, DR. C. H. BURNETT, of Philadelphia, DR. N. H. SPENCER, of St. Louis.

The contents and the form of this journal recommend it as a decided acquisition to American medical literature. We know of no English or American medical journal that has given greater prominence to original scientific work, while its reviews and book notices furnish estimates of current otological literature that render it indispensable to the progressive physician. Indeed, the high character of the journal makes eulogy superfluous; the earnestness which characterizes the work of the editor and most of the contents of the journal leads us involuntarily to analyze a perception of lack of symmetry which we feel as physicians, while we are delighted as students. The result of our analysis brings us to the conclusion that the editors have placed rather too much stress upon the importance of physiological acoustics to the practitioner, and upon the anatomy and physiology of the ear to the physicist, in their attempt logically to connect aural surgery and physiological acoustics. An allusion to this point would be final, were it not that the success of the journal in the medical profession will depend, we think, upon correcting certain results which have followed the conscientious endeavor of the management to realize the purposes above alluded to, and expressed in the introductory as follows:—

"The work which is being done in the field of otology, and which is evidenced in the papers containing records of original investigations appearing in almost every scientific publication, and in the reports of the proceedings of scientific societies throughout the world, naturally suggests to the physicist the better appreciation of the structure and functions of the organ of special sense to the study of which his investigations in acoustics lead, and to the aural surgeon the necessity of overstepping what has usually been considered the boundary of his professional province by turning his attention to investigations in physics as the groundwork of his physiological and pathological studies, in order that he may be the better qualified to make that practical application of the knowledge to be so acquired in the conservative treatment of the various diseases of the human ear."

After examining the valuable papers of Professor Blake, of Brown University, Professor Mayer, Mr. Bell, Professor Dolbear, and Dr. Blake, contained in the present volume, we remain in doubt as to the advisability of making investigations in physics the groundwork of physiological and pathological studies; we feel rather like warning the practitioner from the danger of so doing; we would emphasize the imperfections of anatomy and physiology, and urge him to make direct observation in these branches the groundwork of his studies, to the end that his efforts may not be misdirected in attempts to harmonize physical truths with our present imperfect knowledge of the structure and functions of the ear, but that they may be turned to the proper professional aim of rendering this imperfect knowledge more complete.

The considerations that lead us to this opinion are not based upon theoretical grounds alone; they are partly founded upon the nature of the papers devoted to aural surgery in the present volume; these, with a few exceptions, notably those of Drs. Green and Burnett, do not appear favorably by the side of the careful and original observations contained in the papers devoted to physiological acoustics, while the anatomical and physiological contributions of Drs. Cones and Hunt are altogether too lonely.

Finally, we repeat our estimate of the scientific character of the journal and our heartiest wish for its success. Only a real desire that it may enjoy a long and vigorous life could lead us to appear almost ungracious in expressing our hope that in the future more of anatomical and physiological research, and a higher degree and greater amount of clinical observation, may furnish a better balance to the work of research in physiological acoustics. D. H.

Studies relating to the Curability of Insanity. By PLINY EARLE, A. M., M. D., Superintendent Northampton Lunatic Hospital.

These studies are extracted from Dr. Earle's last report, and offer further proof of the propositions contained in his paper on The Curability of Insanity, also a reply to Dr. Ray's rejoinder, entitled, *Recoveries from Mental Disease*. By diligent inquiry Dr. Earle follows out the subsequent history of twenty-five patients reported "recovered" in the Worcester Lunatic Hospital Report for 1843, and finds that eighteen of them had one or more subsequent attacks, seven having already died insane. The result very nearly approximates the formula of Dr. Thurman, of the

York Asylum, England, based on two hundred and forty-four persons. He says that of ten persons attacked five die in the first attack and five get well. Of the five who recover not more than two remain well, and of the other three two die insane. This is the most unfavorable estimate which has ever been made.

Dr. Earle says his object is to show that the popular belief in the great curability of insanity is not founded on facts. If such a pleasing delusion exists, it is questionable whether it is worth while to disturb it, especially when it is known that recoveries from repeated attacks are, by his own showing, extremely common. There is certainly some encouragement to be gleaned from the fact that patients recover from once to thirty-five times! Dr. Earle is deserving of credit for studies which tend to show numerically what all those familiar with insanity have known,—that there is a strong tendency to recurrence. But it is not necessary to estimate the curability of insanity on the basis of absolute immunity from future attack. No other disease is so treated in our general hospital statistics. Acute rheumatism, for instance, may be recovered from many times, and each recovery is satisfactory to the patient and creditable to the hospital. The chief objection to enlightening the public as to the danger of recurrence in recoveries from insanity is its disheartening effect on the patient, and the new weapon it puts in the hands of unfeeling, or rather unreasoning, opponents of hospital treatment.

The portion of these studies devoted especially to Dr. Ray's essay we leave to the great experience and skillful pen of Dr. Ray himself. We do not see any very broad disagreement between them. Both admit that reported percentages of recovery have diminished within the past thirty years. Dr. Earle thinks the temperament of the superintendent, and more especially the reporting of cases as if they were persons, will account to a great extent for the change. Dr. Ray thinks that the operation of these causes has been so constant to the present time as not to have much effect. He thinks the growing custom of admitting all forms of chronic and incurable mental disease, often complicated with organic brain disease, necessarily fatal, as well as a supposed decrease in curability from diminished vitality in our day, more probable causes of less frequent recoveries. Dr. Earle admits the above facts, but still claims, with perfect justice, that the frequent recurrence of insanity in persons reported as recovered reduces the percentage of persons permanently cured much below that of cases reported "recovered" in our hospital reports.

Dr. Earle accounts for the large percentage of recoveries in some of the Western hospitals by the probably large number of dipsomaniacs in them. His opinion rests on the hypothetical insane asylum of Mr. Henry W. Lord, secretary of the Michigan State Board of Charities and Correction, who in a recent pamphlet (*Hospitals and Asylums for the Insane*) assigned from thirty to fifty insane drunkards to a hospital for six hundred patients. This would be from five to eight per cent., which is a vastly greater number than our Massachusetts hospitals contain. T. W. F.

—The London Hospital on Christmas day received from a lady, who left it anonymously in an envelope at the porter's gate, the handsome gift of £5000.

Medical and Surgical Journal.

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REPORT OF THE HEALTH OFFICER OF THE PORT OF NEW YORK.

OBSTRUCTIVE QUARANTINE.

DR. S. O. VANDERPOEL, health officer of the port of New York, has recently sent in to the commissioners of quarantine a valuable report characterized by a great deal of sterling common sense, which is largely devoted to the important subject of the purification of infected vessels, and in which he contends that the methods for accomplishing this which have been most prominently urged, if carried out, would involve much unnecessary expense and time, and would in effect make an obstructive quarantine. He first gives an interesting *résumé* of the history of yellow fever during the past season. The number of foreign ports at which it prevailed as an epidemic, together with its fatality in a portion of our own country, called, he says, for unusual vigilance on the part of the sanitary authorities. So persistent has been the disease in some of these ports, especially those of Hayti, that until the first of the year the arrival of vessels having had the disease during the passage or bringing it to the port was almost a weekly occurrence. Ninety-five vessels entered having had yellow fever on board either at the foreign port, on the passage, or in quarantine. Two hundred and fifty-six cases were reported as having occurred on these vessels. Twenty-nine cases were at quarantine hospital, of whom eleven died. There were, in addition, twenty cases of malarial fever, resembling yellow fever so much that it was deemed injudicious to pass them up to the city. The constant presence of yellow fever at some one of the West India ports renders its yearly recurrence liable at every port upon our extensive sea-board. Few arrivals of cases of small-pox occurred during the year, — seven in all; the medical inspection of emigrants when embarking on the voyage having almost destroyed this once prolific source of infection.

After speaking of the necessities of commerce at the present day, which demand the most active interchange of commodities, and require that the interests of the shipper shall be interfered with as little as is compatible with the public safety, Dr. Vanderpoel goes on to say: "To accomplish this purpose and enable suspected vessels to return to commerce with the least possible delay, various measures have been proposed, all, of course, having in view the destruction of the infectious element. The fact that this element has so far been intangible, and that all hypotheses for its destruction must rest alone upon its natural history and modes of transmission, render all suggestion more

or less experimental. So far as my observation extends, all the proposed methods with which the papers of the day have teemed for some time past have been advanced by gentlemen whose knowledge of the subject has been mostly hypothetical, and who had never been brought in close practical relations with the peculiarities of vessels, their varied construction, and the delicate relations of commerce and trade with any particular locality. The three methods prominently urged, both in the public prints and before legislative bodies, are, first, what is termed the refrigerating process; second, that by superheated steam; and, third, that of sealing a vessel and pumping in large quantities of air, so that by a process of oxidation morbid elements should be destroyed.

"It is not my purpose to discuss the merits of either of the above-proposed methods. For the sake of argument I am willing to admit that either might accomplish the desired purpose, but must contend that from a sanitary or commercial stand-point they are all impracticable and unnecessary. They are impracticable both on the grounds of time and expense. I assume that the aim of the promoters of these measures is to facilitate the return of vessels to commerce; and yet, in a port with the volume of commerce of New York, it would practically create an obstructive quarantine. In every branch of shipping and commerce time enters as one of the most important factors of success. To delay a steam-ship for successive trips, with its enormous expenditure of maintenance, is practically to abolish the line. Now, what would be the working of either of the above systems at this port? During the greater part of the quarantine season there are seldom less than twenty or thirty vessels discharging at the same time, under quarantine regulations. The use of either of the proposed methods contemplates special apparatus and trained men to place it in the vessel to be purified. Under the most speedy application, to make the work reliable, this would occupy a time of two or three days, and a further period of two or three days to render effective the destruction of the germs. But a single vessel could be treated at once; so that by the time the daily average could be rendered available for commerce, or safe to come to this city, the whole season would have passed, a moiety of the vessels only having been reached. But even if the time, by constructing a number of freezing hulks, could be lessened, another element quite as obstructive arises, — that of expense. The margin of profit arising from a single cargo from the West Indies is relatively small, and the success of the commerce is dependent, in a great measure, upon the extent of the port charges. There are of necessity additional expenses to a vessel discharging in quarantine above those of a vessel allowed to dock, and if to these be added an expense inseparable from such means of purification, the aggregate would be so onerous as to cause, in reality, an obstructive quarantine. I have not the data to estimate the precise cost of such a proceeding, but it could not fall short of two or three hundred dollars for each vessel, while it would require beside all the means of preliminary cleaning

now in use. Methods, therefore, which involve additional delay and expense become as obstructive as if the vessel were subjected to the traditional period of forty days."

In the above it is assumed that the refrigerating process would in all instances be successful; but from his extended experience in observing the varied construction of vessels, Dr. Vanderpool is led to entertain serious doubts upon the subject, and by going into a number of details concerning ship-hulls shows conclusively that there is very good reason for the existence of this doubt. But admitting, he continues, that freezing can be thoroughly effected, what certainty have we that it does more than render dormant or torpid the infectious germs? Analogy tells us that many of the forms of organic life are speedily vivified when, after freezing, they are cautiously exposed to warmer media. Recent experiences would also seem to show that, while the cold of a Northern winter will render dormant the infection of a yellow-fever vessel, the disease will reappear as soon as the vessel passes into a temperature favorable for its propagation.

Serious and doubtful inefficiency as would be the protection from the employment of the above systems, Dr. Vanderpool then urges the further objection that they are unnecessary; and states that he regards as practically efficient the measures which now prevail at the port of New York, and which have been published in number nineteen of the bulletins of the National Board of Health. After making this statement, he anticipates what at first sight would seem to be a valid objection to the efficiency of these measures. In July of the past summer a bark arrived from Havana with sickness on board, and with a history which plainly pointed to an infected ship. The methods of purification which had up to that time been those wholly relied upon were faithfully applied, and, when completed, permission was given to the vessel to come up to the city. After the vessel had been at dock in a very foul locality for ten days, a case of yellow fever occurred in the person of the stewardess; the vessel was then ordered back to quarantine, and a very thorough exploration was made of her. Up to that period, Dr. Vanderpool explains that he had been led to suppose that "limber holes" were a reality, and that when the pump threw out absolutely clean water the bilge was perfectly clean; so that he had never required the limber streaks, as they are called, to be taken up, in order to examine the spaces between the timbers. When the vessel was examined, after her return to quarantine, all her cabin and hull were apparently as clean as could be; but when, with great difficulty, the limber streaks were taken up, masses of filth were found between each frame. After a second purification no other case occurred on the vessel. So, too, one of the regular Havana steamers, though to all appearances as clean as it was possible to make her in every part, still brought in cases of fever on nearly every voyage. After the above experience it was ordered that the limber streaks should be taken up the entire length, and here the limber holes were found to be in frames two inches from the floor and

containing more or less filth. After thorough cleansing, cement was put between each frame to the level of the holes, and no case of fever has since arisen on the vessel.

Finally, Dr. Vanderpool expresses the opinion that no refrigeration or dry steam could insure safety without the careful preliminary purification upon which he insists, and that if this is faithfully carried out, and the prolonged use of sulphurous acid gas thoroughly resorted to, it will reach every secret cranny quite as effectively as the more expensive and elaborate methods.

There is some reason to apprehend that the new governor of New York, with his well-known preferences for homoeopathy, may appoint a practitioner of that school as health officer in Dr. Vanderpool's place; but it is to be sincerely hoped that sufficient influence will be brought to bear upon him to induce him to retain the latter in a position which he fills with so much honor to himself and such evident benefit to the community. As an evidence of the appreciation with which his experience and services are regarded in New York, the fact may be mentioned that all the officers of banks and every firm engaged in commercial business in the city have signed a petition to Governor Cornell asking his retention in office. There may perhaps be no great harm in appointing a homoeopath from an inland town to a merely nominal position, like that of surgeon-general of the State; but to fill the important and responsible one of health officer of the port of New York in the same way would be so unwise a measure that its results would probably prove most disastrous to the public welfare.

DIPHTHERIA: A CIRCULAR OF THE BOSTON BOARD OF HEALTH.

THE Boston Board of Health has issued a circular, which was also published in the daily papers, "for the purpose of more widely extending the knowledge of a few well-attested facts concerning diphtheria, and reminding all persons that greater care should be exercised to prevent the spread of this much-dreaded disease." Such a compendium of the most approved views in regard to prophylaxis and disinfection against a disease so constant and fatal as this is always timely, and cannot fail to be useful. Although the inhabitants of Boston, as of other parts of the country, have, unfortunately, such frequent and sad opportunities of becoming acquainted with the sources, the modes of propagation, and the tenacity of life of the diphtheritic poison, there are doubtless large numbers who will be reached by this circular who are still ignorant of many of the important points which it insists upon, and others who, though knowing, neglect to remember them. There is of course in all cities a large population whom it is impossible to reach by circulars or any other device, and who will continue to do as they have done.

How considerable a factor diphtheria is in the death lists all over the country can be easily seen by consulting the very valuable weekly mortality reports,

which, by the courtesy of the State Board of Health, we are enabled to publish even in advance of those issued at Washington, and whose accuracy (as far as that quality is attainable) and general value cannot be too highly commended to our readers.

No such statistics can do more than approximate to their possible value, until urban populations are accurately estimated and the real causes of death more carefully recorded. Under no disease, probably, are there so many ignorant and purposely perverted death certificates as under diphtheria. We wish it were in the power of the Boston Board of Health to grant some degree of protection against this, and sincerely hope that it may, in the course of another year, find itself in a position to exercise some authority in this particular.

The last paragraph of this circular, we are glad to see, gives emphatic expression to the opinion that "no public funeral should ever take place at the house where the patient died, nor elsewhere, unless the coffin remains hermetically sealed."

MEDICAL NOTES.

—The expenses of the National Board of Health to January 1, 1880, amounted to \$154,002.42, a little over one fourth of the appropriation, which was \$550,000.

—The United States senate has confirmed Dr. Philip S. Wales as surgeon-general of the navy.

—In the state legislature a petition has been presented by Robert Treat Paine, Jr., and others, a committee of the health department of the American Social Science Association, that all persons be prevented from practicing any branch of medicine in this State except such persons as have furnished to the authorities of the State sufficient evidence of good moral character and of the possession of a thorough knowledge of their duty and calling.

—From the annual report of President Warren, of Boston University, it appears that there are one hundred and forty-six students in the School of Medicine, of whom fifty-two are females. It is denied that this school is exclusively under the control of the homeopaths. To what extent this emancipation has been carried we are unable to learn; not very far, we think. "The Homeopathic College of Physicians and Surgeons, Modern School," is the title of a new medical college in Buffalo. The "modern school" means that, together with homeopathy, pure and simple, will be taught the uses of drugs in ordinary doses, such as "the experience of ages has proven remedial."

—Mr. Manders says in the *Lancet*: The prognostic value of herpes labialis in pneumonia has greatly interested me during the last two years, since hearing a remark made by Dr. Broadbent that herpes was invariably preceded by rigors. In every case I have seen since I have found this true, though I have observed that the crop of herpes bears very little relation to the amount of rigor. From this I was led to investigate the phenomenon in other cases where the

nervous system has received a severe shock, and soon had the opportunity of watching over fifty cases of internal urethrotomy. In the majority of these cases rigors took place, and were invariably followed by a crop of herpes, whereas in those cases where no rigors occurred herpes was absent. As in pneumonia, it added very little to the prognosis.

—From the annual report of the treasurer of Harvard University we learn that the Medical School has made a surplus of \$16,763.29, chiefly from increase in the fees from students. Of this amount, however, the sum of \$7223.22 is due to a change made in the form of account, by which all term-bills issued for the year are credited to the school, whether paid within the year or not. The actual surplus would therefore be about \$9500. Hereafter the receipts reported from tuition fees will correspond with the number of students in the school during the year, and not with the bills actually paid within the year, as heretofore. This change makes the Medical School account conform to those of the other departments of the university, and to it is due the large increase in the item of advances for unpaid term-bills. In 1877-78 the surplus of the Medical School was \$3603.61.

In the Dental School, a great reduction of expenses, chiefly in salaries, has made a surplus of \$188.04, which has gone to reduce the debt of the school. In 1877-78 there was a deficit of \$2245.24.

—The house committee on agriculture considered the propriety of memorializing Congress for the passage of a law to prevent the spread of pleuro-pneumonia among cattle.

—We are glad that the *Galveston Medical Journal*, Dr. Greenville Dowell, editor, has reappeared after several years' suspension, "owing to three fires, bad health, and confidence in promises." Having learned wisdom by experience, the editor candidly says, "We do not expect to make money out of its publication, and when it will pay expenses and have any surplus we will increase the number of pages. We edit it for the exchanges and books for review, to which we will give close attention." There is a circulating medical library in connection with the journal.

—M. Mahovsky, a Russian physician, having remarked the frequency of short-sightedness among literary men, suggests that books be printed in white ink on black paper. He has made experiments upon fifty individuals which seem to confirm his view.

—The White Mountain Medical Association will hold its next annual meeting at Wells River, Vermont, on the 28th and 29th January, 1880. This society includes the medical men of those counties bordering upon the Connecticut River from Hanover, N. H., to Canada.

NEW YORK.

—The Sanitary Reform Society, which consists of such men as Henry E. Pellew, Judge Daly, William E. Dodge, Jr., Dr. John T. Metcalf, O. B. Potter, and James Gallatin, have lately had a conference with the board of health, represented by the president, Dr. Charles F. Chandler, and Commissioner Edward G. Janeway, in regard to the operations of the tenement-

house act and other sanitary matters. Last winter there was considerable agitation on the subject of tenement-house reform, and two or three large public meetings were held for the purpose of promoting the object. Since then very gratifying progress has been made in the matter, and on the first of December last the above society was organized; its object being to aid in improving the sanitary condition of the city, and especially the dwellings of the poor. At this conference Dr. Chandler reported that in four months two thousand tenement-houses had been officially visited by the sanitary inspectors, appointed under the provisions of the tenement-house act, and that a ledger account had been opened with each house. All new houses, he stated, were now built strictly in accordance with the requirements of the law. At the commencement nearly every plan had to be rejected; but now architects and builders, better appreciating what was demanded of them, and recognizing the authority of the sanitary department conferred by the legislature, were much more careful to comply with the rules laid down, and at least two thirds of the plans submitted were immediately approved. Many owners of property had come before the board to complain of the supposed injury to their interests thus occasioned; but were soon convinced, as a rule, that the suggestions made were really for their benefit, as well as that of the community at large. The sanitary police, Dr. Chandler continued, reported an average of one thousand seven hundred nuisances a month; but their complaints were generally heeded, and nuisances abated without hesitation. He further spoke of the importance of sanitary reform and active surveillance by the department to the mercantile community, the success that has attended the work of the vaccinating corps, the immunity from serious epidemics that the city has enjoyed, and the gratifying results that followed the house-to-house visitation of the tenement districts during the summer by the special physicians appointed by the board. He regretted, however, that the appropriation of 1879 had been cut down for the present year, and that they would thus be crippled in carrying out sanitary work which had been proved to be of vital importance.

— At this season many entertainments, public and private, are given for the various charitable institutions of the city. The principal of these the present year are the "Martha Washington Reception," in aid of Saint John's Guild, the Charity Ball, in aid of the Nursery and Child's Hospital, and the Purim Ball, in aid of the Mount Sinai Hospital and Dispensary, — all of them being held at the Academy of Music. The first of these came off on the evening of January 20th, and the receipts are to be appropriated to the establishment of a permanent sea-side nursery, to which frequent trips may be made during the summer by the "floating hospital," which has already been in successful operation for some years. The sanitary superintendent, Dr. Day, has written a communication to the officers of the guild, in which he alludes to the happy results which have attended the excursions of the floating hospital, and expresses the opinion that all that

can be said as to the usefulness of the latter applies with double force to a permanent hospital on the seashore, for the relief of the sick children of the poor.

PHILADELPHIA.

— The Philadelphia County Medical Society held its annual meeting January 21st for the election of officers for the ensuing year. Sixty-six members were present. Reports from the board of censors and auditing committee for treasurer's accounts were presented and read by Dr. L. F. Baldwin. Reports were also received from the treasurer, recording secretary, corresponding secretary, assistant recording secretary, and reporting secretary. The publication committee also presented a report for the past year.

The following gentlemen were elected for the respective offices for 1880: Albert H. Smith, M. D., president, John H. Packard, M. D., vice-president. H. Lenox Hodge, M. D., vice-president. J. G. Stetler, M. D., censor. William M. Welch, M. D., treasurer. Charles B. Nancrede, M. D., recording secretary. J. D. Nash, M. D., assistant recording secretary. William Goodell, M. D., corresponding secretary. Frank Woodbury, M. D., reporting secretary. M. O'Hara, M. D., librarian. Drs. Henry H. Smith, Richard J. Dunglison, and J. Howard Taylor were elected delegates to the convention to revise the National Pharmacopœia, to be held in Washington in 1880.

A resolution was adopted, and referred to the committee on hygiene and the relations of the profession to the public, setting forth the present unsatisfactory method of committing the insane to the charge of a hospital, and recommending legislation upon the subject in order to relieve physicians in the discharge of their duties from the annoyance and expense of defending themselves from a criminal charge.

— A stated meeting of the Academy of Surgery was held in Philadelphia, January 5th, and a permanent organization effected by the election of the following officers to serve during this year: President, Samuel D. Gross. Vice-presidents, D. Hayes Agnew and Richard J. Levis. Secretary, J. Ewing Mears. Corresponding secretary, Thomas G. Morton. Treasurer, William Hunt. Reporter, John B. Roberts. The council is made up of five members, the president, recording secretary, and treasurer, to which were added John Ashhurst, Jr., and John H. Brinton. The publication committee consists of W. W. Keen, John H. Packard, and the reporter. S. W. Gross was chosen pathological histologist. Professor Gross, upon taking his seat, expressed his deep interest in this society, which had long been a cherished project in his mind. He made a donation, as a nucleus for the library, of handsomely-bound copies of his own writings, which he said he offered as an earnest of a larger donation that he hoped to make at the proper time. Dr. Adinell Hewson presented a letter of historical interest to the society, written by John Morgan, one of the early pioneers of medicine in the country.

— At the last meeting of the board of managers of the Pennsylvania Hospital, on recommendation of

the medical staff, a resolution was adopted directing that no cases of fracture should be dressed unless they are willing to remain until examined by the attending surgeons, who will decide whether they should receive treatment in the wards, or by applying at the out-patient's department. One of the advanced ideas that was broached at the same meeting was that the hospital be placed in telephonic communication with the offices of the medical staff. This question was referred to a committee, with power to act, with every prospect of its being speedily accomplished.

—It seems particularly difficult to bring a certain class of malefactors to punishment in this country, although in England they are dealt with quite stringently. A notorious abortionist, having carried on his trade successfully in this city for years, was finally caught in *flagrante delicto*, literally red-handed. A young married woman left her home early in the evening to go to the doctor's office, and as she did not return soon her husband came after her, and found the victim dead, and the "operator" trying to revive her with a galvanic battery, in which he was unsuccessful. The implements used for producing abortion were scattered around, and were secured by the police. The coroner's examination revealed the fact of the attempted abortion, and probable entrance of air into a uterine sulcus. The case was clearly made out, and a verdict of guilty was promptly rendered. The judge gave the specialist a sentence of *two years*, because evidence had not been offered to show that he was a professional abortionist, and because, forsooth, the poor victim was a married woman. Since then another case of death has occurred, from medicine ordered for the purpose of producing a miscarriage, in the "practice" of an Indian doctor, so called; but he was promptly haled out, and is not very apprehensive of having his business injured, but on the contrary it will serve as an advertisement for him.

—In connection with the latter case a very discreditable charge has been brought against one of our leading drug houses. This charlatan advertised freely, and offered on certain days to treat the poor *gratis*. Those who took the bait and applied for treatment were given a prescription that could be filled only at one place, the establishment in question. On reaching the drug store they learned that the medicine would cost from two dollars and a half to three dollars, or more; if they subsequently applied at any other store they could not get any one to decipher the prescription. Thus the *prima facie* evidence of collusion is strongly made out. So the old game goes on all around us, and yet physicians are too cowardly or indolent to make their influence felt in an unmistakable way in condemnation of such practices, which should not be tolerated for a moment. A few vigorous prosecutions for conspiracy to defraud would clear the moral atmosphere amazingly.

—Professor Gross was the recipient of the honor of a complimentary dinner on the 14th instant, given in New York by Prof. Austin Flint, at which only a select few were present. The compliment was keenly enjoyed by the veteran professor, who is in his element when in the congenial society of his friends.

Miscellany.

ANTISEPTIC SURGERY.

LECTURE BY PROFESSOR LISTER.

QUITE recently, and probably as a reply to objections to his system, which were read by an English surgeon at the last annual meeting of the British Medical Association, Professor Lister gave an interesting lecture in illustration of antiseptic surgery. He made use of two typical cases. The first of these was a case of empyema. The patient, a little boy, from whose left pleural cavity Lister had evacuated, three weeks previously, a large quantity of thick, yellow pus by means of a free incision in the infra-axillary region. Lister removed a dressing which had been applied three days before, not because of a need of so doing, but in order to show the boy's condition. It was removed under spray, and was found to be dry. A silver drainage tube was also withdrawn, because obstructed by lymph. The boy was then turned upon his side and the pleural cavity completely emptied, this issue being, not pus, but a single ounce of serum, which, Lister claimed, strikingly illustrated the effects of antiseptic treatment. "For," said he, "I venture to say that this purely serous accumulation could not have occurred without antiseptic management." Primarily the left pleura was distended with pus, the heart being dislocated far to the right. Aspiration had been repeatedly practiced by the boy's physician, the result being that usual in empyema, — reaccumulation of the fluid, and that fluid always yellow pus. Lister then opened the cavity by free incision antiseptically, and from that time no purulent discharge occurred. This result, according to Lister, could not have been obtained without compliance with two conditions, namely, affording free drainage to the fluid, and at the same time preventing the access of putrefaction. "Aspiration," said Lister, "removes tension for the time being, affording only insufficient relief; for the fluid soon reaccumulates in amount sufficient to reproduce decided tension, and that tension, acting in a reflex manner through the nervous system, brings about inflammatory excitement of the pyogenic membrane, into which the pleura has been converted by disease, and so reproduces suppuration, as it has been previously maintained. We must therefore afford permanent relief by free drainage. But if, at the same time, we had not adopted efficient antiseptic means, we should have had a continuance of suppuration, because, though tension would have been prevented, the irritation of putrid liquid would have stimulated the pyogenic membrane to pus formation. In the present case the accidental accumulation shows in a perfectly indubitable manner that the fluid effused was serum, not pus. This is an illustration of the beautiful pathological truth that a pyogenic membrane, when freed from irritation, ceases to suppurate. Had I shown a dressing soaked with serous discharge, you might have thought, 'Are we sure there is not here some pus, masked by some action of carbolic gauze upon it?' But when you have the unmixed serum before you, there can be no mistake whatever." Lister then said that under the antiseptic treatment the boy's health had markedly improved. The means adopted were the following: First, the skin was well washed with a one-to-twenty solution of carbolic acid. This has the power to penetrate the epidermis and hair follicles, and any greasy matter which may be upon the skin. To wash with soap and water, and afterward with ether, as the Ger-

mans do, is unnecessary. Secondly, hands and instruments were cleaned with the same lotion, and the opening into the pleura was made under a thoroughly trustworthy carbolic spray. "This severely tests and demonstrates the efficacy of the spray, because with every inspiration air is drawn into the pleural cavity. In managing an adult, we can say, while making the incision, 'Hold your breath; also while removing the dressing. But we cannot control the respiration of a child. It is therefore necessary during the manipulations that we have a reliable apparatus for the production of the spray, and also that there shall be no chance of any air other than spray being introduced." Empyema being, therefore, a disease requiring very great care in the use of the spray, and since the pleural cavity again and again was filled with spray during the three weeks of treatment, Lister claimed that the case offered as good evidence as a laboratory experiment of the power of the spray to correct the septic property of the atmosphere, or, in other words, "to destroy the energy of the septic ferments which the atmosphere contains." Thirdly, carbolic gauze was used as a dressing. Lister has lately improved the gauze. He formerly used one part of carbolic acid, five parts of common resin, and seven of paraffin, the latter being used to prevent adhesion. He now uses one part carbolic acid and four parts each of resin and paraffin. This gives a large proportion of carbolic acid. But the new dressing is not irritating. Lister therefore considers the modification a great advance. On the whole, too, the new combination is less expensive than the old. The paraffin should be *pure*; otherwise it will act on the mackintosh cloth. Its lessened quantity causes more adhesiveness, an advantage according to Lister.

The gauze as usual was applied in eight layers, a piece of mackintosh being placed under the outer layer. A large quantity of gauze in loosely folded pieces was also used underneath the dressing, because of the copious flow of serum from the pleural cavity. In the adult these dressings must be changed twice daily, but in the child, the discharge being less, it was changed but once in the twenty-four hours. The dressing was kept in place and its edges in apposition with the skin by an elastic bandage applied around them. This Lister considers a great necessity. An india-rubber tube was employed for drainage, but its ordinary use was modified by the introduction of a mass of carbolized gauze into the two loops of silk connected with its orifice, in order to prevent the suction of the tube into the pleural cavity. In the course of a few days, as is common in cases of empyema treated by drainage, the thorax contracted, the ribs approached each other, and compressing the tube arrested the discharge. In consequence a silver tube, three fourths of an inch long, with a metal collar, a rounded end, and holes in its sides, was substituted.

It is frequently the custom in Germany to cut away a piece of the rib to insure drainage. This Lister never does if the metallic tube can be inserted sufficiently early. He remarked that at Amsterdam he was surprised to learn that some surgeons consider carbolic acid so poisonous to young children that it should not be used for them. In the case in question the child was but three years of age. He had been enveloped in carbolic gauze from armpits to pelvis, but had suffered no constitutional effects whatever. In explanation of the carbolic-acid poisoning in German cases, Lister said he believed his immunity from toxic effects

was due to careful avoidance of all unnecessary action of the carbolic acid upon the tissues. Some persons inject carbolic lotion into the pleural cavity at every dressing. Continental surgeons, after stitching a wound together and putting in drainage tubes, inject with a syringe a one-to-twenty solution through the tubes; again, in changing antiseptic dressings, some surgeons syringe out the wound. This, Lister thinks, is not only superfluous use of the carbolic acid, but a practice which, in every such case, exposes the patient to the danger of absorbing the carbolic acid into the circulation, perhaps in great abundance. Nevertheless, he does not deny that in rare idiosyncrasies there may be carbolic-acid poisoning in spite of the avoidance of its needless introduction into the system. This point he illustrated by an allusion to such a case. If such an occurrence should show itself, he would advise the immediate application of the boracic-acid dressing. But in deep-seated affections, like empyema, we should not trust to this mild boracic acid. Lister believes the best substitute for carbolic acid to be salicylic acid, first introduced into surgical practice by Professor Thiersch, of Leipzig. It may be used in the form of salicylic jute, a reasonably cheap material. Lister mentioned a case of empyema in which this dressing had been used under the carbolic spray with a successful termination of the case. The jute must be applied in quite large mass, and Lister advises the use of mackintosh outside to prevent the discharge soaking through it.

(To be concluded.)

EXAMINATIONS FOR COLOR-BLINDNESS.

BY DR. HUGO MAGNUS, BRESLAU.

THE great importance which color-blindness, or the congenital lack of sensibility to certain colors, possesses in relation to railroads and the safe navigation of vessels is now pretty well recognized over the civilized world. To accomplish the diffusion of this knowledge has cost much labor and the overcoming of many difficulties. It is due to the unremitting efforts of writers of high repute, who have thus finally gained the attention of the authorities to this subject of color blindness.

For the safety of the public traffic this is a very important question, not only that all authorities should turn their attention to the defect, but that they should seek practically the means of definitely counteracting the growing danger arising from color-blindness. When a government or an authority or corporation has earnestly determined to apply some safe control, two questions at once arise as to the control itself. These two points, to be presently explained, are of such paramount importance that it may not be valueless to hear the criticism of them by an expert who has made a careful study of this defect. The two questions are. —

First, who shall carry out the examination of the railroad and marine personnel?

What methods are to be employed?

Now as to the first question. Who are to conduct the tests?

Here we must express ourselves most decidedly and most earnestly that under all circumstances this should be done only by those capable and experienced, and such are, in the largest majority of cases, ophthalmic surgeons. We do not hesitate to say that on the proper choice of those who are to carry out the test

its whole success depends. If the authorities make a mistake in this choice the value of all the examinations is but questionable. Moreover, the security which the community feels from these tests is undermined. If the examination of the railway personnel is to be of value, the railroad authorities must look to it most carefully that this is placed only in the hands of such persons as from their special knowledge are fitted to undertake it. The examination by medical experts alone guarantees the requisite precision and the consideration of all the possibilities accompanying such examinations.

It might at first sight seem as if the testing the color sense was a very simple matter, and hence any official, without special knowledge, could be instructed in it. Such a supposition is, however, a grave error, and liable to lead to practical results most dangerous for the life and limb of the traveling public. We grant that testing for color-blindness offers no very great technical difficulties; but it must be remembered that in these examinations is presupposed the very extended information which alone specially instructed persons can possess, and such are only experienced ophthalmic surgeons. To determine with absolute accuracy whether an individual has a normal color sense or not, one must be familiar with the indications of the normal sense of color. The abnormal, or, as is said in medicine, the pathological, can only be correctly interpreted when the normal or the physiological is thoroughly understood. An extended knowledge of physiology is needed thoroughly to appreciate the abnormal or diseased condition. Without this a knowledge of the abnormal is but artificial and second-hand, liable to be at fault on the first good opportunity. To intrust the testing of the color sense to one not medically educated is but giving scope to incompetent meddling. A man without medical education can have only the most scanty knowledge of the general characteristics of color-blindness, and never a true conception of the physiology of the color sense. The tests such a one will make can only be the most superficial. He can never examine with the accuracy necessary to meet the requirements of science under all circumstances. For such is needed the most careful preparation and a thorough knowledge of physiology. Moreover, examinations for color-blindness are not so simple and stereotyped as never to place the examiner in doubt and uncertainty. The examiner's knowledge of physiology is often most seriously taxed in his test of employees,—we mean when color-blindness is feigned. Our own experience with railroad officials proves most conclusively that cases often enough occur where one or another employee seeks to avoid by feigning the consequences of his detected color-blindness. An examiner who has only the superficial knowledge of the more marked practical indications will thus be completely at a loss. That such cases will often arise where the employees have learned that an examiner can be *talked over* and *persuaded* may well be believed without our special confirmation or assertion. Only the most perfect familiarity with the physiological and pathological functional expressions of the color sense can in these cases guarantee the perfect trustworthiness of the examination. Without this the result is but questionable, either from the employee's feigning or the examiner's ignorance. But all will grant that such uncertainty can never be allowed with the testing the color sense of the railroad personnel, where the practical conse-

quences are so dangerous. Such uncertain results will follow the authorities employing those who are not experts. A waste of the time and money the examinations have cost.

With so important a question as color-blindness for the security of railroad traffic, there can be no half-way measures; these will not protect from it. The fullest and most thorough attention is here needed. Let those who would put these examinations out of the hands of experts pause and consider the responsibility they are assuming.

In the interest, therefore, of the traveling public, we demand that these tests shall be carried out by ophthalmic surgeons. If now it is asked, Cannot any physician make them? we must answer in the negative, without desiring to question the knowledge of our colleagues. The practicing physician has so little opportunity to acquaint himself with questions of physiological optics that he is liable, just here, to be found wanting. What he has learned of these in his student's work will have been quite driven to the background by the cares and necessities of practice. When suddenly called upon to apply what he has once known, he finds himself lacking the so necessary certainty.

Any of our colleagues, upon serious consideration, will own that he hardly feels at home in the domain of physiological optics. We need not, of course, add that there are exceptions. We see, therefore, why the practicing physician is not in a position successfully to carry out such examinations. Practical experience has, moreover, proved this most conclusively. The German railroad surgeons, *not instructed in ophthalmology*, found a startlingly small per cent. of color-blindness among their employees. The ratios in Europe which at present are considered of any value were all obtained by the tests of ophthalmic surgeons or expert physiologists. We must therefore agree with Dr. Reuss, of Vienna, when he remarks "that examinations of this character [that is, not by experts] are *valueless*." Now, if practicing physicians are incapable of conducting these examinations, what results will the laity, who know nothing of medical science, obtain by their testing?

We sum up our claim by saying that, first of all, ophthalmic surgeons, being those who best understand the eye, shall test all its functions. If practicing physicians are to be called upon for this, they must first go through with a preparatory course of special study with an ophthalmic surgeon, to whom all their results are to be finally referred.

We can only consider a practicing physician prepared to undertake the very responsible position of examiner of railroad employees after he has had thorough instruction in the practical carrying out of the test, the nature of color-blindness, its forms, and its various characteristic appearances. And even then we consider the final control of an ophthalmic surgeon absolutely requisite. We are convinced that our colleagues who are practicing physicians will readily admit the truth of these propositions. Experience has abundantly shown us into what difficulties and perplexities a physician is plunged by the sudden call upon him for a knowledge of color-blindness which he never can have gathered in his practice.

Whilst we are not opposed to a practicing physician acting as examiner, provided he has been thoroughly instructed by an ophthalmic surgeon, and the final control and decision is left to the latter, we are entirely

opposed to employing those who are not physicians for this testing, no matter what instruction they may have obtained. The laity having no medical preparation, any attempted teaching them the functions of the eye will be but most imperfect; they can never thoroughly understand and appreciate them.

The final result of our argument is that the examination of the eyes, both for color-blindness and visual power, should be carried out only by educated and experienced ophthalmic surgeons. Where none such can be had, practicing physicians who have been especially instructed may be employed, but their results must be finally submitted to the control of the ophthalmic surgeon. The laity, that is, all who are not medical men,

are under no circumstances to be permitted to make these tests of the color sense and visual power.

Let us turn now to the second question, namely, What method of testing shall be employed? This we can very quickly answer. General experience has taught that the best method of testing is that of Professor Holmgren, of Sweden, and this method we would most strongly recommend to every railroad corporation. We would say in conclusion that the excellent book of Dr. Jeffries, of Boston, contains the necessary description and information. As we wholly agree with Dr. Jeffries upon the superiority of Holmgren's method, we would thus, not to render our argument too long, simply refer to his volume.

REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 17, 1880.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Deaths under Five Years.	Percentage of total Deaths from				
				The Principal Zymotic Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.
New York	1,085,000	457	177	18.38	20.13	6.56	1.53	.88
Philadelphia	301,380	262	89	11.47	11.45	4.96	1.53	2.29
Brooklyn	364,400	199	81	22.11	21.61	13.57	2.01	1.01
Chicago	—	163	75	34.97	7.97	21.47	9.20	.61
St. Louis	—	92	34	16.30	8.70	6.52	1.09	4.35
Baltimore	393,796	115	43	23.48	6.09	11.50	6.96	2.61
Boston	365,000	188	76	15.96	21.28	12.23	.53	2.13
Cincinnati	280,000	72	27	16.67	6.54	2.78	5.56	2.78
New Orleans	210,000	97	24	9.28	9.28	1.03	—	1.03
District of Columbia	170,000	73	34	17.81	27.40	—	—	2.74
Cleveland	160,000	48	28	31.25	6.25	14.60	10.42	—
Pittsburgh	—	68	51	30.88	8.82	16.18	5.88	1.47
Milwaukee	127,000	36	14	19.44	—	8.33	2.78	—
Providence	101,500	43	9	23.26	13.95	4.65	18.60	—
New Haven	60,000	19	11	10.53	15.79	5.26	—	—
Charleston	57,000	31	14	12.90	9.68	3.22	—	3.22
Nashville	17,000	10	—	10.00	—	—	—	10.00
Lowell	54,000	28	10	10.71	21.43	3.57	—	—
Worcester	53,000	15	7	13.33	26.67	6.67	—	—
Cambridge	50,400	12	4	25.00	16.67	16.67	—	—
Fall River	49,000	21	—	28.57	9.53	4.76	23.81	—
Lawrence	38,600	14	7	7.14	—	—	—	—
Lynn	34,000	13	7	38.46	—	30.77	7.69	—
Springfield	31,800	12	3	8.33	8.33	—	—	—
New Bedford	27,200	7	3	42.86	—	28.57	14.29	—
Salem	26,500	11	6	18.18	—	18.18	—	—
Somerville	23,500	8	2	12.50	—	12.50	—	—
Chelsea	21,000	6	1	16.67	—	—	16.67	—
Taunton	20,200	3	1	—	33.33	—	—	—
Holyoke	18,400	13	7	30.77	15.38	7.69	15.38	—
Gloucester	17,200	3	2	33.33	—	—	33.33	—
Newton	17,200	4	—	25.00	25.00	—	25.00	—
Haverhill	15,350	8	4	37.50	—	37.50	—	—
Newburyport	13,500	5	2	—	20.00	—	—	—
Fitchburg	12,600	—	—	—	—	—	—	—
Eighteen Massachusetts towns.	139,860	36	9	25.00	5.56	11.11	—	2.78

Two thousand one hundred and ninety-two deaths were reported; 842 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 326, consumption 315, lung diseases 310, diphtheria and croup 197, scarlet fever 74, typhoid fever 33, measles 29, diarrheal diseases 28, whooping-cough 25, malarial fevers 12, erysipelas 12, cerebro-spinal meningitis 10, small-pox six. The death-rate of whites in the District of Columbia was 17.33; of colored, 32.5. From measles, New York 19, Chicago three, Brooklyn two, St. Louis, Milwaukee, New Haven, Lowell, and Holyoke one. From whooping-cough, New York six, Brooklyn four, New Orleans and Pittsburgh three, Baltimore and District of Columbia two, Philadelphia, Chicago, Cleveland, Lowell, and Lawrence one. From malarial fevers, District of Columbia three, New York, Brooklyn, Chicago, and New Orleans two, Milford one. From erysipelas, New York four, Cleveland two, Philadelphia, Brooklyn,

District of Columbia, Milwaukee, Charleston, and Springfield one. From cerebro-spinal meningitis, New York four, Philadelphia, Baltimore, Boston, Pittsburgh, Pittsfield, and Chicago one. From small-pox, Philadelphia and District of Columbia three. There was one case of small-pox in Baltimore and four in the Marine Hospital in that city.

The total number of deaths, as compared with the previous two weeks, continues to decrease, while the deaths under five show a progressive increase. The mortality from small-pox and diphtheria is higher than in the previous week, the other diseases remaining about the same. In 26 cities and towns of Massachusetts, with an estimated population of 1,015,920 (population of the State about 1,550,000), the death-rate was 20.89 against 20.65 of the previous two weeks, the deaths from lung diseases and consumption being greater than in the previous week; from scarlet fever and whooping-cough less; no deaths from small-pox.

For the week ending December 27th, in 146 German cities and towns, with an estimated population of 7,594,042, the death rate was 27.5 against 26.5 of the previous week. Four thousand and twenty deaths were reported; 1762 under five years of age; pulmonary consumption 540; acute diseases of the respiratory organs 507, diphtheria and croup 183, scarlet fever 73, whooping-cough 67, measles and *röteln* 64, typhoid fever 61, puerperal fever 24, typhus fever two, small-pox (Cologne) one. The death-rates ranged from 10.4 in Karlsruhe to 46.1 in Erfurt; Königsberg 35.0; Danzig 29.1; Breslau 27.2; Munich 31.9; Nuremberg 27.7; Dresden 27.5; Berlin 25.2; Leipzig 23.9; Hamburg 28.8; Hanover 22.8; Bremen 22.1; Cologne 32.3; Frankfurt 27.2. For the same week, Vienna 28.3; Prague 41.3; Paris 32.1. In 48 Belgian cities and towns, with an estimated population of 1,480,405, 886 deaths were reported: bronchitis and pneumonia 169, pulmonary consumption 76, diarrheal diseases 44, small-pox 41, fever 14, whooping-cough 12, croup nine, measles six, scarlet fever three, diphtheria none. The death-rates were: Brussels 28.7; Antwerp 32.7; Ghent 20.2; Liege 34.7; 22 larger towns 27.3; 22 smaller towns 26.9. Small-pox and typhoid fever continued very prevalent in Paris and Marseilles.

For the week ending January 3d, in the 20 English cities with an estimated population of 7,383,999, the death-rate was 29.1 against 27.4 and 30.5 of the previous two weeks. Four thousand one hundred and twenty deaths were reported; 973 under one year; diseases of the respiratory organs 672, whooping-cough 241, scarlet fever 128, measles 125, diarrhoea 42, fever 40, diphtheria 27, small-pox (London) four. Scarlet fever and measles continue to decline, whooping-cough to increase. The death-rates ranged from 19.6 in Sunderland to 35.1 in Plymouth; London 31.3; Bristol 27.6; Birmingham 26.8; Liverpool 30.6; Manchester 27.7; Leeds 27.9. In Edinburgh 24, Glasgow 23, Dublin (small-pox four deaths) 43. In the 20 chief towns of Switzerland, with an estimated population of 445,790, there were 225 deaths reported and 269 births, with a remarkable exemption from infectious diseases: acute diseases of the respiratory organs caused 44 deaths; diarrhoea seven, diphtheria and croup four, whooping-cough one, erysipelas one, fever one. The total death-rate was 26.3; Geneva 23.2; Zürich, 24.4; Basle 19.6; Berne 36.2; Lausanne 29.6.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.				
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	1 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.			
Jan. 11	30.415	34	40	25	53	54	80	62	C	SW	N	S	0	0	6	C	C	O	R	—		
" 12	30.177	43	56	33	93	67	90	83	C	NW	NW	NW	9	7	12	C	C	O	R	.20		
" 13	30.326	19	33	11	100	86	50	72	N	N	N	NW	20	20	12	S	S	C	C	.32		
" 14	30.506	21	29	8	60	66	73	66	NW	C	C	S	6	0	4	F	C	C	C	—		
" 15	30.292	34	43	21	75	69	90	77	C	W	C	C	0	6	0	F	O	C	C	.02		
" 16	30.260	34	38	28	78	79	71	76	N	C	C	SW	2	0	4	F	O	S	S	—		
" 17	30.105	39	46	31	80	68	91	80	C	SW	SW	SW	0	8	4	O	F	O	O	—		
Week.	30.297	32	56	8			74		Southwest.												8.30	.54

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., snow; R., rain; T., threatening.

OBITUARY: DR. JOHN CLOUGH.

In the progress of human events and the dispensations of an all-wise Providence, the Middlesex East District Medical Society mourn the loss of an esteemed fellow in the death of Dr. John Clough, of Woburn. Dr. Clough was born in Gilmanton, N. H., January 23, 1809. In 1836, he began the study of medicine at Dartmouth College, where he graduated with credit in 1839. He shortly after began general practice in New Ipswich, N. H. Two years later he removed to Woburn, Mass., where he enjoyed professional success until 1844, when he abandoned medicine and learned dentistry, in the practice of which art he became very proficient and eminently successful in Boston and Woburn until near the close of his life, which occurred at his home in Woburn, November 25, 1879. Dr. Clough was one of the original members of this society, and the last resident survivor (with one exception) of those physicians who participated in its formation. In the death of Dr. Clough this society has lost a true and honest friend. While we therefore mourn his loss, we also place on record our hearty appreciation of his excellent qualities of mind and heart. We shall always recall with pleasure his frank and noble character, his fearless expressions of his own convictions, his honesty and uprightness, his catholic charity and sympathy with the down-trodden and oppressed, his active interest in medicine and sanitary science, and his cordial hospitality towards his professional brethren. To the bereaved family we acknowledge our heart felt participation in their sorrow.

F. F. BROWN, President.

GEO. E. PUTNEY, Secretary.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JANUARY 17, 1880, TO JANUARY 23, 1880.

TAYLOR, M. K., captain and assistant surgeon. The leave of absence granted him from head-quarters, Department of Texas, is extended one month. S. O. 9, Military Division of the Missouri, January 19, 1880.

WORTHINGTON, J. C., first lieutenant and assistant surgeon. Relieved from duty at Fort Grant, Arizona Territory, and assigned to duty at Fort McDowell, Arizona Territory. S. O. 4, Department of Arizona, January 8, 1880.

GYNÆCOLOGICAL SOCIETY OF BOSTON. — The next regular meeting of the society will be held at the Medical Library Rooms, 19 Boylston Place, on the first Thursday of February, at seven o'clock, P. M. Profession invited.

HENRY M. FIELD, M. D., Secretary.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting will be held Monday evening next, at eight o'clock, at 19 Boylston Place. Reader, Dr. Chadwick. Subject, The Hot Rectal Douche.

FREDERICK C. SHATTUCK, M. D., Secretary.

SUFFOLK DISTRICT MEDICAL SOCIETY. — A regular meeting will be held at the hall, No. 19 Boylston Place, on Saturday evening, January 31st, at seven and a half o'clock. The following papers will be read: Dr. E. Cheney, The Evil Effects of Alcohol on Offspring; Dr. Walter Channing, Restraint in the Treatment of Insanity. Supper at nine o'clock.

T. M. ROTCH, Secretary.

BOOKS AND PAMPHLETS RECEIVED. — Valedictory Address to the Graduating Class of the Medical Department of the University of California. By W. F. McNutt, M. D., L. R. C. P., Ed., etc. (Reprint.)

Transactions of the Medical Association of the State of Missouri at its Twenty-Second Annual Session. St. Louis. 1879.

Experimental Researches on the Regional Temperature of the Head under Conditions of Rest, Intellectual Activity, and Emotions. By J. S. Lombard, M. D., formerly Assistant Professor of Physiology in Harvard University. London: H. K. Lewis, 136 Gower Street. 1879.

Lectures.

CLINICAL LECTURES ON THE PHYSIOLOGICAL PATHOLOGY OF SYPHILIS.

DELIVERED AT THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK, SESSION OF 1878-79.

BY FESSENDEN S. OTIS, M. D.,

Clinical Professor of Genito-Urinary Diseases, etc.

LECTURE V.

PERIOD OF LYMPHATIC OBSTRUCTION.

GENTLEMEN, — We have now followed the natural history of syphilis, in its clinical, physiological, and pathological aspects, from its assumed initiation (by contact of a degenerate amœboid corpuscle, or disease germ, with the healthy human white blood corpuscle), into and through the lymph spaces and channels; from the point of original contact, or inoculation, to and into the general blood current. From thence we have also traced its course through most of the manifestations characteristic of the active period of syphilis.

We have seen that wherever the syphilitic influence was recognized, the underlying conditions, culminating in a syphilitic manifestation, were in every instance attributable only to excessive localized cell proliferation and accumulation; and, further, that this local proliferation and accumulation were favored by certain anatomical conditions in localities long recognized, clinically, as the favorite seat of such manifestations.

The active period of syphilis, thus shown to be marked by excessive localized cell proliferation, was shown to be equally characterized by the contagious property attaching to cells thus generated. Inoculation of the blood and of the secretion of all open lesions during the active period of syphilis has been found capable of communicating syphilis promptly to healthy persons.

The physiological secretions — that is, milk, saliva, urine, perspiration, tears, and spermatozoa — have not been proven to be agents of syphilitic infection. Where apparently so, in many cases syphilitic lesions of the mouth or breast have been found to account for the seeming inoculability of the saliva or of the milk. Repeated experiments¹ have been made by inoculation of the spermatic fluid of a person proven to be in the active stage of syphilis upon healthy persons with absolutely negative results. In this we find confirmation of our position that the contagious property is not an entity, an independent virus, pervading all the tissues and fluids of the organism, but that it is confined to the white blood or tissue-building cells, and in this view we readily see how the physiological secretions above mentioned, which do not contain them, are found also to be free from the contagious property of syphilis.

Thus far the *only distinguishing feature* which has been recognized between normal embryonal cells and cells which make up the accumulations characteristic of the active stage of syphilis is the possession by the latter of the *contagious property*; in other words, a *contagium*, — the power of setting up in other cells, through simple contact, the same disposition to rapid proliferation which the so-called syphilitic cells are known to possess. The direct result of this hasty pro-

liferation, as far as we have yet been able to discover, is *not a destructive action*. It is simply and only what we should naturally expect from hastily generated normal material in excess of the necessities of growth and repair. In representative, uncomplicated cases it remains for a time obstructing the tissues by its presence, and then through purely normal processes, often of necessity set into operation by crowding of the newly-formed cells, prolonged pressure, and consequent innutrition, and also from general causes, it undergoes fatty degeneration, and is in this way finally eliminated from the affected organism.

Bäumler virtually supports this view² when he says of the active stage of syphilis, "If there are only a few local deposits the elimination of the virus may be so much in excess of its production that the organism is gradually freed from it. *This takes place in the majority of cases, and at the expiration of eighteen months or two years the infection is entirely exhausted.*"

Mr. Hutchinson, of London, in speaking of the contagious property which attaches to the emulsified white blood cell which we call pus, says, "*All living pus is contagious.*" . . . I mean," he further says, "that all pus cells possess the power of setting up, when transferred to another home, if that home be a suitable one, a kind of inflammatory action similar to that from whence they themselves had originated."³ This we know results in the almost immediate death of cells in localities so contaminated. In the case of the germinal cells contaminated by contact with the syphilitic cells, however, this results only in an imperfection, which prevents their highest development; they fall by the way, are heaped up, undergo fatty degeneration, and are, or may be, eliminated. Nor is it alone in diseased cells that a contagious property is claimed to reside. Rindfleisch, an eminent German authority, in speaking of embryonal cells coming up from the tissue juices for the regeneration of mucous membranes, says of such cells that "*they become epithelial cells only by coming into contact with such.*" We must believe," he continues, "in a kind of epithelial infection. This," he says also, "must of course just as well obtain when embryonal formative cells approach an existing epithelial stratum as when, conversely, epithelial elements approach embryonal formative cells."⁴ If this be true, it at once becomes evident that the contagious property is not of necessity a virus. Is it not then possible that the mischief which syphilis does is rather the result of an interference with the normal processes through hasty development than of the action of a specific virus?

In any event, this contagious property of syphilis *ceases with the active period of the disease*. After this has passed, the secretions of open lesions and the blood no longer contaminate. It may also be said that in by far the greater number of subjects of syphilis (and more especially those who have been systematically and judiciously treated) they remain free from any further sign of the disease. If this be so, then we may legitimately claim that at the termination of the active period of syphilis, just described, all subsequent troubles must be looked upon as sequelæ, and not as a stage of syphilis, any more than we should look upon dropsy as a stage of scarlet fever or stricture as a stage of gonorrhœa. Mr. Hutchinson, who is recognized as one of

¹ Page 247 of Ziemssen's *Cyclopædia*, Am. ed., vol. iii.

² *London Lancet*, September 18, 1875, page 409.

³ *Text-Book of Pathological Histology*, Rindfleisch, Am. ed., 1871, page 100, § 83.

⁴ Dr. Mireur, of Marseilles, *Annales de Dermatologie et de Syphilographie*, No. 6, Tome viii., 1877.

the most advanced of the English authorities on syphilis, says, "*What are called tertiary symptoms do not constitute a necessary stage, and are rather to be regarded in the light of sequelæ, which may or may not show themselves.*"¹ Mr. Henry Lee (also a valued authority), in his Hunterian lectures delivered at the Royal College of Surgeons of England in 1875, presents the same view of so-called tertiary or late syphilis thus: "*The pathological changes in this class occasionally, according to Mr. Lane's view, present themselves in patients who have passed through the primary and secondary stages of syphilis, but in whom the venereal poison no longer exists, and therefore cannot be transmitted.*"

This is, I know, quite at variance with the usual teaching in this matter. The accidents following upon the active period of syphilis are usually represented, not as sequelæ, but as the direct result of the syphilitic virus, which had never been completely eliminated, but is said to be still present in a latent state. Authorities are quite agreed, however, in regard to the clinical fact that after a varying interval of from one to forty or fifty years from the acquirement of syphilis a new variety of lesions appear in certain cases—sometimes within a few months—in the form of an eruption on the skin similar to the one I now present to you.

CASE IX. This young man gives us the history of a sore on his penis fully three years since, coming on three or four weeks after a suspicious connection. This was followed in a few weeks by an eruption which his medical adviser told him was syphilitic; he also had sores in his mouth and throat, all of which disappeared after a mercurial course of a month or so. He had supposed himself entirely well when, about a month ago, another eruption appeared on various parts of his body.

We are here at once struck with the deep wine color of a patch of papular elevations on the temporal region, irregular in form and extending somewhat upon the forehead. A casual observer might perhaps confound it with the papular eruption of syphilis, which has been so often before us. But you will, by a moment's inspection, find well-marked and important differences. First as to color: here we see a distinct purple hue, instead of the ham color of the papular syphilide. In the next place, instead of being symmetrically distributed, the eruption occurs in patches; here is quite a large one, the size of my palm, on the right scapula; another on the thigh. There is an indication that the cause of this trouble (unlike the papular syphilide) has not been free in the blood. Again, the induration is also deeper, involving the whole thickness of the skin. Here, also, on the scapula, will be seen a number of small cicatricial depressions, where resolution of the eruption has taken place, evidently *without ulceration*. I may here state that this is the usual course in this, the *tubercular eruption* of so-called *tertiary syphilis*.

CASE X. Here I show you another example, where the tubercles are much larger, only half a dozen in number, and are confined to the right side of the nose. In this case active syphilis occurred four years ago, and the present lesion appeared as small red elevations of the skin about two months since.

In this lesion you see even more distinctly than in the other case the loss of tissue which has occurred, the site of which is marked by several small cicatrices.

A large tubercle is here covered by a scab; on removing this we find only a superficial excoriation. Loss of tissue in these cases does not commonly result from ulceration, but from absorption of a material which has been infiltrated into the tissue. The scars here give the lesion the appearance of simple tubercular lupus, and mistakes of diagnosis on this account are very common. We find in the excellent work of Van Buren and Keyes an explanation of the manner in which *scarring without ulceration* occurs in these cases, thus: "The syphilitic tubercle is due to a diffuse hyperplasia of small cells in the substance of the true skin. These cells, which partake of the nature of the so-called *gummy* exudation, grow at the expense of the natural tissues, and cause the atrophy of more or less of the substance of the latter, even while there is apparently a hypertrophy, as evidenced by the little tumor called a tubercle. When, however, the adventitious newly formed cells go into atrophy and are absorbed, during the progress of the eruption, then not only does the tubercular prominence disappear, but the scar left attests the atrophy and absorption of the true elements of skin tissue which took place during the deposit of the morbid material."²

In the opening of this analysis of the syphilitic tubercle, it is said to be "due to a diffuse hyperplasia of small cells in the substance of the true skin;" at the close, it is characterized as a "deposit of the morbid material." A little further on I propose to bring evidence to show that this lesion, in common with all syphilitic sequelæ, is not due to a hyperplasia, such as we recognize in the papular syphilide and in all the new formations of the active stage of syphilis, but that it is due to a *deposit*, not of *morbid*, but of *arrested normal material*.

CASE XI. Again, here is an old man, sixty-five years of age. He has come to our clinic on account of an enlarged testicle. His attention, he states, was drawn to it about three months since, first by a sense of heaviness in the organ. He then noticed that it was double the usual size. Since that time it has progressed, without pain or any especial annoyance except the dragging sensation, to the present size. The right testicle now presents to us as an ovoid tumor, fully four inches in its vertical diameter and three in its horizontal as the patient stands before you. To the touch it is hard, not sensitive. A small amount of fluid is present in the tunica vaginalis, but not enough to obscure the somewhat irregular outline of the tumor. There is no history of any urethral discharge, or injury to the urethra, or prostate, or testicle, but there is a pretty clear history of an occurrence of syphilis at the age of twenty-four, and thus *over forty years ago*, a sore on the penis coming at a long time after connection; he cannot remember exactly, but estimates it at from three to four weeks. He took mercury for a while, until it healed, and no further trouble was noticed. He married a few years after, and has had several children,—four,—also grandchildren, not one of whom has had any recognized signs of hereditary taint. Notwithstanding this I do not hesitate to suspect that the difficulty of the testicle will prove to be a sequel of syphilis. The physical signs accord with such a view; the history is sufficiently complete to warrant such a conclusion (many persons pass through the active stage of syphilis without its recognition by themselves or others). The final test here will

¹ London Lancet, page 88, January 17, 1874.

² Genito-Urinary Diseases with Syphilis, Van Buren and Keyes, page 583, New York, 1874.

be the effect of treatment which we find so promptly curative in such cases as to be of great diagnostic value, namely, that by mercury and the iodide of potassium. This is another of the so-called tertiary manifestations of syphilis.

Do you ask me, Of what is this enlargement and induration made up? I answer in accordance with the usual teaching, Of "gummos material." — the same that is found in the tubercular eruption in Cases IX. and X.

CASE XII. Again I present you a form of trouble which has followed an attack of syphilis after a very long interval of apparent good health. Fifteen years ago this man (who is now fifty), according to his very clear and intelligent statement, had unmistakable syphilis, and characteristic initial lesion, early erythema, general papular eruption, mucous patches, etc. After several months among quacks, he was finally treated by a well-known surgeon of this city for about a year; then, being apparently well, he left off treatment. About six months ago, or some fourteen years from the date of initial lesion, and after some months of dissipation, he began to suffer with a catarrhal trouble which became fetid. It was not, however, until a characteristic perforation of the hard palate had occurred that the source of his trouble was suspected, and he then went up to Charity Hospital for treatment. Here, as you can observe, is a distinct loss of structure involving a portion both of the hard and the soft palate. Repair is going on in the soft parts under appropriate treatment, which I wish to remind you is the same which has been prescribed for the three cases preceding, namely, mercury and the iodide of potassium. Why? Simply because the source of the trouble has been shown in such cases to be dependent upon the gummos deposit in the soft palate and in the bony arch of the mouth and in the vomer, which also he has evidently lost.

CASE XIII. The patient is a man of forty, who presents several ulcers of the legs which we term characteristic of so-called tertiary syphilis. They are abrupt losses of integument as if some foreign substance had sloughed out; bluish thickened edge, undermined, and on pressure giving exit, not to pus, but to a thin, serous fluid. Here are also two or three points, higher up on the calf, slightly elevated, and to the touch giving a distinct sense of fluctuation. The physical appearances here are alone sufficient, even without a history of antecedent syphilis, to warrant the diagnosis of gummy tumors; although the patient claims to have had syphilis ten years since. I introduce a history into one of the seemingly fluctuating points, and not pus, but a serous fluid, exudes. Both the secretions and the tumor will be found to consist of the same material which we recognized as constituting the tubercular eruption in Case IX., which caused the induration and enlargement of the testicle in Case X., which also caused the destruction of the soft palate and bony structures in Case XI.; and this has been proven, by repeated and exhaustive microscopical examinations, to be made up of gelatinous fluid containing normal cells and nuclei which do not differ in the least demonstrable degree from the white blood cells and nuclei of a healthy person. Wagner, perhaps the most recent standard authority, says in 1876 of this material, which he terms *syphiloma*, "Microscopically, syphiloma consists of cells, or nuclei, or both at the same time, so that sometimes the former, sometimes the latter, exceed in number. Young syphilomata, as well as the peripheral parts of the older ones, contain for

the most part only nuclei, or nuclei and isolated cells; the older syphilomata, not yet very atrophic, consists for the most part only of cells, or of cells with few nuclei. *The nuclei offer nothing characteristic.* They are from 0.01 to 0.02 mm., large, round or rounded, or somewhat angular, and contain for the most part a distinct nucleolus. *The cells resemble most uninnucleate colorless blood corpuscles*; their size varies, however, sometimes between 0.01 and 0.03 mm.; some are even still larger."¹ Again Wagner (page 436) says, "The influence of syphiloma on the organism depends upon the fact that the affected portions of the membrane and parenchymata are more or less incapable of function; partly on the deposit of cells, and especially of nuclei, upon compression or secondary atrophy of the gland cells, nerve fibres, ganglion cells, etc."

Bäumler, who fully adopts Wagner's views, says, "From the fact of the close resemblance of the cells which pervade the tissues, or occur in the form of young tissue growths, with the white blood corpuscles, it is evident that, however much they [authors] may characterize syphilitic new formations, they *wholly lack specific microscopic characters.*" He also says, "Tumors of this sort [gummy], varying in consistency, may develop in any organ in consequence of syphilis, but their favorite seats are in the subcutaneous cellular tissue, the skin, in and upon the bones, the liver, the testicles, the brain, the kidneys, and, especially in children, the lungs. According to Wagner's description," he further says, "they present the appearance of a grayish-red, soft, homogeneous mass, either without fluid contents, or else yielding a scanty juice like mucus. They may occur as infiltrations of microscopic size scattered throughout the parenchyma of an organ; and even when they appear as sizable tumors, as large as a walnut or larger, they are not encysted nor sharply defined, but merge directly into the surrounding tissue." "The effects of a gummy tumor," says Bäumler, "may extend to a great distance in case it has caused contraction of the calibre of some vessel, especially of a blood-vessel, which is particularly liable to occur when the tumor has its seat in the adventitia of a vessel. *Fatty degeneration and wide-spread processes of softening may be the consequences of a tumor in itself insignificant, as occasionally happens in the brain.* When situated in the skin, in the subcutaneous cellular tissue, upon mucous membranes and superficial bones, the gumma often makes its way to the surface, since in these situations it is not uniformly inclosed on all sides, but is exposed to unequal pressure. The entire infiltration then ulcerates." It would then appear probable from the foregoing views that contraction of vessels often plays an important part in causing the lesions of so-called tertiary syphilis, a purely mechanical matter quite independent of the influence of any virus. In passing I desire also to call your attention to the statement that "gumma often makes its way to the surface," as I hope to be able subsequently to show how this occurs, not making its way, but progressing in line of the natural physiological channels. Ricord claims that tertiary lesions are not inoculable, and cannot be transmitted by hereditary descent. Bumstead states in his last edition, after reviewing the matter, "Hence we consider the blood and the secretions in tertiary syphilis innocuous."² "Diday performed inoculations with

¹ Wagner's Manual of General Pathology, Am. ed., 1876, page 435.

² Venereal Diseases, Bumstead and Taylor, page 443.

the blood of persons in the tertiary stage of syphilis, and invariably with a negative result. Von Barrensprung states that from observation as well as experiment he is persuaded that so soon as the syphilis has passed into the destructive forms of its tertiary stage *it ceases to generate an inoculable virus*," and, says Bäumler, "clinical observation seems to confirm this view, both in respect to direct contagion and with reference to the inheritance of the disease."¹

These authorities, together with Lee, Hutchinson, Lancereaux, and many others of our best clinical and scientific observers thus agree fully on this very important point. What, then, is there to show that the so-called "*period of gummy products*" (Lancereaux) is not simply a period of possible, but not necessary sequele when it is found practically by competent observers to be free from the contagious property, and when by scientific investigators it is shown capable of producing all the lesions, without exception, which ever occur in the so-called tertiary or gummy stage of syphilis?—and this by interference with function, not improbably through pressure, occasioned by the presence of abnormal or excessive accumulations of material, which the most experienced and learned microscopists can not distinguish from the normal elements of new formations.

If, then, we accept the lesions of the so-called tertiary stage (or the period of gummy products of Lancereaux) as sequele, where shall we look for the *causes* of the possible accumulations of normal germinal material at every point in the human organism? Naturally, it appears to me, *in interferences with the lymphatic circulation*, the natural channels through which, according to Rindfleisch, the nutritive material exuded into the tissues in excess of the necessities of growth and repair is returned to the general circulation.² Again, according to the same distinguished authority,³ "*Luxurious new formations, catarrhs, and surface secretions of all kinds must be produced when the lymph conveyance is hindered, and*" he further says, "*we will find this position in pathology very frequently confirmed.*" One thing is now admitted by all recent accepted authorities, namely, that all the surface secretions and new formations of the tertiary or gummy period, all the infiltrations and tumors, all the peccant elements which produce the varied lesions in the skin, in the cellular tissue, in the bones, in the viscera, by whatever name characterized, are but the result of various forms of infiltration or deposit of gummy material; and if this is, as it would appear by the results of scientific investigation to be, *nothing more nor less than nominal germinal elements* thus retained at various points, then the only legitimate way of accounting for this retention would appear to be through obstructions, *hindrances to the lymph conveyance*, which Rindfleisch insists is of itself sufficient, independently of any question of syphilis, to produce just such results as are known to occur in the so-called tertiary stage or period of gummy products.

And yet another circumstance would favor this view, namely, clinical experience has shown conclusively that whatever the form or locality or name of a lesion, whether in the skin, as a scaling eruption, or as a tubercular eruption, or as a heaping up of gummy exudation in scabs, with or without ulceration, or as

an ulcerative loss of tissue, or whether as a gummy tumor in the cellular tissue, in the bones, in the viscera, or in the brain and nervous system, one and the same treatment is adopted and found most efficacious and judicious for all, namely, the *administration of mercury and the iodide of potassium*. I have not heretofore objected to the term gummy period, so called only from the similarity of its products to the viscid material which it was believed to resemble, nor to the term *tertiary*, which is a purely arbitrary one. But it appears to me that we may now venture to substitute for these the terms, the *period of lymphatic obstruction*, as more scientific, because expressing the localization of lymphatic elements, which is proven to occur, and as suggesting the lymphatic canal system as among the possible causes of that localization. It appears to me that inasmuch as it has been shown that the lymphatic spaces and vessels are primarily and chiefly affected and obstructed during the active stage of syphilis, it is not unreasonable to infer that damage might have occurred to those spaces and vessels during that active period of syphilis, which, if properly investigated, would lead to the true explanation of the failure of that system to return to the general circulation the germinal material, exuded or developed in the tissues in excess of the necessities of growth and repair, such as is practically demonstrated to have occurred in the so-called tertiary or gummy period of syphilis. There are various known facts and analogies which afford strong presumptive and circumstantial evidence that this view is the correct one. Among these we have, first, the fact, generally recognized, that the more severe and prolonged the secondary or active stage of syphilis the more certain and severe are the so-called tertiary or gummy manifestations. (Hutchinson.) Second, the results of treatment show that the difficulty is not simply an aggregation of infiltration or material, which, when removed, restores the patient permanently, but that the conditions for its reproduction remain, and relapses occur.

Thus the iodide of potassium is recognized as capable of most rapidly removing the gummy material, and thus of relieving symptoms; but mercury is found requisite to produce permanent immunity. The iodide of potassium acts readily in removing recent new formations and cell accumulations, probably through the iodine it contains. The *fiens vesiculosis*, a remedy in use for obesity, and popularly known as "anti-fat," owes its virtues to the same ingredient. But mercury is known not only to hasten dissolution and elimination of fatty matters and new formations; it is, besides, the only agent with which we can expect to disintegrate more or less long-standing fibrous obstructions.

In the gummy accumulations of so-called tertiary syphilis we are obliged to infer that *some* condition remains, after the removal of the peccant material, which predisposes to or causes subsequent reaccumulation. What is more likely, as such condition, than *obstruction of lymphatic vessels*, the office of which is to carry just such material as we find producing the difficulty; vessels, too, that have been, more than any other structures, involved in recognized troubles during the active stage of the disease? More or less inflammatory action, usually of a very low grade, is recognized at different superficial points in the lymphatic system during this period. The well-known tendency of all such action is to the deposit of fibrous material, — the very material of which cicatricial contractions of other tis-

¹ Ziemssen's Cyclopædia, Am. ed., iii. 57.

² Rindfleisch, Pathological Histology, Am. ed., 1871, page 92.

³ Ibid., page 93.

sues are brought about. Analogous in a degree are the conditions which result in stricture of the urethral canal, ten, twenty, or even forty years after the original inflammation,—conditions which set in motion a process which culminates, finally, in obstruction to the passage of urine.

It has been claimed that much of the trouble in so-called tertiary syphilis may be the result of wide-spread fatty degeneration caused by contractions of vessels.

It is well known that fatty metamorphosis occurs more easily in some subjects than in others,—that purulent degeneration is most readily set up in the debilitated and diseased. It is also claimed by high authority that the liability to and severity of the lesions of the so-called tertiary period of syphilis "is in proportion to the duration of the secondary stage." (Hutchinson.)

Thus we may conclude that the varied degrees and forms of so-called tertiary manifestations depend upon, first, the damage caused during the "duration of the secondary stage," and inferentially in consequence of it; and, secondly, upon the condition of the individual affected, and this quite independently of any specific virus.

It may be objected to this view of lymphatic obstruction as a cause of the sequelæ of syphilis that, while all the known physiological and pathological processes favor it, it lacks actual demonstration.

It is unfortunately true that the investigation of these matters requires an amount of special training, knowledge, and experience with the use of the microscope, which puts it practically beyond the province of the general physician or surgeon, and also that experts have paid no systematic attention to the pathological processes associated with syphilitic sequelæ, but have rather wasted their labors in the vain endeavor to find a specific virus to which all these pathological conditions could be directly attributed,—a sort of philosopher's stone, which when found would suggest an antidote with properties as marvelous as those attributed to the virus, and of universal application for cure of every form and result of syphilis. But a single case has rewarded my search in the literature of microscopic investigations of syphilitic lesions which, presented simply as a record of pathological appearances, independently of any theory, appears to confirm my views in regard to the presence and importance of obstructions of the lymph channels in the sequelæ of syphilis.

TERTIARY SYPHILITIC ULCERATION OF THE ILEUM.¹

F., fifty-one years old (counselor), had been healthy, with the exception of syphilis, until six months before his entrance into the hospital. At about that time he felt a weakness in the lower extremities, especially the right, and fatigue in walking. The appearance of locomotor ataxia developed more and more, and this caused him to go into the hospital. At his entrance he was found to be robust, well nourished, with scars of mucous patches on the lips, psoriasis palmaris, and in the right groin scars from ulcerations of the glands.

The digestion was pretty good, stools not bad, no pains in the intestines. On the whole, the case appeared like one of locomotor ataxia.

The treatment against the syphilis was decided, and iodide of potassium and Zittmann's decoction were

prescribed; but the patient was scarcely put upon this treatment when he suddenly died. The post-mortem examination showed the following condition of the intestines: "All the layers of the intestines, from the lower part of the jejunum up to the ileo-cæcal valve, corresponding to Peyer's plates, were pervaded by a gray, reddish mass, which had on these parts a parchment-like feeling; the folds of mucous membrane were broader than normal, stiff, not expansible. In the middle of this infiltration an ulcer was found, of polygonal shape, and of the size of a small silver three-cent piece (kreutzer), parallel to the longitudinal axis of the intestine. The base of this ulcer is formed of the thickened, smooth, fatty-looking submucous layer, the borders of which are flat but sharply marked. The peritonæum is here covered with a tender pseudo-membrane and pervaded by enlarged lymphatic vessels, filled with thick yellowish-white lymph.

"Between the vessels were to be seen numerous little knots, of different sizes, which were in communication with the lymph vessels. The lymphatic glands of the mesentery were slightly rough and swollen. In the cavity of the intestine were bile-colored pulpy feces."

MICROSCOPIC APPEARANCES.

"We found a very abundant growth of round, tender cells, which were partly filled with fat; these after the addition of acetic acid showed several granules. The growths embrace the normal mucous membrane, extend through all the layers, especially the submucous connective tissues, and these, as well as the crypts of Lieberkühn, well preserved, were filled with detached epithelium.

On the ulcer found in the centre of the infiltration the intestinal villi were very imperfect or missing entirely.

"On the smooth, fatty base of the ulcer we saw numerous round cells imbedded in the tissues. The same growth of cells was also present in the muscular structure, in which the cells were imbedded between the muscle fibres which separated them.

"On some parts of the preparation (microscopic) aggregations of cells which had separated the muscle fibres had changed to a molecular mass."

"Upon a cross-cutting of the thickened peritonæum, besides enlargements of the thick-walled vessels and round cells, distributed especially around the vessels, we found also heaps of cells which seemed to be surrounded by a firm membrane."

"The cross-cut of such groups of cells were mostly circular, and showed a space filled with round cells of the same size, which space was marked off from its surroundings by a sharp line. These were taken to be sections of lymphatic vessels."

"Upon the longitudinal cut (especially in places where the enlarged lymphatic vessels and the small knots above described could be seen with the naked eye) were seen frequently heaps of cells surrounded by a sharp line. These heaps of cells took in the whole field of the microscope and were in connection with the lymph vessels. We saw both afferent and efferent vessels, filled with the same cells which formed the contents of the little knots visible to the naked eye." Here we have the history of a well-marked example of the so-called tertiary period of syphilis, or the period of gummy products. These products on a post-mortem examination are found distinctly associated with an ulceration in the intestinal canal, characteristic of syphilitic action. Infiltration of

¹ Untersuchungen an dem pathologisch-anatomischen Institute in Krakau. Von Dr. Alfred Biesiadcki, Professor an der K. K. Universität in Krakau. Mit 11 Holzschnitten. Wien, 1872. Page 84. Die Fälle von Enteritis Syphilitica aus dem Archiv für Dermatologie und Syphilis, 1871. Von Dr. Osier.

round cells (gummy products) into the mucous, submucous and muscular tissues, stiffening the structures so as to produce distinct induration, separating the bundles of muscular fibres until they become reduced to the appearance of a molecular mass, practically a necrosis. *Lymph vessels so distended with cells that a knotted appearance indicates the pressure to which they have been subjected*, and reveals the fact that a localized obstruction to the return of lymph through its natural channels, has occurred, — vessels filled almost to bursting with a yellowish fluid lymph, and cells (gummy material?); and why? What has caused this obstruction of lymph channels and evident loss of substance, by interference with the nutrition of the parts? The microscopic examination fell short of an inquiry into the causes of the obstruction. The tissues of the vessels were not subjected to any test or examination to see how the structure of the walls differed from that of normal lymphatic canals. The observer was content to show us that the damage probably resulted from interference with the lymph circulation; for it is evident that if these vessels (whose office is to return to the general circulation the lymphatic elements exuded in excess of the necessities for growth and repair) had been patent, the accumulation could never have occurred. This case carefully and ably investigated, in its gross as well as in its microscopical features, with no possible suspicion attaching which could indicate on the part of the distinguished narrator of the case the endeavor to form or bolster up a theory, has been shown to be a case of lymphatic obstruction, so associated with a lesion of tertiary syphilis (so called) that it will be difficult to resist the conclusion that the characteristic ulceration (lesion) was caused by that obstruction.

With these palpable indications of the manner in which the so-called gummy products have been localized in the present instance, shall we fall back upon the local presence of the traditional *virus* to account for the contractions of the lymph vessels? Shall we not rather claim of the renowned scientists who have already accomplished so much in the philosophical interpretation of general pathological and physiological processes that they shall afford us a reasonable explanation of the gummy material, — a material which is known not to differ in the least degree from normal germinal material, — and a reasonable explanation for the manner of its accumulation in the tissues in so-called tertiary syphilis. In the absence of other cases similar to the one just presented, and with the probabilities that absence is to be accounted for simply by neglect to look for and investigate, this case, presented by a competent and pre-eminently honest observer, must be accepted as representing facts which may be significant as to what occurs in all collections of "gummy material," — facts which are important as possibly affording an explanation of the hitherto mysterious lesions of so-called tertiary syphilis.

It appears to me that a review of the facts and arguments going to show that the lesions of the so-called tertiary period of syphilis are not the results of the local action of a virus, but are caused through damage to lymph channels in the active period of syphilis, which finally results in this contraction, thus causing obstruction to the passage of lymph and cells and accumulation of that material at various points, — these, together with the case cited, I think, warrant me in terming the period above referred to as the *period of lymphatic obstruction*.

Original Articles.

PUERPERAL CONVULSIONS.

BY ALEXANDER R. BECKER, M. D., BERKELEY, CALIFORNIA.

WHAT is the cause of puerperal convulsions? The most frequent answer would be "albuminuria," while others would say "uraemia," "anaemia," or "hydraemia." But, in truth, these conditions are only coincident symptoms of the fundamental disturbance. Let us see what that disturbance is.

The epileptiform character of the true puerperal convulsion is so strongly marked as to have drawn the attention and comment of all observers. May we not, then, be guided in our search by observing the pathological conditions pertaining to true epilepsy? It has been proved by Brown-Séquard that an epileptic attack is always preceded by an anæmic condition of the nerve centres, and especially of the medulla oblongata, and he and other experimenters have succeeded in producing epileptiform convulsions by galvanizing the sympathetic, whereby they caused contraction of the arteries and consequent anæmia of the medulla. It is also well known that epileptic attacks are very frequently produced by remote irritation through reflex action.

But from the medulla oblongata there also arises, at least in part, another system of nerves, whose filaments permeate the coats of every artery and vein in the body, and control and regulate the whole blood supply, the vaso-motor system. And it is through this wonderfully delicate and perfect conservator of force, — our safeguard at every turn, — and through the very performance of its duty, that puerperal convulsions are produced. From the moment of conception it is called upon to send an increased and ever-increasing supply of blood to the uterus and to the young life within it. But this it does and *must* do at the expense of other organs.

Over and above this, however, we know that other agencies are at work, — that the stomach performs its functions imperfectly, that the bowels are torpid, that the liver and kidneys are congested; and so it is no wonder that the pregnant woman habitually becomes anæmic, and hydræmic, and albuminuric. (For it must be remembered that the albumen, casts, and even blood are only evidences of congested or inflamed kidneys, and do not present the reactions found in Bright's disease.) But this impoverished blood is all there is to go to that most sensitive of all organs, the brain. Is it strange, then, that a local anæmia of the medulla should be produced sufficient to cause the convulsions in those who have the predisposition? But it may be said that the vaso-motor system also arises, in part, from the spine. True. And when, in the same manner, a sufficient degree of anæmia has been caused in the spinal cord, we find full evidence of the fact in the character of the convulsions and the tendency to opisthotonos.

"Predisposition" is not a term of such scientific exactitude as to be satisfactory. But, for the time, it must content us. Why is it that one child will void ascaries by the half pint, with no further inconvenience than a slight tenesmus and somewhat disturbed sleep, while the presence of a very few of these little tormentors will drive another child into convulsions or into epilepsy? Why does one person pass an active and (hygienically) careless life without a headache, while

another pays for every indiscretion with migraine or tic? We may suppose the difference to arise from a more or less *irritable* condition of the nerve centres, and with good reason. But the demonstration of this fact has not yet been made. And so we know that the great majority of pregnant and parturient women escape without convulsions, but we also know that the delicate and anæmic women, and especially those characterized by a highly wrought and sensitive nervous organization, are more liable to this terrible complication than their more full-blooded and phlegmatic sisters.

We believe, then, that puerperal convulsions are caused, in those so predisposed, by local anæmia of the great nervous centres, which is produced, primarily, by an insufficient supply of blood to those centres on account of the heavy demand from the pelvic organs; and, secondarily, by the impoverished condition of even this insufficient supply. And it will be seen that this theory exactly fits in with the prophylactic treatment now employed by all the best physicians, which consists in relieving the torpor of the bowels, in removing, as far as possible, the congestion of the kidneys; in other words, in removing every local congestion which might help to draw yet more blood from the brain, or become the source of reflex nervous irritation, and in correcting the anæmia with iron, chlorate of potash, etc.

RECENT PROGRESS IN MEDICAL CHEMISTRY.

BY WILLIAM B. HILLS, M. D.

URINARY CHEMISTRY.

The Urine of New-Born Children.—Cruse¹ publishes the following results of his investigations on the urine of new-born children:—

(1.) The absolute quantity of urine for twenty-four hours increases quickly and considerably from the second till the fifth to tenth day; from the tenth to the sixtieth day slowly and inconsiderably.

(2.) The specific gravity and the percentage composition of the urine in its essential constituents diminish quickly till the fifth to tenth day; after the tenth day the diminution is scarcely perceptible. There is an exception, however, in the case of phosphoric acid, which increases with the age.

(3.) The quantity of urine for twenty-four hours, reckoned for one kilo. weight of the body, and of the essential urinary constituents, increases rapidly from the second till the fifth to tenth day, and then remains, with insignificant variations, at the highest point reached till the sixtieth day. There is an exception in the case of sodium chloride, which diminishes again after the tenth day.

(4.) From the fifth to the tenth day the urine is generally cloudy, its color often dark, its reaction frequently acid; after the tenth day the urine is always clear, its color a pale straw yellow, its reaction generally neutral.

(5.) Until the tenth day the urine frequently contains albumen, after the tenth day never.

(6.) In general the urine undergoes many changes from the second till the fifth to tenth day; after the tenth day it is quite constant. The time at which it begins to remain constant corresponds with the be-

ginning of a marked increase in the weight of the child.

(7.) Aside from age, the excretion of urine in new-born children is influenced by the weight of the body. The absolute quantity of urine for twenty-four hours is directly, the quantity per kilo. weight of the body is inversely, proportional to the weight of the body. On the other hand, the absolute quantity of urea and sodium chloride, also the quantity per kilo. weight of the body, is in direct proportion to the weight. The specific gravity also, and (during the first ten days) the quantity of coloring matter, are increased in the same ratio to the weight.

(8.) In comparison with the excretion of urine in adults, the quantity of the urine of new-born children for twenty-four hours, reckoned for each kilo. weight of the body, is about three and one half to four times greater; while the quantity of the essential constituents of the urine, reckoned in the same way, is about one and one half to three and one half times smaller, and of the latter the excretion of urea in children is the least, the excretion of phosphoric acid the most, diminished.

Pollak² has examined the urine of two healthy babies, respectively one and two months of age, for sugar and albumen, and in both cases obtained positive results. These observations are different from those of Cruse, who never found sugar or albumen in the urine of healthy babies after the tenth day.

Cruse,³ in answer, maintains the correctness of his former statements, and attempts to show that Pollak's albumen was only mucin.

Sugar.—Worm Müller and J. Hagen⁴ have compared Fehling's and Knapp's (with mercuric cyanide) methods for the determination of sugar, with reference to their application to the urine, and found that they give, in general, consonant results; only that Knapp's method is more easily and quickly applied, and for this reason deserves the preference. As long as the quantity of sugar was above 0.5 to 0.7 per cent. the indications furnished by the two processes practically did not differ. When, however, the amount of sugar was below 0.7 per cent. it oftentimes could not be determined by Fehling's solution, as the suboxide of copper was held in solution. In such cases Knapp's method was of great value, since by means of it even 0.1 per cent. sugar was easily detected, the mercury settling well. They call attention to the fact, and insist strongly on its recognition, that the figures obtained by either method do not express the amount of sugar alone which is present, but express, in sugar equivalents, the strength of the urine in all reducing substances present (uric acid, for example, reducing both solutions). The authors note the fact that the filtrate from Fehling's test is free from suboxide of copper when the amount of sugar is large, but not when only very small amounts are present, and seek an explanation in the relative quantity of other reducing substances present.

Besides its unlimited application, Knapp's method possesses the advantage of being easily and quickly employed; the end reaction is easily recognized; the mercury separated settles quickly, and does not dissolve again, even on long exposure of the fluid to the air.

² Jahrb. über d. Fort. der Anat. u. Phys., 1878, page 381, from Jahrb. f. Kinderheilk., N. F. 12, 176.

³ Jahrb. über d. Fort. der Anat. u. Phys., 1878, page 381, from Jahrb. f. Kinderheilk., N. F. 13, 71.

⁴ Jahrb. über d. Fort. der Anat. u. Phys., 1878, page 390, from Arch. f. d. ges. Phys., 16, 567.

¹ Jahrb. über d. Fort. der Anat. u. Phys., 1878, page 380, from Jahrb. f. Kinderheilk., N. F. 11, 393.

Another important question studied was whether urine containing albumen can be titrated directly or only after separation of the albumen, as is usual. When the quantity of albumen was not over 0.2 per cent. they found that it made no essential difference whether the albumen was separated or not. The facility with which the titration was made, however, diminished, the nearer the limit of 0.2 per cent. was reached. Under these conditions much suboxide of copper went into solution, while the mercury settled slowly; but while under these conditions Fehling's method might be altogether impracticable, this was not, properly speaking, the case with Knapp's method, the execution of which was only considerably delayed. The authors conclude, therefore, that it is almost impossible to obtain a better reagent for the titration of sugar than Knapp's.

Indican.—M. Hemmige¹ reports the results of his estimation of the amount of indican in the urine in various diseases. The method employed was that of S-mator.² He found the amount of indican small in chlorosis without complication, increased in a case of pernicious anemia, diminished in two cases of purpura hæmorrhagica, increased in typhus at its height and during convalescence. In intermittent fever it was generally not increased; but in a case with violent cardiac pains and vomiting it was increased during the occurrence of these symptoms. In a case of arsenical poison the amount was diminished, in three cases of lead poisoning and three of trichinosis increased. Further, an increase was found in peritonitis, in gastro-intestinal hæmorrhage, cholera morbus, acute gastro-enteritis, chronic intestinal catarrh, cancer of the stomach and liver, Addison's disease, and progressive muscular atrophy. A normal or diminished quantity was found in constipation, catarrh of the gall-ducts following upon gastro-duodenal catarrh, cirrhosis of the liver, ovarian tumor, acute miliary tuberculosis, hæmorrhage from the lungs, meningeal apoplexy, and cerebral tumor. In phthisis there was a greater quantity when diarrhœa was present than when not.

Phenol.—Phenol, like indol, is a product of the putrefaction of albuminous matters. It has been recognized by Brieger³ as a substance formed by putrid decomposition in the great intestine and the extract of fecal matters. Fifty kilos. of feces furnished 0.2496 grams tribromophenol, corresponding to 0.0708 grams phenol. Phenol is eliminated through the urine in variable proportions in different diseases. The normal quantity eliminated each day by an adult is, according to Munk,⁴ on a purely animal diet 0.006 grams, on a mixed diet 0.0165 grams, reckoned as tribromophenol; according to Brieger,⁵ on a mixed diet 0.013 to 0.099 grams tribromophenol, corresponding to 0.003 to 0.028 grams phenol. Phenol exists in the urine as phenol-sulphuric acid, and may be separated and estimated by mixing with the urine so much concentrated acid as will furnish a five-per-cent. solution, and distilling. The phenol is precipitated in the distillate with bromine water as tribromophenol, and weighed. Each one hundred parts tribromophenol correspond to 28.3 parts phenol.

Experiments made by Oleniatt⁶ on the putrefaction

of different albuminous matters for different periods of time show that the quantity of indol formed increases during the first eight to twelve days, but after this it visibly diminishes, owing probably to its volatility. The phenol formed, however, always increases with the time. These experiments show that the formation of phenol does not run parallel with that of indol, and from this one can conclude that, while an increase of indican in the urine indicates an intense intestinal putrefaction in its first stages, an increased phenol excretion would show that the albumen had remained longer in the intestine and had undergone there putrefaction.

Brieger⁷ has made determinations of the amount of phenol in the urine in different diseases, with the object in view of obtaining a better idea of the putrefactive changes taking place in the intestines. He obtained the smallest quantity in anæmic and cachectic persons in cases of pernicious anemia, acute anæmia after *post-partum* hæmorrhage, chlorosis, scorbutus, scrofula (a case of gland tumors especially in the neck, and amyloid degeneration of spleen and liver), and cancer of the gall-bladder with secondary cancer of liver. The mean in the foregoing cases amounted to 0.0048 grams phenol per day. In diseases of the stomach the separation of phenol was small, but higher than normal in two cases of carcinoma of the stomach. There was about the normal quantity in pulmonary phthisis; a somewhat small amount, at times only traces or even none, in the acute exanthemata; a trace only in two cases of typhus, but the normal quantity in a third case; a marked increase in cholera morbus; a small amount only in perityphlitis; a slight increase in catarrh of the gall-ducts; a large increase in acute peritonitis and traumatic tetanus; and a considerable increase in rheumatic tetanus. In infectious diseases and septic conditions the increase was especially marked. A patient with purulent empyema separated as a maximum 0.6309 grams phenol; the amount diminishing as the patient improved, finally becoming normal. The phenol was also largely increased in a case of puerperal fever with facial erysipelas and exudation of pus, and in a case of phlegmonous abscess. In the latter case the pus itself contained an abundance of phenol. In other serous fluids and exudations neither indol nor phenol was found. Long-continued constipation, whether pathological or induced by opiates, caused only a trifling increase, and that by no means constant. The result of this last observation seems to indicate that one must seek outside the intestinal tract for the cause of the great increase of phenol noticed at times.

Another fact made evident by Brieger's investigations is that the excretion of phenol is not parallel to that of indican. For, although in cancer of the stomach, acute peritonitis, and traumatic tetanus, there was an increase of both, in anæmia and diseases of the stomach there was a diminution of phenol with an increase of indican, while in empyema there is an increase of phenol with a diminution of indican. Salkowski⁸ also states that the excretion of phenol is not parallel with that of indican, but notes the increase of both in peritonitis, pulmonary phthisis and lymphosarcoma. He also finds an increase after ligature of the intestines in dogs and rabbits, and states that a rich diet of albumen appears to increase the amount of phenol sep-

¹ Centralblatt für die medicinischen Wissenschaften, 1879, No. 33, from Deutsche Arch. f. klin. Med., xxiii. 271.

² The JOURNAL, February 7, 1878, page 170.

³ Ber. d. deutsch. chem. Gesellsch., 10, page 1027.

⁴ Hoppe-Seyler's (Maly's) Jahresbericht, 1876, page 138.

⁵ Maly's Jahresbericht, 1878, page 219.

⁶ Maly's Jahresbericht, 1878, page 374.

⁷ Centralblatt für die medicinischen Wissenschaften, 1879, No. 18, page 213, and Maly's Jahresbericht, 1878, page 218, from Zeitschr. f. physiol. Chemie, ii. 241.

⁸ Virchow's Archiv, lxxiii. 409.

arated. Brieger finds an increased separation of phenol as well as associated sulphuric acid in man after the ingestion of tyrosin, which is derived from albuminous substances.

In connection with the question as to how far one may judge, from the quantity of phenol separated in the urine, of the intensity of the putrefactive processes taking place in the intestine, certain investigations of Schaffer¹ and Tauber² are important. They have found that, after feeding dogs with a weighed amount of phenol, only a portion of the phenol is found again in the urine. When small amounts are given nearly all is oxidized; in case of large amounts (0.12 to 0.48 grams) from 45 to 65 per cent. is oxidized. It is apparently not changed to oxalic acid (as was suggested by Salkowski, who found a small amount of oxalic acid in the blood of a rabbit under similar conditions), since there is no increase of oxalic acid in the urine, but is probably oxidized to carbon dioxide and water. Salkowski³ has also noticed the same fact in regard to the oxidation of phenol. There is therefore no direct relation between phenol separation and phenol formation.

After phenol has been taken (Salkowski, Schaffer), or tyrosin (Brieger), not only is the phenol increased in the urine, but also the associated sulphuric acid; and the quantity of the latter is considerably greater than is necessary to combine with the phenol and indican in the urine. So that the urine must, under these circumstances, have contained some other substance combined with sulphuric acid. The nature of this substance is unknown, but Brieger thinks that a blue coloring matter which adhered to the baric sulphate obtained in the determination of the associated sulphuric acid, and which went into solution on washing the precipitate with alcohol, may have had some connection with the increase of sulphuric acid.

The Urine in Intestinal Catarrh.—J. Fischl⁴ has repeatedly found casts in the urine both in severe forms of intestinal catarrh and in the mild forms, especially in old persons. These were for the most part small hyaline casts, dotted here and there with epithelium, pus, or fragments of these. The epithelium was from various parts of the urinary tract, and at times, even from the beginning, was in a state of fatty degeneration. Blood globules were rarely found, and then in very small numbers. The urine generally contained more or less albumen, while the quantity of urine appeared to be diminished. These appearances were generally observed within a few hours after the diarrhoea set in, and disappeared after a few days, without leaving any trouble.

In young persons and those of middle age these changes in the urine were only found when at the same time vomiting existed. Fischl is inclined to seek for the cause of these changes in the urine in the supposed diminished arterial pressure following upon collapse; just as, though in a higher degree, disturbances of the circulation in cholera are the cause of the changes in the urine which occur in that affection.

Kreatinin.—According to Weyl⁵ if one adds to a dilute solution of chloride of kreatinin a few drops of a solution of nitro-prusside of sodium, so dilute as to be scarcely colored, and then drop by drop a very weak

solution of sodic hydrate, the mixture soon assumes a ruby red tint. This color is transient, being replaced after some moments by the straw-yellow color of alkaline solutions of nitro-prussides. Fresh human urine gives this reaction very distinctly, and it is not produced by any other substance found in the urine except kreatinin. In an alcoholic solution the reaction is less obvious.

Bile Pigments.—M. Masset⁶ considers the following the most delicate test for the detection of biliary coloring matters:—

Two grams of urine are acidified in a test tube with two or three drops concentrated sulphuric acid, and a crystal of potassium nitrite is added, care being taken that it does not adhere to the sides of the tube. The reaction takes place immediately, and consists in the production of streaks of a magnificent grass-green color, if the quantity of the principal biliary coloring is considerable. On being shaken the color becomes uniform and takes on a very deep tint, which persists upon boiling, and which may be kept several days without any alteration. The addition of water simply diminishes the intensity. If the coloring matters are in very minute quantity, the liquid acquires, after a very short time, a pale green tint, equally persistent, and easily observed on placing the tube between the eye and the sunlight, or on looking down the tube as it stands on a white ground. Normal urine under these circumstances assumes a faint ruby tint. Masset considers this reaction valuable in the beginning of certain diseases, when the ordinary reagents are incapable of showing traces; the reaction is always distinct, and is not subject to the errors of observation which may occur with the ordinary reagents and which often lead to indecisive and perhaps erroneous opinions.

TOXICOLOGY.

Localization of Arsenic.—The investigations of M. Scolosuboff upon the localization of arsenic in the organs, from which he concludes that it condenses first and foremost in the brain, have been previously noticed.⁷ Experiments have recently been made by MM. de Poncey and Livon,⁸ which have resulted in confirming the observations of Scolosuboff. MM. de Poncey and Livon have also observed that when small doses of arsenious acid are given to an animal daily with the food the phosphoric acid in the urine is considerably increased. The authors consider that this increase could have come from substitution only, and not from any pathological condition of the animal; for in cerebral affections they have found rather a diminution than an increase of phosphoric acid in the urine. The arsenic then seems to replace the phosphorus of the phosphoglyceric acid, producing arsenio-glyceric acid. The authors are attempting to isolate this base. The experiments are described in detail, and show care in their performance.

E. Ludwig,⁹ however, has made analyses of the organs of persons who had committed suicide with arsenic, and of dogs which had died, some from acute, others from chronic, arsenical poisoning, and in all cases he has found the greatest quantity of arsenic collected in the liver. In acute poisoning the kidneys also were rich in arsenic, while the bones and brain con-

¹ Journal f. prakt. Chemie, xviii, 282.

² Zeitschr. f. physiol. Chemie, ii, 266.

³ Centralblatt f. d. med. Wissenschaften, 1878, No. 31.

⁴ Centralblatt f. d. med. Wissenschaften, 1879, No. 4, page 55.

⁵ Journal de Pharm. et de Chimie, August, 1879, page 197, from *Berichte der deutsch. chem. Gesellsch.*, xi, 2175.

⁶ Journal de Pharm. et de Chimie, July, 1879, page 49, from *Journal de Pharm. d. Anvers*, February, 1879.

⁷ The JOURNAL, July 6, 1876, page 10.

⁸ Journal de Pharm. et de Chimie, October, 1879, page 344.

⁹ Chem. Centralblatt, 1879, No. 48, page 602.

tained only very small quantities. In cases of chronic arsenical poisoning (in dogs) which were not fatal, and in which the administration of the poison was stopped, he found that the poison remained longest in the liver, while it was separated from the other organs much earlier.

In a fatal case of acute arsenical poisoning the following results were obtained upon analysis:—

1480 grams liver,	0.1315 grams ammonio-magnesium arseniate.
1481 " brain,	0.0015 " " " "
144 " kidney,	0.0195 " " " "
600 " muscle,	0.002 " " " "
The bones furnished traces.	

[These results are in direct opposition to those of Scodosiuff, De Poncey, and Livon. They are, however, in our opinion of great value, in connection with this question. In every case of acute arsenical poisoning, in our own experience, where the brain has been examined (three in number), and in two other cases of which we have knowledge, only *traces* of arsenic have been found in the brain, while the liver has contained from one half to two and one half grains. It is desirable that all analyses which have any bearing upon this subject be published, and that further experiments be made. For the present we do not think one is justified in accepting the statement that arsenic is chiefly localized in the brain and spinal cord. It is important, however, that the chemist examine the brain in all cases of arsenical poisoning, not only because it will be of value in settling the question under discussion, but also because the presence of traces even is of importance in connection with the subject of post-mortem imbibition of arsenic which is often raised in criminal trial.¹—*Rep.*]

Localization of Strychnia.—*MM. Lajoux and Grandval* have presented to the Pharmaceutical Society of Paris an interesting communication concerning this question. According to some authors (*Husemann, Dragendorff*), the chemist in cases of poisoning by strychnia should direct his investigations chiefly to the liver. *Dragendorff* states that he has never succeeded in isolating the alkaloid from the brain, even when the whole organ was operated on. He states that *Gay* has been able to isolate it from some special parts of the nervous system, as the medulla oblongata and pons varolii, and that he himself has been able to discover it in the medulla oblongata. *Lajoux and Grandval* present the results of their analyses of the brain of a person who died from the effects of 2.35 grams *tr. nux vomica*, equivalent to only 0.0035 grams of strychnia. Of this amount about three quarters was administered hypodermically, the remainder by the mouth. Although the quantity was very small, they succeeded in isolating the strychnia from only a fraction of the brain and obtaining its characteristic tests. If these observations prove correct, the chemist should never neglect, in cases of poisoning by strychnia, to examine the brain.

—*Virchow* has received the order of Knight of the Order of the Netherlands Lion. *Donders* holds the Cross of Commander of the same order. — In Munich Professor *Bollinger* has taken *Bull's* place as lecturer upon pathological anatomy for the present winter. — *Czerny* has been made a privy councillor.

Reports of Societies.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

T. M. ROTCH, M. D., SECRETARY.

OCTOBER 25, 1879. Fifty members were present, *Dr. Calvin Ellis*, the president, in the chair. *Dr. C. J. Blake* read the following paper on

CHILDREN'S EARACHE.

The remark, "Only an earache," so often heard, indicates the familiarity with a symptom which receives the less attention because of its very frequency, and because the appreciation of the facts in the case go no farther than the recognition of the symptom alone.

In too many cases the popular comprehension of an earache may be best expressed as—a hole with a pain at the bottom of it; and to still this pain the hole through which it can be reached, the external auditory canal, is made the medium for the instillation of various substances whose principal value for the accomplishment of the desired purpose lies in the fact that they are warm when used.

The list of substances poured and put into the ears of children by lay practitioners for the purpose of relieving an earache would be amusing, if it were not rather exasperating; for, of the substances usually employed, the majority, while giving temporary relief for the reason mentioned, by remaining in the canal so obscure the objective field by discoloring or macerating the lining of the canal and the outer coat of the membrana tympani as to increase the difficulty of making the subsequent diagnosis as to the cause of the pain, and determining the best measures to be taken for its adequate relief.

The pain itself, in its character and location, as giving evidence leading to the determination of its cause, is too valuable a symptom to be merely palliated and put aside. In the majority of cases the consideration of the cause, in view of its possible consequences, is far more important than that of the present pain; not that the pain is insignificant, but that the treatment should be directed to its relief by removing the cause, like a fire which should be quenched rather than smothered.

Among the causes of children's earache, including the reflex pain from carious teeth and the pain resulting from furuncular and diffuse inflammation of the external auditory canal, by far the most frequent in this climate, and during the winter and inclement spring months, is the acute inflammation of the middle ear accompanying and following the common head cold.

The inflammation of the mucous membrane of the nasal passages and naso-pharynx extends up the lining of the Eustachian tube to the still more delicate lining of the tympanic cavity, a membrane exceedingly rich in blood-vessels, receiving its blood supply in part from branches passing along the Eustachian tube.

One of the first results of the inflammation of the lining of the Eustachian tube is the closure of that passage, which serves both as ventilating shaft and as drain to the middle ear. The pressure of the apposite walls of this tube, by interfering in a measure with the return of blood from the lining of the tympanic cavity, favors the engorgement of the blood-vessels in this cavity and the serous exudation into the tympanic cavity, which latter is a marked feature in these cases,

¹ Compare the *JOURNAL*, January 31, 1878, page 136, *Dr. Drape's* report.

² *Journ. de Pharm. et de Chimie*, August, 1879, page 164.

and is nature's first effort at relief. As this process goes on, there is a gradually increasing accumulation and increasing pressure upon the lining of the cavity, and especially upon the sensitive *membrana tympani*, rendered more sensitive by its own share in the inflammatory process and by the intrinsic pressure from the congestion and serous exudation within its own tissues.

The pain which results under these circumstances is often excruciating, and once suffered is not likely to be forgotten. In addition to the constant and less severe pain, which may be stilled in a measure by dry, warm external applications, there are paroxysms of more severe pain recurring at irregular intervals, due probably in part to an increase of the intra-tympanic pressure, relieved at intervals by the escape of a small portion of the fluid into the Eustachian tube.

This view is supported by the fact that as a rule the pain in these cases is less severe in the day-time, when the child is moving, talking, and swallowing, when the movements of the palato-tubal muscles tend to partially open the Eustachian tube, and by the further fact that the pain is usually more severe at night and after an hour or more of sleep, the child often awakening after a sleep of an hour or two with a pain in the ear much more severe than any which has been experienced during the day. The history of many cases of acute purulent inflammation of the middle ear shows that the pain has recurred in this manner several nights in succession before the natural relief has been afforded by a spontaneous perforation of the *membrana tympani* and a copious discharge. A child suffering from this form of middle-ear disease usually has or has had a more or less severe head cold. There are marked febrile symptoms, as a rule, and the occasional sharp cry marking the access of a paroxysm of pain is peculiar. An examination of the ear shows congestion of the inner end of the auditory canal, congestion of the *membrana tympani*, especially about the *manubrium mallei*, or of the whole surface of the *membrana tympani*, according to the duration of the inflammatory process; or there may be, in addition to these appearances, bullæ upon the surface of the *membrana tympani*, generally on the posterior quadrant, filled with limpid serum, sero-sanguinolent fluid, and, rarely, pure blood, — these bullæ being the result of serous or hæmorrhagic exudation beneath the dermoïd coat of the *membrana tympani*. With these conditions the instillation of warm fluids is evidently likely to do no more than give temporary relief. The thing to be done, under the first conditions mentioned, if possible, is, firstly, to open the Eustachian tube and relieve the intra-tympanic pressure by allowing some of the contained fluid to escape from the middle ear through that passage. This is most readily accomplished, especially in children, by the use of the Politzer air douche. This instrument, consisting of a bag syringe with a flexible rubber tube and appropriate nozzle, is usually used by inserting the nozzle in one nostril, closing the nostrils with the finger and thumb of one hand, making the patient swallow, and at the moment of swallowing compressing the bag, held in the other hand, forcibly. The act of swallowing, accompanied by the elevation of the palate and closing of the naso-pharyngeal from the buccal cavity, prevents the air injected from passing down into the throat. The closure of the no-trils prevents its escape at the nose, and the accumulated pressure in the naso-pharyn-

geal space is exerted to dilate the Eustachian tube, this end being further aided by the contraction of the palato-tubal muscles which accompanies the act of swallowing. The escape of the fluid from the middle ear may be further favored by turning the head so that the affected ear is uppermost, thus bringing the fluid-containing cavity directly above the vertically-situated Eustachian tube; or, if both ears are affected, by inclining the head forward.

But a child suffering from pain is not always readily induced to swallow at the word of command, and possibly, from the existing condition of the throat, forcible swallowing may have been already found to be too painful an experience to render the child willing to undertake it as desired. Since the broad rule, "peaceably if we can, forcibly if we must," is so applicable to the treatment of children, if the act of swallowing cannot be induced, let the child place its hand over its mouth and blow, strongly distending the cheeks, thus forcing the palate upward. During the continuance of this pressure, the addition of the pressure by means of the air-bag in the nose, with closed nostrils as before, will often sufficiently accomplish the purpose.

If the child proves intractable, and can be induced neither to swallow nor to blow, it can be made to cry, if it is not already doing so, and, choosing the moment when a strong cry is sending a column of air out of the lungs and elevating the palate, the desired inflation may be effected.

As a Politzer air douche is not always at hand, and as the busy general practitioner cannot be expected to carry about with him "everything except a tackle and fall," some simpler instrument must often answer the purpose for inflation. A common Davidson injection syringe, the in-draw tube doubled up and held in the hand, and the small nozzle inserted in the nose, answers very well; in default of this, a length of rubber tube, through which the surgeon blows, holding one end in his mouth; and in default of this a common clay pipe.

In the early stage of the inflammation this inflation of the middle ear often not only relieves the pain effectually, but stays the progress of the trouble. The parents can be instructed, and can perform the simple operation on any recurrence of the pain.

When, however, the inflammatory process has progressed still further before proper aid is called for, and the later condition above described exists, the simple inflation is less likely to be sufficiently efficacious, and other treatment looking to a relief of the pressure is called for. This may be afforded often by merely pricking the prominent bullæ upon the *membrana tympani*, or, if there is much bulging outward of the *membrana tympani* from the contained fluid in the middle ear, by perforating the *membrana tympani* itself. This should be done only under good illumination, the child's head being firmly held, and may be accomplished by one or more punctures in the most prominent part of the membrane, or preferably in the posterior inferior quadrant, by means of the lance-headed paracentesis needle, or in default of this by means of a long darning-needle held at an angle in a pair of spring forceps. Acupuncture, unless there is pus to be liberated, is usually to be preferred to an incision, since less violence is done to the already inflamed tissues, and a slight and continuous relief of the pressure is preferable to the complete evacuation of the cavity, which, by removing all counter pressure,

favors a more excessive serous exudation, with possibly the breaking down of the tissues and subsequent ulcerative inflammation.

With the escape of a few drops of the contained fluid the pain is usually greatly relieved, and the gradual flow of the fluid may be now favored, and the maceration of the outer coat of the membrana tympani and the dermoid lining of the auditory canal prevented, by the insertion of a wick of absorbent cotton, to be removed and replaced by a dry wick so soon as saturated.

At this stage the ear should not, as a rule, be syringed, but the dry dressing continued until there is no longer a serous discharge, or until the appearance of a purulent discharge shows that the disease has passed into another stage, when syringing and mild astringent instillations may be re-sorted to, and the usual treatment applicable to such cases carried out, the more acute stage with its excessive pain being a thing of the past.

A word of caution should be added in regard to the use of the air-bag. The inflation should not be too forcible, since the object is rather to dilate the Eustachian tube and favor the gentle escape of the fluid than to force air under extreme pressure into the tympanic cavity. To this end, repeated gentle inflations are preferable, to begin with, to the use of more considerable force. After puncture of the membrana tympani the air douche may also, in some cases, be gently used, and, after both the inflation in the symplic and the puncture in the more severe cases, dry warmth may be externally applied. Moist warmth, the poultice applied over the ear, is as a rule in all of these cases to be avoided.

Dr. HUNT says as follows: Dr. Blake's very practical exposition leaves nothing to be added as far as diagnosis and treatment are concerned; but as to the causation of the affection there are many reasons for doubting the important rôle ascribed to an increase of intra-aural pressure from a secretion that is supposed to have resulted from closure of the Eustachian tube. It has become customary to speak of this cause as quite proven: various authors, often evidently led by a loose idea of an analogy between intra-ocular and intra-aural pressure, which is supported by no facts, have described the operation of puncturing the drum membrane as relieving the pressure in the middle ear if but a drop of fluid exudes. It may be well to remember that the closing of the Eustachian tube leaves the vessels of the middle ear subjected to the pressure of the atmosphere for a much longer time than is necessary to produce the most acute earache, as the phenomena usually succeed each other; and that, on the other hand, many cases of chronic disease are known where, after long closure of the tube, no pain and no exudation occur. Taking these facts into account, I have for some time thought that in the earache of children the pain often has its seat in the membrana tympani, and that puncturing the drum membrane relieves the pain by changes which the operation induces in the membrane itself. If we call to mind the anatomical structure of the membrana tympani, its rich supply of vessels and nerves, it is easy to suppose that an incision which drains it may by this means relieve a most intense pain, of which the cause is seated in the membrane alone, and that the minute effect upon the not remarkably sensitive lining of the middle ear has but little to do with the

good result. In other words, the case is analogous to that of the painful little furuncles which affect the cutis of the meatus, and which an incision so rapidly relieves.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. ROTCH, M. D., SECRETARY.

JANUARY 26, 1880. DR. JAMES C. WHITE, permanent chairman, presided.

CONCUSSION OF THE SPINE, SO CALLED.

Dr. R. M. HODGES read a paper on So-Called Concussion of the Spine, the purpose of which was to show that we have no knowledge justifying the proposition that what is popularly called "concussion of the spine" is due to a molecular disarrangement of the substance of the cord by an assumed shake or jar. That vascular disturbances (anæmia, hyperæmia, hemorrhages, spinal apoplexy) followed by meningitis, myelitis, or degenerative changes of the spinal cord are shown by pathological as well as physiological histology, by experimental pathology, and, to a certain extent, by post-mortem examinations to be the true cause of symptoms heretofore commonly designated as "concussion of the spine." That, in spite of hysteria and exaggerated or fraudulent manifestations frequently accompanying cases of so-called "concussion of the spine," the reality, if not the precise character, of any existing spinal lesion can almost always be recognized by objective and demonstrable symptoms. That the prognosis of this class of spinal injuries, in severe as well as slight instances, is far more favorable than is usually supposed. That, as a plea in suits for damages, "concussion of the spine" (so called) does not and is not entitled to have the weight and importance usually attached to it. That erroneous impressions in regard to the severity of this injury, prevalent in this country as well as in England, have been fostered by Mr. Erichsen's book on Concussion and Nervous Shock, which presents an exaggerated picture of its symptoms and consequences, not justified by our present knowledge of the subject.

Dr. Hodges's paper is to be published.

Dr. CHEEVER said that one great difficulty in cases of alleged concussion of the spine in claims for damages was in distinguishing between the subjective and the objective phenomena, what the patient said he felt and suffered, and what the physician could see, observe, and appreciate without the patient's statement. Another difficulty was in conveying to a jury what the physician honestly believed. This arose from the faulty mode of employing medical experts. It was difficult to avoid being biased when called by one or the other party as expert; and then, again, the most honest expression of a scientific opinion by the expert was discounted by the jury, and passed for less than its worth, because the jury expect the expert to be partisan, and allow for it. Experts should be called and paid by the court, and should devote themselves as specialists to certain classes of cases. Since the publication of Mr. Erichsen's book on Railway Injuries, the imaginative patient, who thought his spine affected, could find in it chapters to feed his fancy and to suggest every symptom, and the adroit counsel could find in it a counter-statement to break down in a cross-examination every statement of an expert. Dr.

Cheever believed the spinal cord to be better protected from concussion than the brain. The cord was swung in a water-bed by the *ligamenta dentata*, and surrounded by a firm but flexible case of bones, held by strong ligaments, and capable of yielding to shocks without displacing the vertebrae; whereas the brain was a larger soft substance, inclosed in an unyielding hemisphere of bone. Frequently injury to the cord was claimed to have been caused by blows over the lower part of the spine, where the cord ceased and was replaced by separate nerves in the *cauda equina*.

Rheumatism was frequently mistaken for injury of the spine. Pain in the back, due to lumbago of the erector spinae muscles, and irritable bladder from excess of uric acid in the urine, simulated spinal irritation or inflammation. The aponeuroses and ligaments of the back, both spine and sacrum, were largely made up of fibrous tissue, were thinly covered by skin and cellular tissue, and were easily inflamed by blows and climatic changes, inducing rheumatism.

Of the cases of alleged spinal concussion as the result of injuries which he had seen, Dr. Cheever recalled but two where the objective phenomena were unmistakable. In one there was *paralysis agitans*, where the involuntary contractions of single muscles and fasciculi could not be caused at will for purposes of deception. In the other there was mottling of the skin, caused by minute capillary congestions, and due to true vaso-motor paralysis.

Dr. J. J. PUTNAM said he supposed we should all agree with Dr. Hodges in his belief that the railroads were badly "gouged," but that from the social standpoint it was to be remembered that up to a certain limit the railroad authorities were made more careful thereby to avoid accidents, which is certainly of great importance. Traveling in Europe is safer than it is in this country, and in Prussia, even under the stringent liability laws, passed in 1871, making the companies responsible for accidents arising in connection with all the business of the roads, thirty railroads were fined but about half a million dollars in three years, a sum no greater than that which was paid by one road here in consequence of a single accident (Wolleston).

With regard to the pathological aspect of the question, Dr. Putnam thought that at present the term concussion had no definite scientific meaning, since we have no evidence that simple mechanical agitation is *per se* able to impair or destroy the functional power of nervous centres, though it was possible that such evidence would be discovered. Such injuries as have been alluded to act, so far as we can now tell, indirectly by causing minute hemorrhages into the cord or its membranes, or by exciting local processes in the neighborhood of the latter (Leyden), or by causing changes in the vaso-motor system. Dr. Putnam could not agree with Dr. Hodges that definite lesions such as might eventually cause myelitis would necessarily reveal themselves by definite symptoms in the early stages of the case, and called attention in this connection to the experiments of Duret and others upon concussion of the brain.

Dr. WEBBER said: When called to examine a patient in case of such injury as has been referred to, the physician called on behalf of the defendant, and often the one called by the plaintiff, is an entire stranger, sees the patient only once or twice, and hence his ignorance of the previous health of the pa-

tient renders a correct diagnosis difficult if the patient desires to deceive. A case in point occurs to my mind where I was asked by the defendant to examine a woman. Testimony was introduced showing that she had had the same symptoms, referable to head and back, before the time of the alleged accident. I found considerable uterine disease, which must have been present longer than the time which had elapsed since the accident, sufficient, at least in part, to cause the symptoms. A gynaecologist confirmed this opinion.

As to the presence of symptoms continuously from the time of the accident, I cannot fully agree with the reader that this is always the case, though I should hesitate to refer symptoms to an accident received so long previously as two years; yet a delay of some months is possible. In one case a workman kept at work and professed to have had no inconvenience after an accident for one or two months, yet died from myelitis resulting therefrom.

That the varied symptoms seen after railway injury are many times genuine is proved by the occurrence of a similar train of symptoms where there is no question of damages, as in a patient who, by sitting down violently, was injured so as to suffer for years in the whole of the back and head, with symptoms like those of spinal concussion. The coccyx being very tender, I advised the removal of this, which was not accepted by the patient, yet after years of suffering and inability, after more than a year's treatment by electricity, she so far recovered as to be able to do a day's work as seamstress.

Sometimes, too, cases which seem to be less severe go on to worse, as in the case of a man thrown from his wagon, having pains in back and legs closely resembling those about which plaintiffs in railroad cases complain. There was no question of damages. He has slowly grown worse, and has many of the symptoms of locomotor ataxia.

The occurrence of impotence has sometimes been claimed, and is held in rather light esteem, as a result of spinal concussion. I was consulted by a gentleman, well advanced in life, who had been injured by the upsetting of a carriage some thirty years before, and had been impotent all that time, though previous to the accident he was not thus affected.

Recovery after severe disability does not prove that the complaints were imaginary, as in a case which came under my care three years or more after settlement, where there was paralysis of one leg. The patient recovered power over that leg after a year's treatment, yet certain cerebral symptoms remained.

Notwithstanding many genuine cases, when testifying in a case where there are no objective symptoms I almost always question whether I may not have been too favorable to the patient, whether called by plaintiff or defendant, there is so much exaggeration and so many attempts at deception, and I generally regret that I have not made statements less favorable to the patient rather than the opposite.

Dr. ELLIS spoke as follows: Though much of the error connected with this subject has been exposed in the paper, the difficulty still lies where it did when the term spinal concussion was introduced. It was only a synonym reiterating the general nature of the accident. After eliminating the various affections of the spinal cord which can be recognized by the presence of certain symptoms, there still remains a residuum to which the term spinal concussion is applied. In other

words, having reached the limits of our knowledge, we embody under this head the vague suggestions of our ignorance. Necessity may at times oblige us to do this, and with advantage, as it is a ready method of communication with each other where the symptoms are constant, even if we do not understand their significance. But nothing could be more vague than the ideas conveyed by this term, and it has been used in connection with cases of which nothing was really known, and which have proved to be nothing but frauds. Mistakes are of course liable to be made in judging of the existence of well-established disease, but in this instance they are made in connection with a hypothetical condition; and on such a basis hundreds of thousands of dollars have been taken from individuals and corporations.

We are told that the term is legitimate because it admits of a prognosis, but it is clear that the latter can be attached just as well to a doubtful group of symptoms which have received no special name. The very cases reported show that no sound prognosis can be made, even with the help of the so-called spinal concussion, as conviction for bastardy has followed not long after the award of large damages for impotence, and motion has returned very rapidly to the hopelessly paralyzed limbs after they have been the means of obtaining a comfortable subsistence for their owner.

The term spinal concussion throws no more light upon the nature of the injury than that of colic does upon the cause of abdominal pain. If we *know* the cause of the latter it is our duty to state it in intelligible language. *We do not add to our knowledge by condensing our ignorance into a formula.*

DR. S. CABOT, in reply to Dr. Ellis, said that he thought that this was carrying the matter too far, and that if we are forbidden to use this term we shall have to stop calling anything by a name. A certain injury occurs and certain symptoms follow. When we find this group of symptoms, it is fair to use the term concussion of the spine, as we say concussion of the brain where there is probably often laceration. He would also criticize Dr. Cheever's remarks in regard to blows of the sacrum below the actual site of the cord.

The worst case that he had ever seen was that of a lady who, thirty years ago, fell on the floor in a sitting posture, a child having pulled away her chair. No part of the spine containing the cord was struck, and yet she became insensible and convulsed, and on coming to was blind, deaf, and had no sense of smell. There was here no question of money at stake, and he called this a case of concussion of the spine.

DR. LYMAN asked Dr. Ellis what he would call a case where a child falls out of bed and is faint, pale, and vomits, without showing any discoverable injury.

DR. ELLIS replied that concussion means nothing, and that when you designate such a case as concussion you give no real answer to the question as to what the trouble is, and merely tell the questioner what he knew before, — that the child had been shaken by the fall.

DR. WEBBER said: As to the term spinal concussion, if one rests satisfied with that and thinks he knows all about the case, instead of carefully examining the patient, — and such cases require the most careful examination and cross-questioning, — the name is a snare; but if the physician will eliminate all gross lesions, as hemorrhages and inflammations, lesions of vertebrae and ligament, there remain a large number of cases whose pathology is as yet unknown, and spinal concussion is a

legitimate and convenient term to apply to them until they can be better known and referred to their appropriate class, whether new or old.

DR. T. B. CURTIS could not agree with those who would set aside the term "concussion of the spinal cord" as having no definite significance. It is certainly neither a nosological nor a pathological designation, since it denotes neither a particular disease nor a particular lesion. It is, however, a clinical designation, applying to certain aetiological conditions; and, as such, is appropriately used when an individual has been subjected to an external violence which may have left no physical signs of injury, but which, as we know by experience, involves a liability to the subsequent development of grave secondary affections of the spinal cord, namely, myelitis, meningitis, and sclerosis.

Concussion, then, is an aetiological circumstance, which, like wetting the feet, may or may not be followed by acute or chronic, curable or incurable, disease of the spinal cord. The symptoms then to be observed are mainly the well-known and unequivocal symptoms of myelitis, followed by ascending and descending sclerosis. Of these symptoms, some, as the disturbances of mobility and sensibility, are subjective, and therefore capable of exaggeration or simulation; others, consisting principally of trophic disturbances, are objective. It is obvious that in cases of litigation, where the pecuniary interests of the patient as plaintiff come into play, the objective symptoms should receive the closest attention of the medical expert.

The symptoms of secondary myelitis and sclerosis, following injuries obscure in themselves, are by no means so undetermined and vague as the too commonly accepted symptomatology of "concussion of the spine" would lead one to suppose. The characteristic signs have been carefully and minutely studied, recorded, and set forth by various authorities, among whom may be mentioned Charcot, Vulpian, and Leyden. Treatises based, like Erichsen's work, upon the evidence of railway cases are certainly the last sources of information from which one may learn to make a correct diagnosis and prognosis, and to escape being deceived by the voluntary or involuntary exaggeration and simulation so commonly observed in plaintiffs seeking damages.

Even in genuine cases, where unequivocal signs of secondary disease of the cord follow the infliction of violence, the prognosis drawn by medical experts is often needlessly severe. Recoveries from myelitis, meningitis, and sclerosis, with long-standing paraplegia, followed by spasmodic retraction of the legs, are by no means rare, as has been shown to be the case in Pott's disease by Leudet, Bouvier, Charcot, and Michaud. The cases cited by Dr. Hodges show that in some of the worst cases of so-called "concussion" a speedy recovery may take place.

In conclusion Dr. Curtis would propose the following definition of spinal concussion: The term denotes a condition resulting from external violence in which the patient is liable to be affected with certain definite and recognizable secondary diseases of the spinal cord, namely, myelitis, meningitis, and sclerosis.

DR. BIGELOW remarked that it would not be doubted that damages awarded for injuries are sometimes excessive. This is no new fact, and will be true so long as the nature and prognosis of injuries are uncertain, or the amount of their equivalent in money is determined by a jury.

The question that immediately interests us is a scientific one. Dr. Ellis objects to the term concussion of the spine. The objection is shared by surgical writers. So long ago as Holmes's Surgery, the article upon concussion of the spine was a remonstrance against the existing use of this term, and an enumeration of a variety of different symptoms and also of different lesions erroneously grouped under it. The paper read to-night is especially valuable in calling attention to the fact that the term concussion of the spine should not be used unadvisedly, to alarm juries and pervert justice. But it should not be forgotten that an injury, by whatever name we call it, may be a severe one; whether a real concussion of the spinal marrow, like that of the brain, or some other disabling lesion, obscure in character, and uncertain as to its sequences and results. The question with the surgeon is, of course, How much is the patient hurt? rather than, What is the name of the injury? and until injuries of the class we are considering can be better defined and measured than now, justice will occasionally suffer from the uncertainty and imperfection of medical knowledge.

Another consideration is connected with the patient. It is important that no injustice should be done him. It would hardly be argued in court, that because patients are sometimes impostors, therefore an injured man should be inadequately compensated. Again, when a plaintiff goes into court for damages, whether with intent to deceive or as the honest bread-winner of a family, he is encountered by the defendant with every stratagem of law and evidence. In fact, the usual practice of corporations is to try at once to settle with the less astute among the injured for a trivial sum. It is perfectly legal that they should do so. And it is also legal that the more astute among plaintiffs should try to secure large damages. And it should be remembered that in many of the relations of life men sometimes feel honestly better or worse according to the attitude they for the time occupy to a large sum of money.

It is a question whether railroads should not be occasionally reminded, in a practical way, of the necessity of care, especially in a country where government exercises so little control as here in their management. If damages were notoriously and habitually excessive, a remedy would doubtless be found in a restriction of their amount by legislation, in behalf of railroads, as has, I believe, been already done in the case of towns. The discussion this evening relates to a surgical term that has been recognized as an inaccurate one. If we abandon it, we must find, to supply its place, others that will designate more exactly the injuries hitherto somewhat loosely grouped under this one.

PAROTITIS IN FEVERS.

DR. LYMAN spoke of the case of an old lady with pneumonia, who had great enlargement of the parotid glands, which interfered with swallowing, and finally caused her death. Niemeyer refers to similar cases. Dr. Lyman had observed it occasionally in typhoid fever.

DR. C. D. HOMANS said that there were quite a number of soldiers with fever in the army who were affected with enlarged parotid as a complication, and that all these cases were fatal.

DR. HODGES remarked that the enlarged parotid presented itself occasionally at the end of an exhausting disease; he had seen it several times, and it had always been fatal.

DR. CHEEVER had seen it after an operation for ovariotomy, the patient dying on the fifth day; he had also seen it in one surgical case, where the death, however, was not so speedy.

DR. ABBOTT had observed this as a fatal complication in a girl eighteen years of age suffering from cancer of the stomach.

MONSTROSITY.

DR. FITZ showed a monstrosity which had been sent him by Dr. I. F. Galloupe, of Lynn. It presented a combination of cyclopia and anterior hydronephaloecele. The fetus corresponded in size with one of about seven months, and with the exception of the head and face was well formed. From the anterior portion of the cranium there projected a rounded, fluctuating tumor nearly two thirds the volume of the head of the fetus. Pressure upon the tumor caused a bulging of the anterior fontanelle, and a wave of fluctuation was transmitted to the same point. On the lower surface of the tumor at its junction with the head was a slightly depressed, smooth, glistening, and injected surface, at one portion of which was an opaque fibrous plate. The depressed surface was bounded by an elevated margin of an oval outline, in which were vertical yellow lines representing the meibomian follicles, and projecting from which were occasional delicate hairs, representing eye-lashes. A subsequent dissection of the sack, made by Dr. Whitney, showed that the fibrous plate above mentioned was a flattened, hollow sack with pigmented contents. Where the interior of the large cyst communicated with the interior of the cranium, the bones of the latter were somewhat everted. The face of the fetus was flattened and smooth from the attachment of the tumor down to the mouth. The lower part of the face was normally formed. There was no appendage present corresponding with the proboscis so frequently attached to cyclopians monsters.

Casts and crania from the museum of the Harvard Medical School were also shown for the purpose of illustrating the absence of the proboscis in the cyclopians fetus, and the variations in the seat and shape of the orbital cavity, with the corresponding changes in the nasal cavity which might occur in anterior hydronephaloecele.

In a letter written by Dr. Galloupe, it was stated that the mother considered herself to have been pregnant about seven and one half months. She was thirty years old, and had been delivered of a well-formed child at full term, and had also been delivered at seven months of well-formed twins. The delivery of the monstrosity was accomplished without difficulty, and an unusually large quantity of liquor amnii was present.

EXTROPHY OF THE BLADDER.

DR. C. B. PORTER exhibited a patient operated on by him for extrophy of the bladder. His remarks on the case are reserved for publication.

DR. BIGELOW said that the result in this case was remarkably good. He would, however, add that his own object in obliterating the cavity beneath the protecting flaps by dissecting off all the mucous membrane had been to prevent the accumulation of phosphatic deposit, such as he had observed when he had left a cavity. He thought that perhaps in this case the cavity might be still further obliterated, so as to bring the ureters directly opposite the orifice.

FIBROID PHTHISIS.

DR. F. C. SHATTUCK made some remarks on a case of fibroid phthisis, and showed the patient.

FRACTURED CALCANEUM.

DR. B. CUSHING reported a case of fractured calcaneum in a woman fifty-seven years of age, which he treated by extension for four weeks, with almost complete recovery. He also exhibited a cast which he had taken of the foot.

BOSTON MEDICO-PSYCHOLOGICAL SOCIETY.

WALTER CHANNING, M. D., SECRETARY.

PURSUANT to a call, Drs. J. B. Ayer, Cowles, Channing, Denny, Fisher, C. S. Folsom, N. Folsom, Jelly, and Whittemore met on the evening of January 6th to consider plans for the formation of a society to take psychological journals, and hold meetings to read and discuss papers on psychological subjects and to report cases.

After prolonged discussion, these plans were substantially agreed upon, and the society was organized with the above name. By-laws were submitted and adopted, which state that "the officers shall be a permanent secretary and treasurer, to be elected annually, and a president, to be chosen at each meeting. The meetings shall be held on the evenings of the first Thursday in each month, from October to June inclusive. There shall be a permanent committee on journals."

After the transaction of other business the society adjourned.

Recent Literature.

Lectures on Diseases of the Nervous System. By J. M. CHARCOT. Translated from the Second Edition by GEORGE SIGERSON, M. D., M. Ch., etc., of Dublin. Philadelphia: H. C. Lea. 1879. Pp. 263.

The writings of Professor Charcot, and perhaps this work even more than the rest, are too well known to the medical public to require any extended notice at this time. The lectures which make up this volume have been delivered at different times within the past few years at the great infirmary "La Salpêtrière," which owes its transformation from an obscure though immense poor-house into a great field for clinical research to Charcot's energy and intelligence. Though not all his brilliant pathological generalizations have passed unscathed through the mill of German criticism, yet it may be said with truth that he has written nothing which has not received respectful attention.

It is refreshing to be able to add that the translation is very creditably, even attractively, done, in spite of occasional Gallicisms, and as the book is cheaply published we hope that it will find a large circle of readers. Motives of economy undoubtedly prevented the reproduction of some of the excellent plates which accompany the original volumes. J. J. P.

Primer of the Clinical Microscope. By EPHRAIM CUTLER, M. D. Boston. 1879.

The compound microscope began its development in the shape of a simple tube about two hundred years ago; each deficiency was remedied as practical use

demonstrated the need; thus a stage, a mirror, mechanisms for coarse and fine adjustment, were added to the simple tube of Tortona, which was used as the so-called clinical microscope of to-day is.

This injudicious return to an old model is illustrated by a primer that combines ten pages of the simplest platitudes concerning the structure and use of the microscope with fourteen pages mostly occupied with accounts of work, so profound that no reliable observer has as yet been able to confirm it. When we add that no small number of inaccuracies are mixed up with the incompatibles mentioned, it will be seen that the *Primer of the Clinical Microscope* is a book which the beginner should shun.

A Treatise on the Theory and Practice of Medicine. By JOHN SYER BRISTOWE, M. D. Lond., Fellow and formerly Censor of the Royal College of Physicians, Senior Physician to and joint Lecturer on Medicine at St. Thomas's Hospital, etc., etc. Second American Edition, revised by the author, with notes and additions by JAMES H. HUTCHINSON, M. D., one of the Attending Physicians to the Pennsylvania Hospital, etc. Philadelphia: Henry C. Lea. 1879.

The second edition of this excellent work, like the first, has received the benefit of Dr. Hutchinson's annotations, by which the phases of disease which are peculiar to this country are indicated, and thus a treatise which was intended for British practitioners and students is made more practically useful on this side of the water. The early appearance of a second edition bears witness to the favorable reception given to the first, and we see no reason to modify the high opinion previously expressed with regard to Dr. Bristowe's work,¹ except by adding our appreciation of the careful labors of the author in following the latest growth of medical science. The chapters on Diseases of the Skin and of the Nervous System, with a new one on Insanity compiled from the best sources outside of the author's own long experience, and the valuable portion relating to General Pathology, aid greatly in completing an exceptionally good book for purposes of reference and instruction.

— Dr. Brigidì, in *La France médicale*, has noticed the following pathological changes in fatal cases of hydrophobia: Great hyperæmia of brain and spinal cord, as well as membranes, and in one case serous effusion in the subarachnoid spaces; enlargement of the cerebral and medullary cells, which were found to be full of vibrios. Similar appearances were found in the blood, mixed with bacteria, and extensively marked in the circumference of the vessels. The central medullary canal was distended, and full of the same granular substance. Dr. Brigidì does not pronounce on the question as to whether the development of the vibrios has been a cause or an effect. He believes that the morbid process observed in the nervous centres is of an irritative and degenerative nature, and that under the influence of the vibrios it may spread with extreme rapidity.

— According to the *Union médicale*, 97,790 deaths occur daily. By way of compensation the number of births is computed at 104,800 *per diem*.

¹ See JOURNAL, December 7, 1876.

Medical and Surgical Journal.

THURSDAY, FEBRUARY 5, 1880.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly by Houghton, Osgood and Company, Boston. Price, 15 cents a number: \$5.00 a year, including postage.

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DR. BOWDITCH'S RETIREMENT FROM THE MASSACHUSETTS BOARD OF HEALTH.

OUR readers will find in our present issue the text of Dr. Bowditch's letter to the governor of the State, resigning his position as a member of the present hybrid and polysyllabic Board of Health. This letter has not hitherto been published, but it is very proper that it should see the light. Dr. Bowditch's reasons for resigning are two in number, though practically one in reality. He has, as is well known, been opposed from the first to the reorganization and amalgamation of the board with other boards in its present form, and a six months' trial has but served to strengthen his convictions. The duties of the office have been trebled under the present *régime*; they are performed gratuitously, and, the pursuit of his private professional practice being still a necessity, he finds it quite out of his power to devote to them the time requisite for their conscientious performance. In general he feels strongly that the education of the people in sanitary matters will not be as efficiently accomplished by the present organization. His views will be found more fully expressed in a paper in a late number of the JOURNAL. We suspect time will show that there is much of truth in them, and that either the proper work of the Board of Health will be slighted, or it will be relegated to one or two individuals.

However this may be, we very heartily regret any causes which deprive the State of so faithful and active an officer, and "state medicine" of so able, so far-seeing, so earnest, and withal so temperate an official advocate as Dr. Bowditch. For the past twenty years he has been in the front and thick of the fight with "the pestilence that walketh in darkness, and the destruction that wasteth at noonday;" doing much himself, and ever striving himself and encouraging others to do still more, for "the improvement in human health, and for the lengthening out of human life of each individual man or woman." In his own words, we may remind our readers that "no object can be nobler, none more deserving the attention of learned men, or of philanthropists or statesmen."

The first meeting of the Massachusetts Board of Health was held a little more than ten years ago, September 15, 1869, and the board organized itself, with Dr. Bowditch as chairman and the lamented Dr. George Derby as secretary. In view of what has since been accomplished, we wish we had room for the whole of the short address of the chairman to his colleagues on that occasion; it is a pledge of the work which has

since been done, and is the utterance of "an understanding mind, a buoyant and willing heart."

Preventive medicine, the Brighton abattoir, the abolition of nuisances, the purification of sources of water supply, the war waged against the pollution of streams, the establishment of local boards in the various cities of the commonwealth, and finally the annual reports of the State Board are but a few of the many mile-stones marking the toilsome track of this sanitary pilgrimage of the last ten years, and are at the same time so many accumulated responses to the hope of the chairman expressed at that first meeting, without misgiving, "that this board will faithfully and in an able manner perform its duties, and that thus it will become a real blessing to our State, not only at the present time, but long after every member of it has died. It will assuredly be such if we, the necessary originators of its various details, only look at our duties in the light of the broadest philanthropy and, as far as in us lies, the wisest statesmanship, and finally with all the knowledge that modern science can at present give us."

Dr. Bowditch's contributions to the literature of hygiene have been numerous, when we remember that he has been constantly engaged in the labors of a large and very responsible practice, and some of them have been of the very first value. His name will be always associated with the topographical distribution of consumption exhibited by soil moisture as one of its causes, a theory so ably presented in his address before the Massachusetts Medical Society at its annual meeting in 1862, and subsequently independently verified by investigations under government authority in England in 1865-66.

This subject he presented in a popular form in some short articles in the *Atlantic Monthly* for January, February, and March, 1869, entitled Consumption in America. He contributed a report on climatology and epidemics in Massachusetts, 1868-69, to the Transactions of the American Medical Association, and an article on Hippophagy to the *New York Medical Journal* for August, 1878.

Had he written nothing else we should still wish to render him our tribute for his contribution to the Report of the Board of Health for 1872 on Intemperance as governed by Cosmic and Social Law, an Analysis of the Correspondence on the Use and Abuse of Intoxicating Drinks throughout the Globe, which was presented to the legislature in 1871. His subsequent treatment by those fanatics from whose views he differed gave added force to his common-sense position that intemperance does not consist in the abuse of alcohol alone. Another article on this subject, called Intemperance in New England: How shall we Treat it? was published in this journal in 1872.

He contributed to the Board of Health Report for 1874, Preventive Medicine, or the Physician of the Future; to the Report for 1875 a paper on Inebriate Asylums or Hospitals; and he also delivered an address at the annual meeting of the American Medical Association in 1876, on State Medicine and Public Hygiene.

Dr. Bowditch has well earned the right to retire from public office, and to withdraw from the State his valuable services, but he leaves to his late colleagues the difficult task of making good his loss, and to the commonwealth an organization so firmly established, we may be allowed to hope, in its own usefulness and in the confidence of the people, that it will long survive any individual member. Neither chance nor change can rob the community of the sterling value of a good example of enthusiasm, devotion, and sagacity.

THE CHILDREN'S HOSPITAL IN BOSTON.

WE are glad to learn that an effort has been made to raise money to enlarge the Children's Hospital in this city, and that the appeal so far has met with an unusually generous response.

This charity was started ten years ago, beginning in quite a small way. The foundation for a well-organized institution was laid in the selection of an influential board of managers, an efficient medical staff, and excellent management under the direction of one of the ladies of the Sisterhood of St. Margaret. A sufficient amount of money was contributed for the running expenses of the hospital, and excellent work has already been done there.

A certain amount of opposition was encountered at first from those who felt that such a charity was not needed in a city with two large and well-appointed general hospitals.

Although the treatment of the diseases of children is in no sense a pure specialty, the nursing needed, the diet, the hours for sleep and meals, and the management of convalescents make it convenient that as patients, children be classed separately from adults.

In Paris, where specialism has never met with much favor, the Hospital for Sick Children is a large and important institution. In Vienna, where special hospitals do not flourish as a rule, although it is the home of the specialist, the Children's Hospital is one of the prominent medical attractions.

The great Ormond Street Hospital in London is too well known to need a mention. It has given us Dr. West's excellent book on the Diseases of Infancy and Childhood. The result of this separate accommodation for this class of patients is that the diseases peculiar to children are probably more thoroughly studied and better taught in Paris and Vienna than anywhere else. Those of us who have profited by the clinics in these hospitals certainly appreciate what an advantage to the medical community such an institution here would be.

Boston is of course not to be compared with Vienna, Paris, or London; but if a large and well-appointed children's hospital has proved to be a need in Washington, it would certainly seem to be wanted in our city, — a city with a relatively large pauper class, and a city which is the medical centre of quite a large and populous area.

The first decade of the existence of the Children's Hospital here seems to have thoroughly demonstrated its *raison d'être*. Some fifteen hundred patients have

been treated, and the number has been limited by a lack of accommodation rather than by a want of applicants; many patients have been referred to the hospital from the general hospitals and from other institutions. A convalescent home started by a number of ladies interested in the hospital has been connected with it for the past few years, and is open in the summer to convalescents from the hospital and to those patients who need fresh air and good nursing more than clinical treatment.

Any one who has had any acquaintance with the working of the hospital will testify to the unusual excellence of the nursing, which in every way is a model for similar institutions.

Altogether the "plant" of the charity is a remarkably good one. The present building, however, is entirely unsuited for a hospital, being a private house without proper means of ventilation or arrangements for isolating patients.

The plan of the managers is, we believe, to put up at some suitable spot a cheap building, large enough to accommodate more patients than can be treated in the house now used.

The managers of the hospital will certainly have the hearty good-will of the profession in their undertaking.

MEDICAL NOTES.

— Paul F. Mundé, M. D., of New York, has been elected lecturer on gynaecology in the Dartmouth Medical College.

— David L. Webster, Esq., of Boston, a very valuable member of the old Board of Health of Massachusetts since 1874, has been appointed to the vacancy in the present board caused by the resignation of Dr. Bowditch.

— Richard Frothingham, Esq., a member of the old board since its organization, died a few days since.

— Dr. Edward F. Hodges has lately gone from Boston to Indianapolis to continue the practice of his profession in a position of responsibility, for which his high personal character and his professional attainments eminently qualify him.

— It is reported from Memphis that all the recommendations of the committee appointed by the National Board of Health are being carried out.

— The recent visit to Boston of Dr. J. Marion Sims was made the occasion for a reception in his honor by Mrs. Clement, whose contributions to art literature are so highly valued, and who dedicated her work on Painters, Sculptors, Architects, and Engravers to the great gynaecologist, as a token of "respect, gratitude, and affection." Mrs. Clement's reception was a graceful compliment to her guest, and a large number of physicians gladly availed themselves of her hospitality, among them Drs. Holmes, Bowditch, Williams, Reynolds, Cabot, Thorndike, and about seventy others. Dr. Sims, during his short stay in Boston, was the recipient of marked attention. He visited the Massachusetts and City Hospitals, was present at Dr. Holmes's lecture to his class at the Harvard Medical School, and subsequently addressed

the class himself. He also held a number of consultations in Boston and the vicinity.

— From the London *Lancet's* review of the year 1879 we take the following: Another great subject that has excited attention during the year is Professor Bigelow's operation of litholapaxy, — that is, crushing a vesical calculus by the lithotrite, and removing the fragments by suction at one sitting. This is a new departure in lithotripsy, and has already made much headway.

— Dr. C. D. Phillips, of London, has recovered from the London and Southwestern Railway, for damages resulting from an accident on their road, the satisfactory sum of \$80,000.

WASHINGTON.

— The profession of the District is watching with great interest the progress of a proposed bill for taxation, in which the medical practitioner is to be taxed fifty dollars per annum for his license or privilege. There seems to be a determination on the part of merchants and others who are to be heavily taxed for the carrying on of their business that physicians shall feel the burden of a similar weight, but it is hoped that a better understanding of the subject will prevail, and the imposition not be enforced. If it is it will drive some worthy men, out of the profession, and enable others, by ways that are dark, to evade the law without injuring themselves, and seriously affect the practice of their colleagues; there are many men holding office as clerks who can afford, by receiving the means of a livelihood from the government, to remove all vestiges of business from their professional advice, and rely upon the gratitude of their friends and patients to supply them with gratuitous *douceurs* which will fairly set off the asked-for fee.

LONDON.

— Dr. J. Milner Fothergill, who has incurred the displeasure of the *British Medical Journal* on account of his incautious comments upon the status of the medical profession in Great Britain, says in a letter to the *Philadelphia Medical Times*, "I know nothing of club-life, but since the notices of my letters have appeared in the *British Medical Journal* I have had a good deal of information afforded to me about the social position of the profession; and it appears that at the very select clubs doctors are not eligible for election, and that comparatively very few are to be found in the literary Athenæum Club, — the home of literature. If the profession are really satisfied with their social position, then, surely, a great deal that I have read in the medical journals for the last twenty years was unnecessary and unjust. I believe that up to the time of the Crimean War an assistant surgeon in the navy could be flogged; and it has only been from its necessities, and not from its voluntary action, that the war office has given anything to the profession."

With regard to specialist consultants in London, Dr. Fothergill continues as follows: "Indeed, it is now almost essential to success that a man who de-

cides to become a consultant shall devote himself specially to one subject, write articles on it, write a book on it, and have his name known in connection with that subject, so that the general practitioner shall know of him as a specialist in that department, and consult him accordingly. It is the quickest way to become known, and brings in patients without much delay. Then, of course, the growth of special hospitals has largely fostered this attention to special departments; the specialist heads for the special hospital, which welcomes him, and is glad to have him as an addition to its staff, while an appointment to a special hospital expedites the specialist's progress towards practice. By such means a number of men readily succeed in the world who in by-past days would have a long, hard struggle, unless they had the good luck to become attached to a general hospital. The staffs of general hospitals hunt in packs; the surgeon calls in his physician colleague, and he again, if required, his obstetric colleagues. Of course this is done, more or less, all the world over. Specialists, in order to attempt the same thing, are largely arranged in groups, and send patients back and forwards, and so are of mutual advantage to each other. There are men who will poach, but I very much doubt if that pays in the long run. Then, of course, each specialist cultivates the general practitioners who consult him or call him in, — invites them to dinner, and presents them copies of his books.

"When the general practitioner wants a consultation he pitches upon some one known to him, or on some one whose name is associated with the disease under which the patient is suffering. In many cases the choice is determined by the patient, who prefers the man with the better known name. Then the patient comes up to town, or the consultant is called down, as the case may be. At other times the patient goes to London to see a certain authority without the cognizance of his ordinary medical attendant, and then trouble is looming. The consultant takes a different view of the case, or sees it in a later phase, and uses different language about it from that used by the ordinary medical attendant, and then there is discord. Duplicity is innate in some persons, while others, again, delight in making mischief. So the consultant has often some difficulty in finding out the patient's ordinary doctor and communicating with him, so as to prevent any unpleasantness. Then some doctors are more 'touchy' than others, and readily take offense, so that it is a delicate matter to interfere with their patients when they turn up in one's consulting-room. And then I fear — but now I know the editor of the *British Medical Journal* has his watchful eye upon me — there are men to be found who are so attractive that they soon convert the patient who comes to them for a casual consultation into a regular patient, and the patient's general attendant sees him or her no more. Of course much of this is due to the inclinations of the patients; but in some cases there must be something in the ways of the consultants, or otherwise some men are much maligned. Often the consultant is placed in a very delicate position by want of

frankness in a patient. Some men think they have a vested interest in the patient who once consults them, and are sore if the patient sees any other professional man with or without their cognizance. . . . The specialist is paving the way for specially educated consultants. The old plan was largely to commence in more or less general practice, devoting attention, perhaps, to some subject more than others, and then in time, as skill increased and brought with it repute, the experienced individual was called in to give counsel in the practices of other men. But now a man prefers to select some particular department, and sedulously cultivates himself in that direction: goes abroad to see the practice of celebrities in that branch; learns all he can; reads all the books on the subject, writes articles on it, or reads papers at societies, or joins in discussions on the papers read by others; translates a foreign work on the subject, or perhaps ventures to write one himself. By so doing he certainly does acquire a very great deal of knowledge on the subject, and if he is a man of sound good sense, and keeps himself well up with medicine generally and his own subject particularly, then he is a very useful member of society. This last class of men is decidedly on the increase at the present time, and the line of demarkation betwixt the general practitioner and the specialist consultant is becoming more defined every year."

Miscellany.

ANTISEPTIC SURGERY.¹

LECTURE BY PROFESSOR LISTER.

THE second case brought before his audience was that of a woman from whose back Lister had removed a recurrent fibroid tumor twelve days previously. The tumor originated fifteen years before, had been removed, and had returned several times at intervals of three or four years. When Lister removed it its mass was large and was firmly adherent to the spinous processes of four of the dorsal vertebrae, which processes Lister cut away almost in their entire length, as well as a considerable mass of spinal muscles in their vicinity, leaving a large hollow in the middle of the back. In order to close in this deficiency he performed a plastic operation, making use of lead buttons with an original modification. For details of this portion of the operation, interesting as they are, we must refer our readers to the *Lancet* of December 20th, which gives the lecture in full. The sutures were of thick silver wire with intermediate stitches here and there of carbolized silk or purified horsehair. Intervals were left for rubber drainage tubes. Relaxation of the skin was provided for by arranging the bandage which confined the gauze dressing in a figure-of-eight fashion about the shoulders, thus keeping them drawn backward. Through "a rare reactionary hæmorrhage," the patient that afternoon lost a good deal of blood, became restless, and tossing about tore out several of the stitches, thus producing a gap at the base of the flap, about two inches in diameter, and exposing the cavity of the hollow wound. Lister directed especial

attention to these appearances at this stage of the case. Holding his hand over the portion of dressing corresponding to this wound while bandages were being cut and the edges of the dressing raised, he removed it only when the spray had gotten fairly under the dressing and had reached the region of the wound. Then exposing the latter he said, "We used to say before the introduction of antiseptic treatment that if a wound did not unite by first intention suppuration was established in about four days in the adult in cool weather, and in about three days in a child in warm weather. Here, twelve days have elapsed since the operation. Union by first intention was impossible throughout a large extent of this wound. Yet observe, we have no suppuration. I wish some of our friends who doubt the good effects of the antiseptic treatment could see a fact of this kind. Twelve days with a great hollow wound like this, with an opening leading freely into it and the tissues exposed, yet not one drop of pus! As in the case of empyema, I again venture to affirm that the merely serous discharge upon this dressing could not have occurred without antiseptic treatment of some kind; not necessarily the kind we use, but something effectually answering the purpose of keeping putrefaction out. That the dressing here employed has been thus effectual allow me to give you evidence. That dressing has been on the patient two days; you see the oiled-silk 'protective' perfectly free from the dark discoloration which it would acquire within such a period if putrefaction occurred, and you can ascertain for yourselves that it has no odor of putrefaction. The dressing, then, has been truly antiseptic. Observe now the entire absence of inflammation about this wound. It has been so from the first. The day after the operation we saw that the upper part of this flap for about two inches in breadth presented a livid discoloration, and looked as if it were about to lose its vitality. I remarked that it did not follow that there would be any death of tissue, although I believe any practical surgeon who had seen the case then would have said that under ordinary treatment there must have been an extensive slough. I did not at all despair of this part, to a large extent at least, recovering itself, because, even supposing any portion of tissue has lost its vitality through defective circulation, and suppose that piece of tissue so dead does not putrefy, it does no harm to its neighbors from the mere fact of its being dead, any more than the dead intestinal tissue of the catgut with which we tie our arteries. Catgut is absorbed by the living tissues round about, and so may other dead tissues be absorbed and not in the least offend their living neighbors; whereas, on the other hand, if it does putrefy, the dead piece, being putrescent, becomes a source not only of irritation, but of caustic action, to the parts immediately adjacent. For if one portion of tissue has lost its vitality through interference with the circulation, you may be quite sure in the immediate vicinity other parts will be weakened in their vital power from the same cause, just as in the case of senile gangrene, where we know the liability of gangrenous inflammation to spread. But here you see that the once livid patch has to a large extent recovered itself. It remained discolored for several days, but we found on firm pressure with the tip of the finger that the color could be dispelled, and it slowly reappeared when the pressure was removed,

¹ Concluded from page 116.

showing that the blood was still fluid in the vessels; whereas, if the tissues had been dead, the blood would have been coagulated. There now remains only a little piece of the extreme margin of the flap, an inch and a half long, and about half an inch broad, which is not obviously alive. This little bit has actually lost its vitality, but here it remains after these twelve days still firmly attached to neighboring parts, the stitches which connect it with the living skin still holding. It has neither induced suppuration, nor excited the faintest inflammatory blush in the surrounding skin. There is not even an absolutely defined line of demarcation. That, again, would have been an impossibility without effective antiseptic treatment. But with such treatment it is a possibility, for I have seen in larger sloughs than this that this piece of dead tissue may be absorbed and never separate at all.

"One other point about this wound is worthy of attention. This window, leading into the cavity, was at one time considerably bigger than it is now. It became incrustated at its borders by exuding liquor sanguinis, which, coagulating, formed a solid ring within it, and this exudation of liquor sanguinis has gone on, producing a broader and broader ring. The parts first formed, remaining free from putrefaction, have undergone organization, including vascularization, and the newly-formed vessels have continued to pour out plasma. And now, if we turn up the superficial layer of the coagulum at its outer margin, we see disclosed a ring of cicatrix. That is to say, the organization of the ring of coagulum has assumed the character of epidermic formation in the vicinity of the preëxisting epidermis of the cutaneous margin. And this process of cicatrization has been going on without the production of any pus, and even without the formation of any true granulations. I never happened to see anything exactly corresponding before. But this is, doubtless, simply because I never before had the opportunity of studying a window like this in a piece of skin stretched over a cavity. For we have here only a peculiar instance of what we are familiar with under antiseptic treatment, the organization of blood-clot and cicatrization proceeding under the superficial layer of the coagulum without the occurrence of suppuration or true granulation. It is by virtue of the same process of progressive exudation and organization of plasma that the cavity of the wound is being constantly reduced. We see, on looking through the window, that the floor of the cavity is not so far below it as it was; the hollow is becoming constantly shallower. Now, all this presents what must seem to those who have not witnessed it a marvelous and incredible contrast with the old mode of healing by granulation and suppuration, which must infallibly have occurred without antiseptic treatment.

"I now reapply the dressing. The protective, dipped in the one-to-forty watery solution to destroy the septic property of any dust adhering to it, is applied over the healing wound. Immediately over this is placed a piece of the carbolic gauze, dipped also in the lotion, to insure that it is actively antiseptic when applied, for the dry gauze cannot be trusted in this respect, and over this the regular gauze dressing of ample dimensions. Remember the immense importance of having the protective overlapped well on all sides by the gauze. The protective, having nothing antiseptic in its composition, must be overlapped just as if it were itself a wound.

"The attainment of the results which you have seen in this case depends not only on the efficacy of the antiseptic measures used, but also upon the use of an efficient protective, as we term it; that is to say, a layer of material employed to protect the healing part from the irritation of the antiseptic itself. And with reference to this point I may mention that we have now a considerably better protective than we had some time ago. It still consists essentially of oiled silk, varnished on both sides with copal varnish. The copal varnish is the principal and most important agent in this protective for keeping the carbolic acid out; it is much less permeable to carbolic acid than oiled silk is, although oiled silk itself is much less permeable to acid than gutta-percha or caoutchouc. Some persons object to this protective as being too thick and substantial. They little know what a mistake they thus make. When at the temperature of the body it becomes soft and pliable. Without an effectual protective we should not have had the results evident in this case. A carbolic-acid dressing acting directly on the tissues of the exposed wound would have caused granulation and suppuration, 'antiseptic suppuration,' caused by irritation. If the gauze dressing had been applied directly to that piece of dead tissue it would have impregnated it with the pungent acid, would have stimulated it and its living neighbors, and urged them to granulation and suppuration, and we should have had a piece of dead tissue already separated by suppuration.

"Again, if we had not used a pretty efficient protective, we should not have seen the blood-clot organized and cicatrizing without suppuration at the edge of the window in the skin. We should have seen it with a granulating and suppurating margin. I am induced to speak on this point because I believe the protective is often as yet imperfectly understood. A very eminent surgeon was round my wards some months ago, and he told me he had never seen the organizing blood-clot. I took him to two cases in which it was occurring. He was a man of scientific precision, and at once said, 'These cases are enough for me; I know from this time that an exposed blood-clot may become organized.' How was it he had never seen it, having practiced antiseptic treatment with great efficiency for years? The truth was, as he told me, he had not thought the carbolic acid particularly irritating, and he had never used any protective at all, and therefore had never seen an organizing blood-clot.

"I had sent to me some time ago by a very distinguished Russian surgeon this beautiful-looking article, this transparent film, which he told me he now always used in preference to our protective,—a most lovely thing, certainly, enough to charm us to use it by its mere beauty. But I found it would not stand the test which will enable you always to ascertain the quality of a protective. I took a piece of it, and put upon the middle of it a little bit of lint soaked with one-to-twenty carbolic-acid lotion, and left it a while; in the course of about half an hour, on applying the tip of my tongue to the other side, I perceived the pungent sensation caused by carbolic acid, showing that it had already gone through it: whereas, with a piece of this properly made protective, treated in the same way, you would find, after the lapse of three or four hours, absolutely no trace of the acid. Therefore, although this so-called protective is very

pretty, it is scarcely a protective at all in the sense in which we use the term. It will keep the wound moist, and thus prevent the dressing from striking to it, but that is nearly all it will do.

"But worse remains to be told of this elegant article. The chemist who sent me the samples informed me that it contained thymol and salicylic acid in its composition; in other words, it was not only inefficient as a protective against the antiseptic, but it was actively antiseptic in its own substance. And he added it could be made up with carbolic acid, showing that he had no idea whatever of the object for which we use the protective. It has been said sometimes that our dressings irritate wounds. The wound you have just seen is an instance to the contrary. It is not irritated; it is healing kindly; and not only so, but it shows very much less marks of irritation than you could get with any ordinary treatment that has been devised. But if surgeons use the antiseptic agent, whatever it be, in such a way as to act directly on the tissues, they will necessarily have their wounds more or less irritated, according to the nature of the antiseptic they employ.

"But useful as a protective is in promoting the best kind of healing under an antiseptic dressing, it would be infinitely better to use no protective at all than to employ it amiss; for in proportion to the efficiency of the protective in excluding the irritation of the antiseptic is its power also to exclude its antiseptic virtue, and thus to conduct putrefaction inward to the wound, unless it be overlapped well on every side by the really antiseptic element of the dressing."

This case resulted as favorably as Lister had prognosticated. When the lecture was published the slough had already become partially absorbed without suppuration. The stitches which attached the flap at the site of the slough still retained their hold, and the border of the mass of dead tissue thus kept in contact with living skin had undergone a process of organization, that is to say, of substitution of living tissue elements for the dead which they had absorbed, exactly similar to that which had occurred at the border of the window in the skin. "And thus, without the slightest trace of suppuration, and without the occurrence of granulation, a cicatrix about one sixth of an inch in breadth had come to occupy the place of the upper border of the slough."

An editorial in the number of the *Lancet* which contains Lister's lecture says: "Whatever be the amount of accurate research required to prove or disprove Lister's germ theory, it is with the results of his practice that we are mainly concerned, and we doubt if figures will aid us much in reaching a conclusion on the subject. We believe that if Mr. Lister's system possesses the advantages claimed for it, it is merely a question of time as to when it will take its place as the established practice of surgeons, and this time will neither be hastened nor delayed by statistics such as those which have at present been presented to the profession. We admit without hesitation that the result of Mr. Savory's and of Mr. Bryant's hospital practice is most satisfactory, but we are equally sure that patients under certain very unfavorable hygienic conditions have been enormously benefited by the employment of the Listerian system of dressing. The testimony of British surgeons, not only in this country, but in India and other parts of the world, together with the evidence of practitioners

engaged in some of the Continental hospitals, is conclusive on this point; in fact, the Listerian system may be said to be the outcome of defective sanitation, for Mr. Lister evolved his principles and practice of surgery in the wards of the Glasgow Infirmary, at a time when the insalubrity of that institution was notorious.

"We have seen the failure of too many surgical modifications for the dressing of wounds to be disposed to take up any novel system of treatment without due consideration. This, however, was not by any means our only reason for withholding the expression of a favorable opinion of Listerism, for it has long been evident that this was not merely a matter of treating wounds, but that important principles were involved. If Listerism in the smallest degree guards our patients from any preventable dangers, after injuries or operations, duty clearly points out the road we should follow.

"After the most careful consideration of the subject, we believe Listerism has undoubtedly diminished the mortality and the danger to patients situated under unfavorable hygienic conditions after surgical operations; and holding this belief we may argue from the greater to the less, and assert our conviction that this same system is capable of preventing septo-pyæmia in patients under almost all circumstances. We hold, therefore, that Listerism is destined to be the surgery of the future; for, however difficult the details or length of time required to carry out these principles in individual cases, it must and will prevail, because it guards our patients from unquestionable dangers."

In a letter to the *British Medical Journal* Mr. Holmes says, "The sum of the whole matter is this: There is, I believe, a very large number of practical surgeons who, like myself, are thoroughly convinced of the value of drainage and antiseptic dressings, and who, like myself, are glad to confess their obligations to Mr. Lister's teaching, but who are not convinced by the evidence of the relative superiority of his own method of applying them, which he has produced up to the present time. Far, indeed, from being prejudiced against either the method or its author, we are warm friends of both, and only anxious to do the best we can for our patients. We believe the Listerian treatment rests upon and is inseparable from the germ theory. We see no proof of that theory in the reasoning heretofore adduced by Mr. Lister or Professor Tyndall. Nor do we see any proof of it in the novel phenomena on which Mr. Lister rested his chief argument at the late discussion, since, whatever reception we give to such facts, — if we allow them to be as absolutely unheard of as Mr. Lister claims, yet they are only previously unobserved phenomena in the healthy process of union, — they do not touch the question of the germ theory. Still less can we allow that a question so difficult and so purely physical can be settled by a bare enumeration of death-rates. But real statistics, showing the normal progress of cases treated by the Listerian, by the simpler antiseptic, by the open method with drainage, and on other plans, if they showed a specific difference in the cases treated by the first method, would be of great importance toward a settlement of the question. If it be too much to hope that the surgeons of King's College Hospital (Lister's hospital) will — as they certainly could — collect such data, may we not look for them from some other quarter?"

DR. H. I. BOWDITCH'S LETTER OF RESIGNATION FROM THE STATE BOARD OF HEALTH.

BOSTON, January 20, 1880.

HIS EXCELLENCY, JOHN D. LONG, GOVERNOR OF MASSACHUSETTS:—

SIR,—I wish respectfully to resign my office of member of the Massachusetts State Board of Health, Lunacy, and Charity. I do this with regret, but I feel compelled to do it for the following reasons:—

First. It is impossible for me to attend to the duties imposed upon me by the law establishing the board without neglecting my profession, upon which my family depends for its support. These duties have been more than trebled under the new *régime*, and I have been obliged to give up all thought of attending to the greater part of them. I have tried the experiment for six months, and I am unwilling, and it is not right towards the State for me, any longer to hold any office, the duties of which I am obliged thus systematically to ignore.

Second. I objected very strongly to the union of the board with any other. I knew that the proper education of our people in sanitary matters would require the full attention of all the seven members of the board. I felt persuaded that nothing but evil would happen to our board if it should have put upon it such

wide and multifarious duties as were performed by the Board of Charities, especially if, superadded to them, should be given the care of the lunatic hospitals and lunacy in Massachusetts. The experience of the past six months more than convinces me that I was right in making that protest. I believe if the present law remains upon the statute-book the public health will not be promoted as it would be were the board as untrammelled as it was up to July, 1879; and as I see no chance, at present, for any change in that law, I herewith resign my commission as an officer of the commonwealth. I remain, with sentiments of high respect,

H. I. BOWDITCH.

LETTER FROM DR. POLK.

MR. EDITOR,—I have just received a letter from Dr. C. G. Polk, of Philadelphia, in which, referring to my article published in the JOURNAL, January 15th, he says: "Of course you know that the statement that I was professor in the Eclectic College was an unmitigated falsehood, although my name did appear in the announcement."

Will you be so kind as to publish this denial as a matter of justice, and oblige,

Yours very truly,

R. T. EDES.

REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 24, 1880.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Deaths under Five Years.	Percentage of total Deaths from				
				The Principal "Zymotic" Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.
New York.....	1,085,000	555	203	20.90	17.46	6.31	2.52	.18
Philadelphia.....	901,380	274	88	14.96	9.49	5.11	2.19	3.28
Brooklyn.....	564,400	188	133	18.09	18.62	10.64	1.06	—
Chicago.....	—	171	76	33.92	6.43	22.81	6.43	—
St. Louis.....	—	102	35	16.67	11.76	6.86	—	1.96
Baltimore.....	393,796	126	47	25.40	7.94	13.49	3.97	6.35
Boston.....	365,000	164	59	17.07	11.59	9.15	.61	1.83
Cincinnati.....	280,000	90	30	17.98	11.11	3.33	10.00	1.11
New Orleans.....	210,000	76	31	21.06	7.89	1.32	1.32	—
District of Columbia.....	170,000	76	17	7.89	15.79	—	—	1.32
Cleveland.....	160,000	65	34	43.08	9.23	9.23	16.92	4.61
Pittsburgh.....	145,000	64	33	39.06	10.94	21.88	7.81	3.13
Milwaukee.....	127,000	39	16	25.64	10.26	12.82	2.56	—
Providence.....	101,500	30	12	36.67	—	10.00	20.00	3.33
New Haven.....	60,000	19	5	15.79	10.53	5.26	5.26	5.26
Charleston.....	57,000	31	11	9.68	12.93	3.23	—	—
Nashville.....	17,000	8	1	—	37.50	—	—	—
Lowell.....	54,000	21	11	14.29	23.81	9.52	—	—
Worcester.....	53,000	25	11	20.00	16.00	—	—	—
Cambridge.....	50,400	16	4	18.75	31.25	18.75	—	—
Fall River.....	49,000	22	—	31.82	13.68	—	27.27	—
Lawrence.....	38,600	20	7	15.00	15.00	10.00	—	—
Lynn.....	34,000	13	7	30.77	—	23.08	—	—
Springfield.....	31,800	12	3	16.67	8.33	—	16.67	—
New Bedford.....	27,200	13	6	59.85	15.39	38.46	15.39	—
Salem.....	26,500	10	2	30.00	—	20.00	10.00	—
Somerville.....	23,500	6	4	66.67	—	50.00	—	—
Chelsea.....	21,000	3	1	33.33	—	33.33	—	—
Taunton.....	20,200	3	—	—	33.33	—	—	—
Holyoke.....	18,400	9	5	44.44	11.11	—	33.33	—
Gloucester.....	17,300	12	5	33.33	—	—	16.67	8.38
Newton.....	17,300	—	—	—	—	—	—	—
Haverhill.....	15,350	5	2	40.00	20.00	20.00	—	—
Newburyport.....	13,500	6	2	—	—	—	—	—
Fitchburg.....	12,600	4	1	25.00	—	—	—	—
Twenty Massachusetts towns.	160,760	44	12	27.27	11.36	18.18	—	—

Two thousand three hundred and twenty-two deaths were reported; 914 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 511, consumption 378, lung diseases 295, diphtheria and croup 211, scarlet fever 89, measles 45, typhoid fever 33, diarrhoeal diseases 40, whooping-cough 31, malarial fevers 20, erysipelas 18, cerebro-spinal meningitis 11, small-pox 11.

From *measles*, New York 33, Brooklyn three, St. Louis two, Philadelphia, Chicago, Pittsburg, Lowell, Lynn, Holyoke, and Northampton one. From *whooping-cough*, New York and Boston six, Philadelphia, Brooklyn, and New Orleans four, Pittsburgh two, Chicago, St. Louis, Cleveland, Gloucester, and Brockton one. From *malarial fevers*, New York 10, Brooklyn and St. Louis three, District of Columbia two, Milwaukee and Charleston one. From *erysipelas*, New York six, Cleveland four, Philadelphia two, Brooklyn, Baltimore, New Orleans, District of Columbia, Milwaukee, and Providence one. From *cerebro-spinal meningitis*, New York, Chicago, and Cincinnati two, Philadelphia, Milwaukee,averhill, Fitchburg, and Quincy one. From *small-pox*, Worcester five, Philadelphia four, District of Columbia two. From *typhus fever*, Philadelphia and Chicago one. One death from typhus fever was reported in Philadelphia and in Chicago; one death from hydrophobia and one from tetanus were reported in New Orleans; scarlet fever was more prevalent and malignant in Cleveland, less so in Providence. Small-pox is reported as apparently "stamped out" in Baltimore. Influenza has become very prevalent in Wakefield, Mass. The death-rate of colored persons in the District of Columbia was nearly double that of whites.

The total number of deaths, and especially the deaths under five, show a considerable increase over the previous two weeks. There were fewer deaths from lung diseases, and many more from consumption. The mortality was increased from all the principal "zymotic" diseases except typhoid fever, which was without change; small-pox, measles, scarlet fever, and diphtheria were much more fatal. In 37 cities and towns of Massachusetts, with an estimated population of 1,018,610 (population of the State about 1,650,000), the death-rate was 20.58 against 20.89 and 20.65 of the previous two weeks, scarlet fever, whoop-

ing-cough, and diarrhoea having been more fatal, lung diseases less so.

For the week ending January 31, in 143 German cities and towns, with an estimated population of 7,523,410, the death-rate was 27.2 against 27.5 and 26.5 of the previous two weeks. Three thousand nine hundred and thirty-five deaths were reported; 1753 under five; pulmonary consumption 542; acute diseases of the respiratory organs 510, diphtheria and croup 174, scarlet fever 95, measles and *röteln* 63, whooping-cough 57, typhoid fever 56, puerperal fever 26, small-pox and typhus fever three. The death-rates ranged from 16.6 in Carlsruhe to 36.2 in Augsburg; Königsberg 30.2; Dantzig 24.3; Breslau 21.8; Munich 29.8; Nürnberg 29.3; Dresden 26.6; Berlin 26.0; Leipzig 26.1; Hamburg 29.3; Hanover 24.1; Bremen 23.5; Cologne 33.4; Frankfurt 27.7. For the same week, Vienna 33.0; Prague 36.7; Paris 33.4.

For the week ending January 10th, in the 20 English cities with an estimated population of 7,499,468, the death-rate was 24.0 against 29.1 and 27.4 of the previous two weeks. Three thousand four hundred and forty-four deaths were reported: acute diseases of the respiratory organs 455, whooping-cough 182, measles 131, scarlet fever 126, fever 44, diarrhoea 30, diphtheria 19, small-pox (London eight, Bristol one) nine, showing a striking diminution of deaths from lung diseases, an increase in measles and small-pox, and a decrease in diarrhoea and diphtheria, scarlet fever remaining about the same. The death-rates ranged from 15.8 in Oldham to 35.5 in Plymouth; London 25.0; Bristol 26.4; Birmingham 23.3; Leicester 17.7; Liverpool 20.7; Manchester 25.0; Leeds 19.8. In Edinburgh 22, Glasgow 23, Dublin (small-pox five deaths) 41. In the 20 chief towns of Switzerland, with an estimated population of 462,576, 240 deaths were reported and 233 births: acute diseases of the respiratory organs caused 33 deaths, pulmonary consumption 16, diarrhoea of children seven, diphtheria and croup seven, whooping-cough five, puerperal fever five, fever two, erysipelas, measles, small-pox one, scarlet fever none. The death-rate was 27.5 against 26.3 of the previous week; Geneva 24.3; Zürich 23.2; Basle 24.5; Berne 36.8; Lausanne 25.8; Vevey 11.3.

The meteorological record for the week in Boston was as follows:—

Date.	Barom- eter.	Thermom- eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.					
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.				
Jan. 18	29.818	36	38	34	90	90	80	87	C	NW	NW	0	7	7	C	C	F	—	.02				
" 19	29.867	40	47	31	72	47	72	64	NW	W	NW	16	9	1	C	O	C	—	.62				
" 20	29.717	37	38	34	90	100	100	97	C	E	NE	0	13	18	R	R	R	—	.62				
" 21	29.956	24	38	17	63	53	58	58	NW	NW	NW	18	22	9	C	C	C	—	.07				
" 22	29.997	31	37	16	69	70	100	80	C	SE	S	0	12	22	O	O	R	—	.37				
" 23	29.631	43	52	36	100	62	55	72	S	SW	W	9	18	11	R	C	F	—	.56				
" 24	30.028	33	41	27	70	45	57	57	SW	W	W	5	23	7	F	F	C	—	—				
Week.	29.753	35	52	16				74	Northwest.													34.00	1.64

¹ O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, snow; R, rain; T, threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JANUARY 24, 1880, TO JANUARY 30, 1880.

HEGER, A., major and surgeon. So much of the order as directs him to proceed to San Antonio, Texas, on or before February 1, 1880, is amended to read on or before February 20, 1880. S. O. 19, A. G. O., January 26, 1880.

WHITE, C. B., major and surgeon. His leave of absence on surgeon's certificate of disability, granted him July 24, 1879, extended six months on surgeon's certificate of disability. S. O. 20, A. G. O., January 27, 1880.

TREMAISE, W. S., captain and assistant surgeon. His extension of leave of absence on surgeon's certificate of disability of November 11, 1879, further extended twelve months on account of sickness, with permission to go beyond sea. S. O. 18, A. G. O., January 24, 1880.

LIST OF CHANGES IN THE MEDICAL CORPS OF THE NAVY DURING THE WEEK ENDING JANUARY 31, 1880.

PASSED ASSISTANT SURGEON P. FITZSIMMONS from the Naval Hospital, Yokohama, Japan, and to return home and wait orders.

PASSED ASSISTANT SURGEON J. R. WAGGENER detached from the receiving ship at Boston, and ordered to the U. S. S. Vandalia.

ASSISTANT SURGEON GEORGE ARTHUR detached from the U. S. S. Vandalia and ordered to Naval Hospital, Norfolk, Va.

ASSISTANT SURGEON S. H. DICKSON detached from the Naval Hospital, Norfolk, and waiting orders.

BOOKS AND PAMPHLETS RECEIVED.—The Sanitation of Small Cities. By David Prince, M. D. (Reprint.)

Lectures.

CLINICAL LECTURES ON ORTHOPÆDIC SURGERY.¹

DELIVERED AT BELLEVUE HOSPITAL, NEW YORK.

BY LEWIS A. SAYRE, M. D.,

Professor of Orthopædic Surgery and Clinical Surgery in Bellevue Hospital Medical College.

II. POTT'S DISEASE OF THE SPINE. (CONTINUED.)

GENTLEMEN, — I have already lectured so much on the subject of Pott's disease that there would seem to be but little left for me to say in regard to it; but during the last few days several cases of the affection have come under my notice which have been receiving other forms of treatment than that which you have been accustomed to hear me advocate, and I have therefore thought it well to bring some of them before you, in order that you may be better able to appreciate the advantages of that by partial suspension and the use of the plaster-of-Paris jacket over every other that has as yet been devised. Other cases have also come into my hands of late in which the treatment by suspension and the plaster jacket has been improperly managed, and from these I desire to impress upon you in the most forcible manner that I am capable of a most useful lesson, namely, the importance of attention to all the details that have been prescribed in the method. In illustration of this point I will show you two cases which have been treated by means of the plaster jacket, and yet treated in the worst possible manner, the results being as unsatisfactory as if the patient had been treated by any of the methods formerly in vogue, and still practiced by some, though they now stand condemned in the light of modern surgical science.

The plaster jacket can do just as much harm as these in the hands of the ignorant or careless; for it is not so much upon the dressing itself as on the proper manner of applying it that success depends in any instance. After an experience now embracing many hundreds of cases, I can confidently and positively assert that if this plan of treatment is carried out just as it should be the patient suffers *no pain whatever*. Whenever in any case pain is complained of, you can rest assured that some mistake has been made in the application of the dressing, and it at once becomes the duty of the surgeon to remove it entirely and find out what was wrong about it.

CASE I. Our first patient to-day is a little fellow whom you will probably all remember as having been brought here a few weeks ago by Prof. Alfred C. Post. The child had had Pott's disease for two years, and for nine months before Dr. Post saw him had been under treatment at the Hospital for Ruptured and Crippled in this city. In consequence of the pressure of the iron cross-bar of the instrument which was ordered to be worn by the surgeon in attendance, an enormous lumbar abscess was formed, and this you will remember was operated upon by Dr. Post in the most brilliantly successful manner by Callender's method of hyperdistention of the sac. When first shown you, before the application of the plaster jacket, the little patient could not stand, except by resting his hands upon his thighs, as seen in photograph. He had also the peculiar grunt which is so characteristic of these cases.

Immediately after the lecture the plaster dressing was put on, and, on account of the high point at which

the disease was situated in the vertebral column, it was found necessary to employ the head-rest in addition. The child has worn the apparatus ever since, and there has already been very marked improvement, so that now, as you perceive, he walks as erect as a drum major. Such a practical illustration renders it quite unnecessary, I think, to dilate much upon the advantages of this method of treatment. To be convinced of the benefit that has resulted from it here you have but to look at the rosy hue upon the cheek that has replaced the sickly pallor which you saw before and which belongs to all cases of Pott's disease, and to contrast the smile of contentment on the little one's face with the pinched and anxious expression which it habitually wore previously. [See photograph.]

CASE II. I come next to the cases of which I spoke as showing the bad results of this same method of treatment when improperly applied. The child now before you was suffering from Pott's disease, and the physician in attendance concluded very properly that the best way of treating it was by means of the plaster jacket. Unfortunately, however, either through ignorance or carelessness, he neglected to attend to all the minute details of the application, which may at first sight seem of but little consequence, but which I have always insisted upon as of the greatest importance in order to secure the perfect success which is attainable by the method. So, instead of first putting on a knit shirt made exactly to fit the patient, he used no shirt at all, but applied the plaster bandage directly upon the skin itself. In order to prevent pressure upon the spinous processes of the affected vertebrae he placed several strips of green pasteboard on either side of them before putting on the dressing.

After the application the child became so comfortable that both the physician and the parents were delighted. In about three weeks, however, the child began to complain of pain; but the doctor, because the jacket had afforded relief at first, refused to remove it. Consequently, as the pain and discomfort continued to increase, the mother took the dressing off herself, when she found that the green poisonous pasteboard had been reduced to a pulp by the perspiration, and had fallen down over the hump, and that a large slough over the seat of disease had been caused by its pressure. So the mother and the doctor were now as much disgusted as they had at first been delighted with the plaster-of-Paris treatment.

The patient was then brought to New York, and after he had worn iron braces until he became paralyzed the mother came to consult me. The child was then in a terrible condition, as, in addition to the paralysis, there was an ulcer two inches in diameter over the diseased vertebrae sloughing down to the bone, and another one of rather less size over the sacrum. On account of these circumstances I had to put on two or three plaster jackets before I succeeded in getting one that was quite satisfactory and rendered him perfectly comfortable; but I persevered until this had been accomplished, and that was the end of the story. He is now so near complete recovery that you can hardly form any idea of what a bad way he was in; but when I remove the dressing you can still see cicatrices of the enormous ulcers of which I have just spoken. The last jacket, which he is still wearing, was put on five months ago, while I was in Europe, by my son, a hole being cut in the plaster over the seat of disease. In a few weeks afterward the jacket was cut

¹ Reported for the JOURNAL.

down in front, and its edges were provided with eye-lets, so that it could be laced up like a corset. The child can now walk about with perfect freedom, and can jump, as you see, heavily upon the heels, without the slightest inconvenience, when the jacket is off, so that we can regard him at the present time as practically well. He can continue, however, to wear the jacket as a corset, as a means of protection against relapse.

CASE III. I now have to show you a case in which the plaster treatment, and every other in fact, was abandoned as hopeless by those who previously treated him. There was a projecting point over the sternum as well as in the back, as is frequently the case in Pott's disease, and as pressure was not guarded against in the application of the dressing employed the most serious consequences have resulted. If cartilage once begins to slough, the process is an extremely tedious one, lasting much longer than caries in bone. In applying the plaster dressing in cases of this kind we should not only protect such projecting points by pads on either side of them, but also cut out holes of sufficiently large size over them in the jacket after it has been completed.

We are now ready to put on the plaster before you, and as this is being done I beg that you will once more notice carefully all the minutiae of the process, which I have in former lectures fully described to you, and which it will scarcely be necessary for me to mention in detail on this occasion. In order to have the tight-fitting knit shirt entirely without wrinkles during the application of the plaster, the front and back of the garment should be pinned together between the legs, and a safety pin should always be used for this purpose. This may seem a trifling point; but if the pin should happen to prick the child while the dressing is being put on, it might kick and struggle in such a manner as to render it necessary to do the whole thing over again. Before suspending the child I take it across my lap (which puts it in a perfectly comfortable position, because it relieves all the pressure upon the diseased part), and place a pad upon each side of the affected vertebra, parallel with the spinal column. We then put him in the suspensory apparatus, and having raised him until this position of perfect comfort is reached, two similar pads are placed on either side of the projection on the sternum, when the application of the plaster bandage is commenced. This child was brought to me two days ago from Maine, wearing a plaster jacket, it is true, but suffering the most intense agony, because little or no care had been taken to protect these exposed points from pressure. The casing was about an inch in thickness, and the mother stated that the physician who had put it on, instead of carrying the suspension *just to the point of comfort*, raised the child until its feet were two or three feet from the floor, where it was left dangling about, with no assistant to steady it, all the time that the dressing was being put on.

When the disease is as high up in the spinal column as in this case, it is necessary to resort to the "jury mast," or head-rest, in addition to the plaster jacket. After a few turns of the plaster bandage have been made around the trunk, this apparatus—the "jury mast"—is placed in position, and then secured by applying the bandage over the iron frame behind and the strips of perforated tin passing around to the front of the thorax. The application is then continued, layer by layer, until the complete jacket is formed; and when this is done we must not forget to press the casing close into the iliac fossæ, which flattens it out, and

thus prevents undue pressure upon the anterior superior spinous processes of the ilia. I think you will all now be struck with the difference in the color of the child's face since the jacket has been put on. Previously, as you must have noticed, it was excessively pale, but now already the cheeks have assumed a rosy hue. This is due to the more free oxygenation of the blood, which I believe to be one of the most important features of this treatment. On account of the conical shape of the trunk and the close manner in which all its interstices are filled by the dressing, the spine is rendered straight and immovable; while, on account of the pad which is placed on the anterior portion of the chest and the abdomen previous to the application of the plaster, as well as the flattening out of the casing over the projecting points of the ilia, there is not only no interference whatever with the organs of respiration and digestion, but they are enabled by means of it to perform their functions in a more perfect manner than would be otherwise possible.

At this point I wish to direct your attention for a few minutes to the contrast as regards respiration between the plaster jacket and the Knight apparatus, such as I hold in my hand, or any other which consists of iron bars applied to the back and held in position by means of a canvas webbing that laces tightly across the chest in front. It is altogether impossible to construct an apparatus of this character which will fit the thorax accurately, and while the organs of respiration are compressed by the tight lacing over them there are spaces left at the back and sides (just where it is most important) where no support at all is afforded. I have taken off numbers of these "cribs," as I sometimes call them, from patients who have been under treatment at the Hospital for Ruptured and Crippled, and I have yet to meet with the first case in which no galling or chafing was occasioned by the instrument.

CASE IV. The next case illustrates several of the points to which I have alluded in my remarks to-day, and as it is a very interesting one I will give you the history somewhat in detail, as it is recorded in my books. The patient, whose name is Louis E—, first came under my notice six months ago, when he was six years old. The parents and one other child are healthy. He enjoyed good health up to September, 1877, when he fell down a flight of four stone steps and struck upon his back and head. About a month later it was noticed that when he walked his body inclined towards the right, and he was taken to the family physician, who told the parents that he thought there was something wrong about the spine (though there was no deformity), and recommended a spinal brace. This was applied by the instrument maker who manufactured it, and was worn by the child for three months. About three weeks after the apparatus was applied, a projection was discovered on the spine, about the upper and middle dorsal vertebra, and after this he steadily grew worse. At the end of the three months he was taken to a hospital especially devoted to the correction of this class of deformities, where one of the usual braces used in that institution was applied on the 13th day of May, 1878. From that date to the time when he first came under observation the mother says he had worn no less than seven of these instruments. During this period, she further says, the deformity did not increase very much, but the child suffered a great deal of pain.

When the instrument which he was wearing at the time was removed at my office, it was found that the skin was chafed on each side of the spine from the pressure of the iron rods in this position, and also over the shoulders and ilia from the pressure of other portions of the brace. The patient was wholly unable to stand erect, even while wearing it, and he was constantly obliged to support the trunk by means of the hands placed on the thighs.

The child was suspended, and a thoroughly-fitting plaster jacket with head-rest was applied, when he immediately became perfectly comfortable, and as soon as the plaster had set was able to stand up straight without any other support whatever. Since then two more jackets have been applied, and the child has continued to do perfectly well until very recently, when he has complained of some pain over the seat of the disease. This was because the jacket had become too tight for him, on account of his rapid growth, and when he was brought to my office to-day I therefore cut it down the centre, as you see. The moment that we remove it now he feels the need of it, and cannot stand with comfort without supporting the trunk by resting his hands on his thighs. Yet there has been very marked improvement since he came under treatment six months ago. At that time there were excoriations not only over the anterior superior spinous processes, but also over the posterior crests, of the ilia, as well as all other prominent bony projections, which had been produced by the instrument that the child had been wearing. But this was not all. On either side of the spine at the seat of disease, extending for a distance of at least two inches, there were other excoriations, which were the result of the pressure of the two upright iron bars of the brace; and the cicatrices of all these sores are still plainly visible, as I now point out to you. Yet for months and months this little patient was compelled to wear this instrument of torture, and suffer untold agonies,—and all in the name of science and humanity, forsooth! Such cruelty is so barbarous in its character, and so totally unnecessary, that it seems to me that it is time that it should be put a stop to by the strong arm of the law. If the lower animals are so zealously and vigilantly protected from injury by Mr. Bergh's society, certainly the association which has for its object the prevention of cruelty to children should not be any less efficient; and here, I think, is a fair field in which it may legitimately carry out its benevolent work. Such unscientific treatment, which inflicts so much unnecessary pain, in the very face of recent developments of methods that are far superior in their results and entirely painless in application, is not creditable to our profession.

As it is desirable that the boy should have a clean knit shirt before the jacket is reapplied to remain, I will to-day simply make a few turns of the plaster bandage around the old one, to secure it in position temporarily, after having put in sufficient padding in front to separate the cut edges to such an extent that the dressing will no longer be too tight for him. At once, you see, he is able to stand perfectly erect and walk about with ease; and I want you to contrast his present appearance and carriage with what they were six months ago, as exhibited in this photograph which I now show you. When it was taken he was making his best effort to stand up straight; but in spite of this you see that his body was bent over at an angle of about forty-five degrees, and that even thus he was compelled to rest his hand upon his thighs.

[The next day a new knit shirt having been put on him, Dr. Sayre reapplied the old jacket, which had been cut down in front, as it was perfectly fitted to the surface of the trunk. Before doing so, however, he removed the outer layers of the dressing down to the head-rest apparatus, and put in enough padding in front to separate the edges of the carcass nearly an inch, so that there should be no undue compression. The "jury mast" was then secured in position again by a fresh plaster bandage, enough layers of which were put on to make the whole jacket perfectly compact and firm. When this was completed, the child felt entirely comfortable, and was able not only to walk but to run without support.]

CASE V. In order to remind you of a still further application of the plaster jacket in spinal troubles, I now again introduce to you with great pleasure my friend, Dr. C. W. Hackett, of Massachusetts, who you will no doubt remember first came before you six weeks ago to-day. Two years ago last October he was unfortunate enough to receive a fracture of the lumbar vertebra from a railroad injury,¹ which resulted in paralysis of the bladder, rectum, and lower extremities, as well as the formation of numerous abscesses. Up to six weeks ago last Sunday he had not been able to walk a single step, or even to stand without powerful support. On that day his spine was extended by

¹ [At the request of many professional and other friends, Dr. Hackett has sent us the following statement for publication.—ED.]

RAILROAD INJURY. CASE OF DR. C. W. HACKETT.

October 15, 1877, in switching from a main track to a branch, the train going round a curve at a rapid rate, while I was standing in the rear of the car, I was violently thrown upon the corner of a stove, and instantly paralyzed below the waist, probably by a fracture of one of the lumbar vertebrae,—presumably the third. While paralysis of motion was complete at the time, there was some sensation and pain in the outside of the left thigh for a few hours. There was loss of control of the bladder and rectum, with a feeling of constriction, as of a tight band, about the lower part of the abdomen, the line of demarcation between the active and paralyzed parts being clearly defined. Pain at the point of injury was incessant, and severe beyond description. The bowels were evacuated by cathartics and clysters, and the bladder by the catheter, with treatment expectant only. After ten weeks there was some return of sensation, with ability to evacuate the bladder voluntarily as a general thing, and in a little more than five months from the time of the injury there commenced a slight muscular action in the legs, which increased irregularly, so that in a year after the hurt the limbs could be drawn up and pushed down in the bed, and even be made to move as in walking, with the body supported on crutches and by an attendant; but only a trifling amount of weight could be sustained by them.

During all this time there were frequent periods of almost total paralysis of both motion and sensation, greatly influenced, evidently, by the action of numerous abscesses, which began about six months after the injury, discharging through the rectum, the outside of the right thigh, and the inside of the left,—the latter giving exit to two fragments of bone half an inch to an inch or more in length, and from one to two lines in thickness: one piece from two to three lines in width at the base, tapering to a point, and partly necrosed; the other, from one to two lines wide, somewhat pointed and slightly curved or twisted in shape, but perfectly bright and clean, and showing its fracture very plainly. I am confident that another fragment of bone had previously escaped per rectum, while still another was distinctly felt in the abscess that formed in the outside of the right thigh, but afterwards disappeared. During the winter of 1878-79 abscesses formed with great frequency, causing much loss of strength through the large quantities of pus formed and the pain they entailed; the partial recovery from the action of the muscles was in a great measure lost, so that they responded to the test of electricity no more than would those of a man recently deceased, and I was unable to distinguish the difference between heat and cold when applied to the surface of the extremities,—indeed, so imperfect was sensation that I had both legs badly burned on different occasions by hot soap-suds without being aware of it at the time (it here occurred to me to use artificial heat to maintain proper warmth in the extremities).

The abscesses finally stopped forming under the use of iodide of potassium, so that after May, 1879, only two appeared,—the last about the first of August. With the cessation of abscesses improvement took place in the general health and in the action of the legs, apparently aided by the daily use of electricity and frictions, and

suspension and a plaster jacket applied, and on the ninth day afterward he actually walked from his boarding-place on Lexington Avenue to my office, a distance of fully half a mile, and ascended a long spiral staircase at the end of it. Dr. Hackett, I am happy to say, has recently written out a detailed account of his case, which I am sure will be read with great interest by all the profession. [See foot-note.]

The great difficulty in applying the plaster jacket in this case was to get a proper support for it over the hips, because the doctor, from his long inactivity, had grown so stout that they did not project, as is ordinarily the case. On account of his great muscular power in his arms, however, he was able to remain suspended until the dressing had been molded as well as possible into the intercostal spaces and the iliac fossa and the plaster had become perfectly set. If we had attempted to lay him down as soon as the jacket was put on, as is usually done, I think it altogether probable that it would have been cracked, and the whole thing would have had to be gone over again. Ever since then he has been able to walk about with comfort, and has improved steadily in every way. For a considerable

the persistent exercise of the muscles by volition; so that by the autumn of 1879 I was able, at times, to get a part of my weight on my feet by supporting myself on crutches or over the back of a chair. But I was still unable to be off my bed, except for a short time during the day, and often did not even make the pretense of sitting up for more than a week at a time; was compelled to evacuate the bowels by injections, except at times when suffering from painful diarrhoea; and was suffering intense pain in my spine and limbs all the time, which compelled me to take from one to three grains of morphia daily to keep even bearably comfortable.

On November 30, 1879, the actual cautery having previously been applied with but trifling benefit, if any, I was suspended and encased in a plaster-of-Paris jacket by Prof. Lewis A. Sayre and his son, L. H. Sayre, of New York, assisted by other members of the profession in that city and from Massachusetts, the relief from pain and the improvement in the sensation and motion of the limbs produced by extension indicating the probability of benefit by this mode of treatment. The jacket was applied in exactly the manner so clearly set forth by Professor Sayre in his valuable work on Spinal Disease and Spinal Curvature, etc., the closest attention being given to the minutest details of the operation from beginning to end, and the result was a remarkably accurately fitting case, which gave perfect and even support to the whole trunk, and complete and absolute rest to the injured and diseased parts. Three days after being "turtle-helled" I could walk about the room without mechanical support, and two days later I went out on the street for my first walk for more than two years. Sensation, which had been very imperfect, became nearly normal; control of the muscles became constant and much more perfect; the frequent attacks of spasmodic contractions of groups of muscles entirely ceased, as did also the occurrences of almost total paralysis of the legs, during which I would often be unable to draw them up in bed for days at a time; complete control of the bladder was obtained, and the bowels became much more normal in their action, enabling me wholly to do away with the use of injections, which I had almost invariably been compelled to resort to before to produce evacuations. I was also able to discontinue the use of heat to the limbs, they being as warm as other parts of the body.

Though still suffering severe pain at the point of injury, I have succeeded in reducing the quantity of morphia to less than one half of that taken before the jacket was applied, and that in a period of six weeks' time. The muscles are still too weak to sustain the weight of the body with the legs flexed, or to raise it on the ball of the foot and propel it forward, as in natural locomotion, thus giving me a necessarily slow and somewhat awkward movement; but there appears to be paralysis of no muscle now, and I am able to walk a fourth of a mile without artificial aid of any kind, except the moral support of a light bamboo cane.

On removing the jacket, January 13th, I found myself unable to walk across the room without support of some kind, while there was a marked increase of pain. There was also a perceptible change in the form of the trunk, it being two inches smaller around the waist, probably by absorption from lateral pressure of the jacket above the ilia, where it had been crowded in to get a point of support to maintain extension. Upon the application of a new plaster case there was immediate relief of the increased pain and return of the use of the legs as before, with considerable improvement in their action (the new jacket being a better fit than the first, if possible), showing more clearly the need of case the greater the relief from the extension and support of the plaster-of-Paris jacket.

February 1st. I can now raise myself on the toes by voluntary contraction of the extensor muscles of the feet. — C. W. H.

time now he has been absent from the city, but yesterday he returned and told me that he had not felt quite so well of late, as the jacket had begun to slip up and down to some extent. This would not have occurred but for the difficulty of which I told you in getting sufficient support for the dressing from the hips, and there will be no trouble of this kind in the future, for the doctor having now for some weeks been able to take a considerable amount of exercise, his trunk has in a great degree resumed its natural proportions, and will easily retain the jacket in its proper position. When he came to me yesterday I cut down in front the jacket applied six weeks ago, and took off about an inch of it on each side. It was then reapplied and secured in position by a firm bandage, but in order that there might be no compression of the organs of respiration or too much pressure over the hips, considerable padding was previously put in the upper and lower portions of the jacket. It will thus be seen that around the waist, where the shrinkage had taken place, the jacket was some two inches smaller in circumference than before. Still, the doctor tells me that he does not feel altogether comfortable, although the alteration thus made is a great improvement. In a day or two, therefore, I will put on him an entirely new jacket, and in the course of the next few weeks I have no doubt that he will be so far improved that this may be cut down in the centre and provided with lacing like a corset, so that it can be removed at will. In conclusion, I do not hesitate to say that in Dr. Hackett's case we have one of the most remarkable instances of the advantages of the plaster-of-Paris jacket (applied during the suspension of the patient), in injuries and diseases of the spine that the history of surgery has yet recorded.

[Four days later Dr. Hackett called at Dr. Sayre's office, and the old jacket was removed entirely, when it was found that he was unable to walk at all. By direction of Dr. Sayre he ate a hearty meal so as to distend the stomach as much as possible, and after putting on a fresh skin-fitting knit shirt, suspended himself while a new jacket was applied, under "dinner-pad" being used in this instance. On account of the great muscular development of his arms, he was able to keep him self-suspended in the apparatus for no less than forty minutes, during which time the plaster had become rather firmly set. He was then seated on a stool placed under him, in which position he kept himself partially suspended for nearly an hour, during which time the plaster had become thoroughly "set." When he got up he expressed himself as feeling more thoroughly supported than ever before, and as entirely free from pain, while he was able to walk with the greatest ease.]

Original Articles.

THE HAYDEN CASE.

BY GEORGE JEWETT, M. D., FITCHBURG.

MAY 2, 1879, at 8.30 P. M., I was summoned to attend Miss Sarah E. Hayden, a single lady of thirty-eight years, a school-teacher of Fitchburg. She was in bed, was lying partly upon her right side and back, the lower limbs slightly flexed, her position being one of ease and repose. Her face was calm and pallid, with a dark shade under both eyes. There

was no restlessness or other indication of suffering. Her intellect was clear, mind undisturbed; and although not inclined to talk freely, yet she answered readily and concisely questions relating to her condition. She stated that she was not in pain; made no complaint of disturbed sensations in any part of her body, except nausea. Pulse 80; in right wrist markedly weak, so much so that I tried the left, and to my surprise found the pulse almost entirely wanting. Respiration was normal in frequency; no cough, nor rales in chest observed. The surface of the body was cool, slightly moist, and very pale; feet and lower limbs cooler than other portions. Near the head of the bed was a vessel containing about a pint of a greenish fluid, a large portion of which seemed to be mucus, which I learned she had vomited about half an hour before my visit. Upon inquiry and subsequent investigation, the following history of the case was obtained; very few of the facts, however, were made known to me at my first visit. Both her father and mother had recently died after short and unusual illnesses, which fact had somewhat depressed her, but aside from this natural cause she was in her ordinary health at ten o'clock, p. m., May 1st, except a slight pain in the muscles of the neck and back, which had troubled her for a few days. At this time her brother induced her to use a liniment for the pain in her neck, and to take a cachet of soda "to settle her stomach." Miss Hayden and a lady friend now retired, and both were soon asleep. At twelve she woke her friend, exclaiming, "I feel dreadfully! Rub me." She said that she had a "creeping sensation all over, as though her blood did not circulate." The brother soon came to her assistance, giving her, as he stated, Jamaica ginger, and subsequently some peppermint. After friction of the back and limbs, she soon fell asleep. At five a. m. she awoke with dizziness, nausea, and depression. At seven the brother gave a cachet of mustard, as he said; an hour or more afterward mustard was given, at her request, in water, to relieve the nausea, which was quickly followed by the ejection of about a pint of fluid, in which was an undissolved cachet, a piece of pickle taken at her dinner the previous day, and a few spiced currants, eaten with her supper. From this time until noon she remained in bed, with no marked symptoms except nausea and depression, when, with some assistance, she dressed, went downstairs, and her brother gave her some tea. At three o'clock the same person gave a teaspoonful of calcined magnesia in milk, soon after which she vomited a greenish fluid. Some gruel now taken remained on the stomach. At 5.15 more magnesia was administered, when, tired and faint, she went to her room and to bed. An hour later she had an abundant discharge of a thin brownish substance, in which were undigested currants. This discharge was accompanied by pain, faintness, and great prostration. Half an hour after this was another discharge, of the same character, small, and without pain or marked faintness. At my visit, this part of the history was not mentioned. About this time she failed in an attempt at micturition, which subsequently was both painful and difficult. At 7.15 she took from the same hand more magnesia. She now became tranquil, and remained so until my visit, with the exception of a single act of vomiting without marked distress. At 8.30 the salient points were, slight nausea, failure of the heart's action, notable absence of pulse in left wrist, and marked and progressive decrease of temperature. There was and had been entire absence of thirst, pain-

ful or difficult deglutition, heat in throat, pain or tenderness at epigastrium. The greenish mucous ejection indicated gastric irritation, for which, as a curative agent, I administered from my pocket-case subnitrate of bismuth, directing it to be given in two-grain doses every fifteen minutes while the nausea continued. I also ordered mustard to the epigastrium, general artificial warmth, and stimulants as they could be tolerated. I directed great watchfulness, and that I should be called at any unfavorable change. I left at nine o'clock.

At twelve a messenger came, stating that my patient seemed to be dying. I requested him to call to my aid Drs. Colony and Thompson. The patient being quite near my home, I was soon at her bed-side. She was feebly tossing her head and shoulders from side to side, struggling as if in the act of suffocation. She was perfectly intelligent; said she had no pain, but could not breathe. Her pupils were completely dilated; she was pulseless, and evidently dying. I gave her some undiluted whiskey, which she swallowed without difficulty; but the power to swallow quickly ceased, and with the concurrence of my associates, who had now arrived, I continued it by subcutaneous injection. In a few minutes the heart's action ceased. As no satisfactory diagnosis could be made by myself or conferees, and suspicious circumstances indicating death by poisoning came to light, an autopsy was held by Medical Examiner Dr. E. P. Miller of Fitchburg, with the following result:—

Autopsy thirty-two and a half hours after death. Rigor mortis well marked; no unusual appearances on surface of body. The abdominal cavity being exposed, the stomach and two or three feet of intestine adjoining were of a bluish color; other portions were pale. The stomach was carefully removed, and its contents, which consisted of about ten ounces of a thin brownish fluid, were emptied into a jar. Its entire mucous surface was of a reddish-brown color, with patches and points of bright red, most abundant near the pylorus, indicating hemorrhage into the mucous membrane; numerous minute white specks were also observed on its walls. On opening the intestines, the whole surface of the upper portion was found much redder than normal, while on the upper part of the duodenum, near the pylorus, was a very bright patch of red. The liver was darker and more full of blood than usual, no signs of disease observed; right kidney of a dark bluish color, and much congested; left kidney the same, except that under capsule was an exudation of fluid blood; nothing unusual seen about the spleen, pancreas, or other abdominal organs worthy of note. The heart, and all large blood-vessels were filled with bluish-black fluid blood; otherwise their condition was normal; no clots discovered in whole body. Lungs moderately collapsed; color, externally, darker and bluer than natural, and crepitation everywhere; on section an unusually large amount of bluish-black blood flowed out, especially in lower lobes. Cadaveric odor was entirely wanting. On removal of calvarium and dura mater the arachnoid in dependent parts bulged from accumulated serum underneath, from which, when cut, an ounce or more escaped; all the small vessels on the surface of the brain were full of bright red blood; parenchyma more moist than natural; no fluid in ventricles or other abnormal change noticed.

The stomach and contents, portions of liver, intestines, and brain, were sent to Dr. William B. Hills,

assistant professor of chemistry in Harvard Medical College, for chemical analysis, and also a sample of the bismuth from which that given the patient was taken. Subjoined is Dr. Hills' report. It is proper here to state that the counsel for the defense attempted to show that the arsenic found in the organs submitted for analysis was given by the attending physician, either by mistake or in the bismuth administered at his first visit, as it is a recognized fact that commercial bismuth is generally contaminated by arsenic:—

"May 5, 1879. Received from Medical Examiner Dr. E. P. Miller stomach and contents (contents measured ten and one third fluid ounces); intestines and contents (contents measured five and five sixths fluid ounces); portions of liver and brain; mucous membrane of small intestines, very much inflamed in its upper part, beginning at the stomach, extending downward twelve to fifteen inches; for the remainder of its length normal.

"Scattered over the inflamed portions of the mucous membrane was a white gritty powder, shown by analysis to be white arsenic; 1.14 grains of the solid were recovered. Contents of the stomach were a dark, viscid mucus, and contained a considerable quantity of bismuth subnitrate. Numerous crystals of white arsenic were also detected by the microscope. Amount of white arsenic in contents of stomach was .578 grains; in contents of intestines in solution 2.72 grains; and 1.14 grains solid, removed. Amount of arsenic in liver, 2.77 grains. Total, 12.41 grains. There was fatty degeneration of the liver shown by the microscope. Brain contained a trace of arsenic. The bismuth received from Medical Examiner Miller was unusually pure, containing less than one tenth of one per cent. estimated as white arsenic, and it would have taken about 27 ounces of this bismuth to have contained the amount of arsenic found in the organs. Bismuth never contains crystals of white arsenic as an impurity. A sample of magnesia from that given the patient was found free from arsenic."¹

The pathology of arsenical poisoning opens a wide field for investigation. From the books little can be learned of the effects of arsenic upon the living tissues, or of the manner in which it causes death. We know it is hostile to all forms of organic life; that when absorbed it is carried to all parts of the system by the blood, and is deposited in various organs by choice, the law of election of tissue being as yet unknown. I am not aware that it has ever been detected in the lungs, not even a trace. It seems to be found in the greatest abundance in the liver, nervous centres, kidneys, spleen, pancreas, and in more minute quantities in the muscular and other tissues.

Prof. E. S. Wood says: "Some experiments upon animals appear to point to a deposition of arsenic in the brain and spinal cord, and it is stated that the accumulation in the nerve tissue takes place before that in the liver and kidneys; but I cannot learn that any analyses in the human subject confirm these experiments upon animals, or that anything definite is known of the rapidity or amount of its deposition in the human brain."

Taylor states that its deposition in the liver reaches its maximum in fifteen hours, and in all cases, if life is sufficiently prolonged, it entirely disappears by elimination.

¹ Portions of the various organs were given by Dr. Hills to Prof. Edward S. Wood, of Harvard Medical College, for analysis, who verified both the results and estimates to within a hundredth of a grain in the aggregate.

This process of absorption is supposed to be completed often in a few hours, as numerous cases of arsenical poisoning have been reported in which no trace of arsenic could be found in the body after death.

In some instances this poison seems to act primarily upon the nervous system. Stillé states that nine men swept up some arsenic scattered in the hold of a ship. Of these several were suddenly seized with vertigo, and fell senseless. Subsequently they were attacked with vomiting and other symptoms of arsenical poisoning, of which three died.

Of the pathological changes observed no one is more constant than acute fatty degeneration of the liver. Dr. William B. Hills reports three or four cases under his own observation, in all of which it was markedly present. In support of this statement we have such eminent authorities as H. C. Wood, Virchow, Rindfleisch, Casper, Hoffman, Tardieu, Orth, Wagner, and many others. From our present knowledge the kidneys seem to be the principal if not the only source by which arsenic is eliminated from the body. It is uniformly found in the urine soon after its absorption into the circulation, and continues to be detected so long as any remains in the system during life. Perhaps the most striking element in arsenical poisoning is the absence of uniformity in the symptoms. The eminent toxicologist, Tardieu, groups them into four classes:—

"First. A sensation of heat and nausea; abundant and repeated vomiting; ardent thirst; drinking increases vomiting; pain in epigastrium, increased by pressure; sometimes violent pain in head; altered features; coldness of extremities; extreme weakness; tendency to faintness; smallness of pulse; evacuation of the bowels, with vomiting, discharge sometimes involuntary; painful cramps in limbs. Face, first pale, becomes bluish. Skin cold. All excretions stopped. Death comes on in twelve, fifteen, or twenty hours from first symptom.

"Second. Rare cases in which there is no vomiting nor evacuation; pulse tranquil; marked calmness; faintings, sometimes followed by coma. Death without pain in from five to twenty hours.

"Third. Subacute and most common. Vomiting abundant and repeated at beginning, which ceases after one or two days, and with disappearance comes amelioration of symptoms; stomach indolent; tongue natural; heat in throat; thirst and general coldness continue, also great weakness and irregularity of pulse; suppression of urine; spasm of throat; painful swallowing. Sometimes reaction comes on. The belly is tender, hard, and swollen. Fever lights up. Pulse frequent and strong. Sleeplessness, agitation, and spasmodic movements; eruptions on the skin; intelligence undisturbed. Later, pulse fails, is more frequent and feeble; obscurity of the senses; cold extremities, and death in from two to six or ten days. Sometimes recovery."

Taylor says,¹ "The symptoms do not appear to bear any relation to the quantity of poison or the form in which it is administered. Those indications of irritation in the stomach and bowels, or of an affection of the brain, have equally occurred whether the dose was small or large, or whether the poison was in a state of powder or solution. The variableness is also observed in regard to the time intervening between taking the poison and the first symptoms." In proof I will cite

² Taylor on Poisons, page 326.

the following cases: ¹ A young man accidentally took a large dose mixed with his food. Death occurred in twenty minutes from his sitting down to his meal. McCauly reports ² the following: A man took one hundred and fifty grains of arsenic. No symptoms for six hours; then vomiting, purging, and drowsiness set in. No pain or tenderness of abdomen. Death (time not stated). Mr. Todd reports ³ a case where sixty grains were taken on an empty stomach. No symptoms for two hours. Dr. Leachese ⁴ reports a case where a large dose was taken. No symptoms for seven hours. Dr. Thompson, of Liverpool, Eng., reports a case where thirty or forty grains were taken; no symptoms for five or six hours. Taylor reports a case; no symptoms for ten hours. Mr. Clegg reports a case where no violent symptoms appeared for twenty-three hours; then death in half an hour. The patient was sick one half an hour after poison was taken; then narcotism and death in twenty-three hours. Tonellier reports that a female took a fatal dose; no symptoms for eight hours. Dr. Bryon ⁵ gives a case where no active symptoms were manifest for nine hours. Orfila ⁶ reports a case; no symptoms for seven hours.

In the case of Francis E. Hayden, on trial for the murder of his sister, the government assumed that arsenic was given in the cachet at ten o'clock, May 1st. If so, the first symptoms, which were of general distress, occurred in two hours; the accompanying hyperæsthesia would indicate a shock to the nervous centres, which might have been allayed by a large dose of morphia given in the tincture of ginger or peppermint.

Sleep sometimes follows the administration of arsenic. A case is reported ⁷ in which an adult male took thirty grains, slept nine hours, then vomited, and death occurred in three days. Another case is reported ⁸ where a female took two and one half grains at bed-time; had a restless night; death came in thirty-six hours. McCauly reports the case of a man who took four hundred and twenty grains of arsenic; slept three hours, when symptoms set in, with death in nine hours. Cases are not wanting in which none of the ordinary symptoms of arsenical poisoning are present. Dr. Morehead reports ⁹ a case of death by narcotism in which arsenical poisoning was not suspected. An autopsy revealed a large amount of arsenic in the stomach. Dr. Todd, of Providence, relates the case of a child who was observed in the act of eating some arsenical paste, prepared for poisoning mice. An emetic was given; between the acts of vomiting the child was lively, with no symptoms. It soon slept with the calm of health; then had two natural discharges. In six or seven hours there was no expression of pain. Soon the surface of the body became cool; lips livid; eyes sunken, pupils fixed and dilated; pulse scarcely perceptible; respiration sighing and feeble. Death eight hours after taking the poison. An inspection of the body after death revealed no change from a healthy condition. A little mucus was found in the stomach, but there were no signs of inflammation. Dr. Alexander ¹⁰ took by mistake a large

quantity in some gruel, and died on the sixteenth day. No arsenic was found in the body. Sir Robert Christison relates ¹¹ the case of a lad of seventeen, who, after a night's debauch, swallowed half an ounce of arsenic. In two and a half hours there were no symptoms except languor and drowsiness. In eighteen hours he began to sink, and then presented the usual constitutional symptoms of arsenical poisoning, and died in forty-one hours, with scarcely a single local symptom excepting slight vomiting. The stomach was violently inflamed. Dr. Stillé reports ¹² that a woman took three hundred grains of arsenic after a hearty meal. No medical treatment for one and a half hours, or vomiting, yet she completely recovered in five days. Dr. Jackson says ¹³ a man took not less than two ounces of arsenic on an empty stomach. The greater part was retained for six hours; then great irritability of stomach, but final recovery.

From all the facts in my knowledge, I have no doubt that a dose of twenty grains or more of arsenic was given May 1st, at ten o'clock, p. m. in a cachet. The following morning a second cachet was given, not of mustard just prepared, as stated by the accused, but containing something else, prepared the day before. Almost daily experience shows that the two halves of a freshly prepared cachet separate in a few moments, when placed in water, and float from each other, but when prepared with considerable moisture, and allowed to dry before taken, the margin dissolves very slowly. This cachet was retained on the stomach from one to two hours, when it was ejected *whole*. This incident led me to experiment upon the composition and administration of cachets. I find that they are composed almost entirely of starch; are not affected materially by artificial digesting fluids at the temperature of the blood; soften readily in any fluid, dissolve very slowly in water, and are comparatively insoluble in a solution of arsenic; digested sixty hours, in such a solution at blood heat, are little changed, and retain their form for a month in a similar solution at ordinary temperatures. This fact helps us to account for the condition of things when the cachet of the morning was ejected, and the inference plainly points to the conclusion that this cachet had been immersed in a solution of arsenic then existing in the stomach. Extending my experiments, I gave a dyspeptic person a drachm of pulverized ipecacuanha in three medium-sized cachets at twelve o'clock, on an empty stomach: at 12.30 no nausea. I gave fifteen grains sulphate of zinc in cachet, followed by a few ounces of warm water: 12.40, unusual motion of stomach and eructation; 12.45, vomiting of a few ounces of watery fluid; 12.50, copious emesis of a mucous watery fluid, containing flocculent masses of broken-down cachets, mixed with ipecacuanha. The patient stated that ejected matters were bitter and "puckery;" no discomfort for thirty minutes, when he suddenly ejected fluids of similar character tinged with bile; no further nausea. His appetite returned, and he was immediately in good condition.

In the Hayden case, the accused was proved to have bought eight grains of morphia, one and one half of which were wanting from the package. He said "he thought his sister might want it." When was this morphia given, if given at all? Probably a large dose to allay the terrible distress caused by the first shock to

¹ Taylor's Jurisprudence, page 256.

² Woodman and Tidy, Case VIII.

³ Taylor's Jurisprudence, vol. i. p. 251.

⁴ Taylor, page 251.

⁵ Medical Gazette, vol. xlvii. p. 722.

⁶ Taylor, page 251.

⁷ Medical Times and Gazette, April 12, 1877.

⁸ Woodman and Tidy, page 161.

⁹ Medical Gazette, vol. xliii. p. 1055.

¹⁰ Medical Times and Gazette, April 18, 1857.

¹¹ Reese, page 62.

¹² Therapeutics, vol. xi. p. 707.

¹³ American Journal of Medical Sciences, July, 1878.

the nervous system, at twelve o'clock, two hours after the arsenic; hence the sleep and dizzy head of the morning and freedom from pain during the day following.

Morphine was not detected by the chemists, but our best authorities state that neither opium nor its alkaloids can be detected once in ten cases of fatal poisoning. Wormley says, "Thus far, with few exceptions, there seems to have been an entire failure to recover the poison from the tissues in poisoning by opium and its active alkaloids."

Taylor confirms the same view. This is accounted for by its rapid absorption, and when once within the tissues it probably loses its chemical constituents. Any considerable amount *remaining in the stomach* after death may be detected, if sought for immediately.

The counsel for defense did not deny the finding of arsenic by Drs. Hill and Wood, but boldly took the ground that no symptoms of arsenical poisoning existed until about the time of or soon after the first visit of the attending physician. It suited their purpose to make the theory of arsenical poisoning an exact proposition; each symptom was made to appear in its regular order of succession, and to follow in a given number of minutes. The dose given, the time the patient would live, and each step of decadence could be determined with mathematical exactness. The plan also included the presence or absence of post-mortem changes, the diffusion of arsenic through the body after death, a well-established pathology, embracing many occult morbid processes, never before determined, all methodically arranged to fit the case under consideration, and limit the period of arsenical poisoning to the interval between the first visit of the attending physician and the death of the patient. They employed a single medical expert, Dr. Joshua B. Treadwell, of Boston, who gave the following testimony. "I quote from the government's stenographic report. 'If ten grains of white arsenic had been given, it would have been followed within twenty minutes by more or less disturbance about the stomach and bowels; in half an hour by vomiting and severe pain; within an hour and a half severe purging, paleness of the surface, slow pulse, and great prostration generally, and death probably within ten hours.' 'If morphine had been given with the arsenic the patient would have collapsed more rapidly than if it had not been given.'

The defense then gave results of autopsy, and asked "how long before death arsenic had been given, if there was only a trace found in the brain?"

Answer. "Only a few hours.—*inside of five hours.* If it was in excess of that time there must have been a large amount of arsenic in the brain; it is carried there in large quantities." "If a person lives five minutes after a dose of arsenic is put in the stomach, arsenic will be found in the brain;" "it can be found upon chemical analysis in small quantities." "If they live a few hours it is found in large quantities."

District Attorney Staples asks, "If you found only a trace, would you suppose it given within five minutes before death?"

Ans. No, sir; might have lived two or three hours. In two or three hours would get a larger trace than in five minutes.

Ques. Does the process of deposition commence slowly?

Ans. Yes; the whole process is a slow one.

Ques. Is the arsenic first found in the blood or in the tissues?

Ans. It is in the blood, but as soon as it is in the blood it is absorbed.

Ques. Does arsenic cause fatty degeneration of the liver?

Ans. When its use is prolonged over a number of days, and *only then.* It consists in a normal tissue being substituted by a fatty tissue, and is a slow death. In case the liver shows a large amount of arsenic, with only a trace in the brain, the fact would be that a large amount of this arsenic had passed out of the stomach after death. It is a recognized fact that arsenic diffuses itself after death.

I have cited a few passages from Dr. Treadwell's testimony, showing its character, believing that the statements of medical experts belong to the profession, and are proper subjects for criticism by its members.

FITCHBURG, January 28, 1880.

RECENT PROGRESS IN THE TREATMENT OF THORACIC DISEASES.

BY F. I. KNIGHT, M. D.

Asthma not a Neurosis.—Dr. Berkart¹ has done the profession a very great service in trying to rescue asthma from the list of diseases, and condemning it to the list of symptoms where it belongs.

We hope his book may mark an era in the history of thoracic dyspnea, and such a revolution in practice as when dropsy was declared a symptom and not a disease; for asthma is in our opinion not one whit more a disease than is dropsy. The author was induced some years ago to enter upon a special study of asthma on account of its intractability on several occasions. In the pursuit of that inquiry, as he says, little perspicacity was needed to discover that the prevailing obscurity on the nature and treatment of asthma, primarily and mainly, arose from the exclusive attention bestowed upon the dyspneal paroxysms, whereas their constant antecedents and sequelae, which form the life history, as it were, of the disease, were either neglected or erroneously interpreted. It is readily intelligible, he says, that a dyspnea which, apparently independent of organic lesions, suddenly rises and as suddenly subsides cannot but be the subject of much speculation. A close examination, however, of all the facts connected with asthma enabled the author to conclude that this was merely one link in a chain of morbid processes, that commenced with a more or less insidious inflammation of the pulmonary tissue, and terminated with bronchiectasis and emphysema. These views were presented to the Medical Society of London in 1873. Subsequent observation has confirmed them in the author's mind.

The Introduction and History of Asthma, as indeed the whole book, show careful and exhaustive research, due credit being given to those, as Beau and Traube, who have previously denied its existence as a substantive disease. The reader will remember that Traube considered "asthma nervosa" nothing but an acute bronchial catarrh.

The discussion of the prevalent theory of asthma (that is, that it is a nervous affection) is exceedingly in-

¹ On Asthma: Its Pathology and Treatment. By J. B. Berkart, M. D. London: J. and A. Churchill. 1878.

teresting, and should be read in full. The arguments in favor of this theory are that there are cases in which an intense and agonizing dyspnoea suddenly arises in the midst of perfect apparent health, and as suddenly relapses again into a state of ease and tranquillity. There are no physical signs of any organic disease; hence independence of the disease on structural changes is inferred. This inference tallies with the freedom of respiration, which is immediately restored after the attack. It is confirmed by the results of post-mortem examinations, which are reported to be either completely negative, or so varying in character as to preclude the idea of their being the cause of a definite disease. Upon the principle that affections which leave no traces of their existence produce their symptoms through the nervous system, asthma is supposed to be a nervous affection. To the same conclusion tend the causes, symptoms, associated phenomena, periodicity, and treatment of the dyspnoea; all these directly appealing to or acting through the nervous system. In reference to the *inference from the absence of physical signs* the author justly remarks that in the present state of pathology it is superfluous to say that there are other recognized affections besides heart disease, bronchitis, and emphysema capable of producing sudden and intense dyspnoea; but not even these latter can be excluded on the grounds assumed. A patient may daily expectorate several spittoonfuls of mucus, and yet the most practiced and careful observer may fail to detect, by means of percussion and auscultation, the least trace of disease. Again, many cases of emphysema exhibit no typical symptoms, as described in text-books. The same may be said of diseases of the heart. The fact is, says the author, that auscultation and percussion reveal only "coarse" organic lesions, and these, moreover, under special favorable conditions. This comparative short-coming detracts in no way from the importance of these methods of examination. After all they are but one, though an invaluable, aid to diagnosis. They do not, however, supersede but supplement the other results of clinical observation, and only by their combined consideration is it possible to arrive at true conceptions of the nature of a disease. Hence the seeming inadequacy of physical signs during and after an asthmatic paroxysm is insignificant in itself. A more comprehensive view of the case, one not limited to prominent symptoms, but including all its symptoms, its antecedents, and sequelæ, fully accounts for its pathology. Such a survey shows that asthmatics are "generally miserable looking-wretches, round-backed, cyanosed, veiny, and thin,"¹ or prone to obesity at an early period of life, — a sign of premature senescence. Ninety per cent. of them have, previous to their first attacks, suffered from inflammatory affections of the lungs, from which, although the acute symptoms have subsided, they have never completely recovered; and after but a short persistence of the asthma there invariably appears emphysema, — a disease, so far as its pathology is known, essentially chronic in its development. In the face of this evidence, it would be casting aside the accumulated experience of centuries to assert that with such antecedents and sequelæ the respiratory organ, constantly the seat of functional disturbance, is nevertheless in a sound condition, because auscultation and percussion show nothing to the contrary.

In reference to the *inference from the freedom of respiration between the attacks*, the author says, complete freedom of respiration is not inconsistent with such impairment of the elastic tissue of the lungs, for even in many cases of fully developed emphysema there is no dyspnoea so long as there is no bronchitis. In health and quiet respiration, only one third of the lungs is employed for the performance of the function. Subjective dyspnoea takes place only when the respiratory surface is reduced below that proportion.

With reference to the *alleged negative results of post-mortem examinations*, that with few exceptions they date from a time when pathological anatomy was yet in its infancy, and the term asthma was used still more promiscuously than it is now, and then the author makes the remarkable statement that, so far as he is able to ascertain, modern literature contains only two cases in which the asthma was not accounted for by the post-mortem appearances.

With regard to the positive results of post-mortem examinations, the author says that in the vast majority of instances pathological conditions are and have been met with. Their alleged variety, however, applies only to cases of a former date, and proves not that asthma is independent of anatomical lesions, but that the term has been indiscriminately employed. At present, when, as already mentioned, the limits of the disease are greatly restricted, the organic complications are consequently also of a more definite character, and more constant in their appearance. Even the pure and idiopathic asthma (if it is at all severe) is soon accompanied by structural changes, which, according to the prevalent doctrine, are believed to be the *consequences* and not the *causes* of the dyspnoeal seizures.

Yet the principle upon which this opinion is based is quite inconsistent with the teaching of modern pathology. No shadow of a proof can be adduced to show that in any case derangement of function causes derangement of texture. If the functional disturbance apparently precedes the organic lesion, the latter is merely at the time inaccessible to diagnosis. And, lastly, the pathology of emphysema is equally inconsistent with the prevailing opinion. Asthma can produce a loss of elasticity and a permanent distention of the lungs only by the disturbance of the respiratory pressure during the paroxysms; yet such mechanical force is ineffective unless there be a predisposition adherent in the lungs. The facts that at times emphysema spontaneously arises, as it were, and precedes the bronchitis, the cough, and the dyspnoea; at others rapidly and extensively develops when the disturbance of the respiratory pressure has been but slight and of short duration; and again at others gradually appears and to a limited extent when the same causes have been persistent and powerful, — all these forcibly show that certain nutritive changes of the pulmonary tissue are concerned in the production of that disease (Biermer et al.). The nature of these changes is as yet unknown, and for the present purpose it is immaterial whether it consist in an extension of the catarrhal inflammation from the bronchial tube, or in a primary disease of the alveolar walls (Villemin), or in thrombosis of the pulmonary vessels, followed by softening and absorption of the elastic tissue (Isaaksohn). It suffices for the present purpose to state the fact that even if asthma is pure and idiopathic it is soon complicated with emphysema, and

¹ Hyde Salter.

as the dyspnoæal seizures furnish only the mechanical element it therefore follows that under these conditions the lungs cannot be healthy, but must be the seat of pathological changes.

Hence the principle that "diseases which leave no traces of their existence produce their symptoms through the nervous system" (Hyde Salter) is, whatever its merits may be, inapplicable to asthma; for though in a few and rare instances the lungs may seem perfectly sound, still there is no evidence that they are so, whereas the symptoms and the results of post-mortem examinations tend to opposite conclusions.

In answer to the question, *Is asthma a bronchial spasm?* the author says that in the vast majority of instances the bronchial muscles are so greatly impaired in nutrition as to be incapable even of contracting. When the dyspnoea has lasted for some time, the dilatation of the air tubes becomes permanent, and indeed the most dilated bronchi Hyde Salter has ever seen were in a case of "spasmodic asthma." It is superfluous to add that under these conditions the contractility of the bronchial muscles is utterly destroyed.

The chapter on Definition, Pathogeny, and Ætiology is equally interesting. The author begins with the statement that the intense and intermittent dyspnoea, which, mainly on account of its fitful appearance and departure and its seeming independence of structural lesions, has been hitherto attributed to a derangement of innervation, is in reality due to pathological changes of the lungs. That asthma is a mere symptom can readily be proved. The recognition of this important fact has been greatly impeded by the exclusive attention paid to the clinical features of the paroxysm, and by the persistent attempts to deduce from them alone the nature of the dyspnoea.

With the exception of the comparatively rare instances in which the dyspnoea is produced by a foreign body in the air passages, asthma generally gives fair warning of its approach. Those subject to the disease have, previous to the appearance of the typical paroxysms, suffered from an acute or chronic inflammation of the respiratory organs. Of the two hundred and twenty-three cases collected by Hyde Salter, the original cause of asthma was not ascertained in forty; in one hundred and thirty-two out of the remaining one hundred and eighty-three cases the original causes were stated to be chronic catarrh, colds, and catarrhal pneumonia, complicating whooping-cough, measles, and typhoid fever.

From these statistics it appears that bronchitis and catarrhal pneumonia have preceded dyspnoæal seizures in eighty per cent. of all cases. It is needless to add that this great frequency is not a mere matter of accident, but points to a certain relation between the events. What influence bronchitis and pneumonia have upon the origin of asthma will be evident from their anatomical details. In sixty-two per cent. of those cases the inflammation occurred in the first decade of life, and was either idiopathic, or a complication of whooping-cough and measles. Now, in feeble, narrow-chested children, and in those affected with thoracic deformities especially (and these supply the greatest contingent of asthmatics), bronchitis, though commencing in the larger, has the tendency to spread to and even beyond the smaller tubes. Under these circumstances the bronchial wall is inundated with a gelatinous, synovia-like substance (Roki-

tansky) consisting of serum and white blood corpuscles. The same kind of exudation exists also in the interlobular tissue, and here diffuses itself so as to reach even the pleura. Some of the alveoli are inflamed; some are filled with aspired mucus; others are in a state of atelectasis; and again others are the seat of a vicarious emphysema (Ziemssen). There can be little doubt that if an individual—child or adult, who up to a certain time enjoyed good health—be attacked with what seems to be a bronchial affection; that if from this he apparently recovers but remains henceforward subject to asthma, this strongly argues that the respiratory organ has been permanently injured by the preceding inflammation. There yet remains a minority of instances in which asthma is apparently congenital or spontaneous. But the question is, how far, on the one hand, congenital atelectasis, and how far on the other those insidious interstitial changes of the pulmonary tissue, are responsible for it.

Hence the antecedents and sequelæ of asthma manifest themselves by their nature as *one continuous though protracted pathological process. Asthma, therefore, is only one link in a chain of quasi-independent affections, which commences with inflammatory changes of the pulmonary tissue, and terminates with emphysema or bronchiectasis.* Thus, according to this definition, "the essential or idiopathic asthma" of writers corresponds to the dyspnoea accompanying the gradual and latent progress, and their "symptomatic or catarrhal asthma" to the fully developed state of chronic bronchitis and emphysema.

The present inquiry has shown that the tendency to asthma is produced by definite organic lesions of the respiratory organs; only the imperfect means of diagnosis and the rarely fatal issue of the disease at the time when its clinical features are most interesting are the cause that the existence of those lesions has been so constantly overlooked. Still, the known pathology of the antecedents and sequelæ permits the safe inference that the stage intermediate between them also corresponds to certain textural changes.

In regard to the immediate causes of asthma the author says that, notwithstanding the textural changes of the lungs, respiration continues to be undisturbed, and this perfect freedom of one of the most important functions is mainly due to the beneficent activity of compensatory forces which here, as elsewhere, tend to the preservation of health, even under the most disadvantageous circumstances. Those compensatory forces, however, have their limits. They prove inadequate in the face of an additional obstacle, to respiration. Thus, the accession of an obstacle, however trifling in itself, is sufficient to provoke an asthmatic seizure.

The immediate causes of asthma are numerous and of various kinds, but all productive of the same result,—obstruction of the bronchi. They are exhibited in the following table:—

- I. Hyperæmia and œdema of the lungs.
 - (a.) Relaxative { Inhalation of irritating gases.
Inhalation of dust.
Thermal influence.
 - (b.) Collateral { Meteorismis.
Embolism of the pulmonary artery.
 - (c.) Reflex paralytic.
- II. Bronchitis.
- III. Stenosis of the bronchi { Foreign bodies.
Constriction.
(To be concluded.)

Reports of Societies.

WINTER MEETING OF THE COUNCILORS OF THE MASSACHUSETTS MEDICAL SOCIETY.

THE councilors of our State Society held their winter meeting at the Medical Library Hall on Wednesday, February 4th. Dr. Lynian, president of the society, called the meeting to order at eleven A. M. The first business in order was the reading of the records of the October meeting, by Secretary Goss. They were accepted without comment.

Delegates from the state society to the societies of other States were then named and accepted. — The president nominated Drs. Stedman and Edes as auditors of the treasurer's accounts; Drs. Langmaid and Wadsworth as examiners of the library; and Drs. Presbry, Hosmer, and Millet as committee on by-laws of district societies. These nominations were confirmed by vote. The report of the committee on membership, Dr. James Ayer, chairman, was presented and accepted, but it gave rise to a discussion upon the case of a Fellow whose dues amounted to sixty-one dollars, and who for five years had not responded to treasurer's notices. The committee proposed, therefore, to drop him from the roll. — Dr. Bronson, of Attleboro, expressed the opinion that if this man could pay he should be made to do so, and then be dropped, and offered this opinion as a motion. — Dr. Millet, of East Bridgewater, proposed as an amendment that the individual should first be allowed to resign, and afterwards be dropped. A Fellow who is merely dropped can afterward come into the society and vote, and in such case the society has no remedy. — Dr. Minot, of Boston, hoped the motion would not prevail, because a man who would not pay his dues, nor even reply to notices from the treasurer, of course would not resign. Such a man should be dropped, and he is provided for in the by-laws. By-Law VII. to this effect was then read. — Dr. Millet replied that such a man should be forced to resign; otherwise he will come in and vote. — Dr. Minot answered that a dropped man is not on the catalogue, and so never comes to society meetings. — Dr. Ayer coincided with this view, and thought that to allow a man to resign would establish a bad precedent and make trouble. The question being voted upon was decided in the negative; the recommendation of the committee then received an affirmative vote.

THE CODE OF ETHICS.

The code of ethics was next brought up. There were two reports upon the table: one, the majority report of four members of the committee on the code; the other, the minority report of one member, Dr. Bigelow, of Boston. — Dr. Ellis, of Boston, moved that the minority report be first taken from the table. — Dr. Williams, of Boston, alluded to the great labor and time which had been expended upon the majority report, and thought that it should first be considered. — Dr. Ellis withdrew his motion, and the majority report received precedence. — By vote the minority report was then taken from the table. — Dr. Wellington, of Cambridgeport, moved that the majority report be adopted by the council. — Dr. H. I. Bowditch hoped that as a whole it would not be adopted. He had been in practice fifty years, and in that time had never read a paper so derogatory to the profession. — Dr. Wellington supposed the council had concluded

to adopt a code of ethics. The original committee of three had unanimously presented what is now the majority code. It was then recommitment to them, and their number increased by two. Now the same code comes back signed by four out of five. The committee had read everything relating to codes, had corresponded with a vast number of societies, and used every means to perfect the majority code. Four had accepted it, and it was natural to suppose that the majority of the society would be satisfied with it. The committee, having been directed to make a code, naturally believed it must include details and meet a variety of cases. It is not enough to favor the golden rule and suppose every doctor to be a gentleman. He did not see why the code should be rejected because of its detail. The committee intended nothing derogatory, but their best to present what seemed needed. He then gave instances in which detail would be necessary. He objected to the minority report simply because of its very lack of detail. The majority code had been honestly and earnestly constructed, and was well put together. He hoped those who objected to it would keep silence and accept it. — Dr. George C. Shattuck, of Boston, said that at the last meeting of the council delay had been suggested in order to give councilors time to study the majority code. He had studied and found it excellent. It is needed to cover cases occurring at all times. In a large society were all sorts of members, and therefore many minds to meet. He favored the adoption of the majority code. — Dr. Ellis remarked that at the last meeting the council had been told that the committee intended to do nothing derogatory to the society. The question is, Have they done so? For thirty years he had supposed he was practicing among gentlemen. If the majority code be true, then he had been mistaken in thinking the profession stood upon an honorable foundation. He was not willing to believe it such as is suggested in this code, and thought the minority code covered the whole ground. — Dr. Clarke, of Worcester, said he knew the minds of his colleagues in Worcester, and could say that there was but one opinion, which was that the minority report was the one the society should adopt. He and his associates had a strong feeling that the longer report suggested practices which are not common. Thereupon he read certain sections of the report, saying he could not believe such cases as were therein implied could ever occur. He thought the minority report sufficiently long for all purposes. — Dr. Adams, of the committee, then said he believed the general feeling to be in favor of the majority report. There is a wide difference between city and country practitioners. Among the latter, especially, are young men unfamiliar with many points of courtesy. They want and need details. A young man through ignorance of good manners might easily commit a breach of decorum. Hence he requires detailed and not merely suggested advice. — Dr. Williams said that codes were not intended to present the terrors of the law, but as instruction. Sons of physicians are familiar with ethics from their youth. Other young physicians are not, and many of those present in their younger days would have been glad of such detailed advice as is given in the majority code. He did not think such instruction, for men who need it, derogatory to the profession. It is simply intended for the prevention of mistakes. — Dr. Brown gave instances of glaring unprofessional conduct which he

thought would be prevented by the majority code. — Dr. Henry J. Bigelow alluded to Dr. Williams's reference to physicians' sons and the need of ethical instructions which young physicians feel. They do need it, but when he began practice even with an example before him, he often felt at a loss as to the proper line of conduct. If he had had this minority code he would not have made mistakes, for whenever there is a rule in the majority code, in the minority code is a reference to the principle which covers it. He then related his method of drawing up the latter code. In the majority code he found selections from every code which ever existed. It is mediæval, prehistoric. It is not Dr. Cotting's code. It includes sections taken from codes written in times of rapacity between medical men; in times when doctors fought in the consultation room. It contains no appeal to high motives. They are the true and real influence. The whole thing is so diluted and repeated that it is impossible to extract a rule from it. Finding it such a mass of involved rules, he went carefully over it, and made selections in order to class them under a few heads. He also discovered new heads under which principles and practice might be combined. Having done this, he would assert that all objectionable matter had been omitted, and that everything necessary had been mentioned at least once. Fees and fifteen-minute consultations have nothing to do with morals. The important thing is the relation of patient to physician. The great point is to prevent physicians from stealing patients. He did not think the majority report provided for that. There are thousands of ways in which this is done. The majority report needs boiling down. Every important thing in the large code is in the small one. If, in the future, it be necessary to add any point it can easily be done under the proper head. He would defy any man to do this with the majority report. If we struck anything out of it, we should find it there again, because it contains so much repetition. In regard to the fact that four members of the committee stood against one, he would confess it to be unfortunate. The odds were great, and arose from his inability to attend any meeting of the committee. One member, even, had signed the majority report before he had seen the minority code. — Dr. Bronson thought the elder members of the council must either have forgotten their young days, or have gained a knowledge of ethics in some miraculous way. In their eyes the majority code is so elementary that they scout at it. They do not realize the need of it among young men. When they call it hodge-podge, and say it was made for knaves and fools, it is evident that they do not know in what spirit it was drawn up. Instead of its being mixed he found it to be in three distinct sections and constructed with great simplicity. The Bigelow code is concise and to mature minds apparently satisfactory. He then added the amusing remark, "Like its author, it is admirable so far as it goes;" which remark left upon his audience a delightful sense of ambiguity. Dr. Bronson concluded by saying he would not admit that there were fools in the society. If there were, then the censors had not done their duty. But there may be knaves, and the majority code is needed for them. He hoped it would be accepted, because it did not cover one point which would not at some time come to the surface. He challenged any member to point out a useless clause.

This Dr. Bigelow proceeded to do to the satisfac-

tion of his adherents, and closed with the incisive remark that he did not wish the public, especially the lawyers, to know that he belonged to a club in which it was found necessary to make a law to the effect that members shall not steal spoons. — Dr. Clarke then said that the details in the majority code are not necessary to a great and liberal profession. If a man has not a sense of honor and instincts of courtesy, this mass of information will not implant them. He had submitted the code to an eminent jurist, who said he was surprised that such rules were found requisite. Lawyers find no necessity of such suggestions. Something must be left to courtesy. He thought the majority code belittling, and unworthy of the society. — Dr. J. Collins Warren spoke on behalf of the young men for whom so much solicitude had been expressed. It was very kind on the part of the committee to wish to instruct them, but if the matter were left to the young men he thought they would have no code at all. They knew the society had lived peacefully for nearly one hundred years without a code. Why could not this state of things go on for another century without the aid of this useless mass of rules? — Dr. Millet said that the gentlemen who had spoken seemed to have lived on a higher plane than the commoner practitioner. He did not believe the country physicians, in particular, required the code, but he had known instances of great professional discourtesy, — instances for which these gentlemen think it unnecessary to provide. He cared nothing for the code of ethics so far as his medical neighbors were concerned. Still, there is a want of something to which all the district societies can refer, and which can be used as a guide. — Dr. Reynolds, of Boston, said he did not wish to reflect upon the purposes of those who have drawn up the codes, but he decidedly objected to both reports. He thought the will of the society had not been met. Having been secretary of the committee, he could say that there had not been one word of discussion in the committee during the fifteen months of its existence, and only once a quorum. No kind of compromise, therefore, had been formed. He had signed the majority report because, up to within twelve hours of the meeting, he had not been able to see the other. When he did see it he rather preferred it. He had no reflections to make upon the laborious efforts of the chairman, but the committee had not done what he supposed they were appointed to do. He hoped the reports would be referred to five good, honorable men, within easy reach of each other, who might thoroughly discuss and condense them. — Dr. Bronson expressed the belief that if the majority report were adopted it would silence reports which are flying over the State to the effect that certain members of the society had done things for which there is no remedy.

Dr. Cotting, chairman of the committee, then said that, though he had no right to speak, he wished to repel wholly and thoroughly the imputations cast upon the committee and their work. They had met as often as they could meet. Dr. Bigelow had been unable to attend meetings. Dr. Reynolds had had two hours' (private) discussion with him. What has the council done for the committee? They had done their best. They had gone as far back as they could go in research. They had taken every *live* thing they had found, but the code had nothing mediæval in it. He gave instances proving need of detail; said the

code had been submitted to literary, legal, and clerical gentlemen, all of whom had pronounced it as nearly perfect as a code could be. The committee had a special reason for every section. — Dr. Pineo, of Hymannis, then suggested, since the code was said to have been made for young men, and since they are now more cultured and polished than formerly, that the *unwritten* code should be the only guide.

After various other desultory remarks, the question as to the adoption of the majority code was called, and voters carefully counted. Dr. Reynolds proposed that the vote should be informal. To this, objection was made, and the result was nineteen yeas and fifty-four nays, thus defeating the majority code. On motion of Dr. Clarke the minority code, prepared by Dr. Bigelow, was then adopted by vote of a majority of the council.

THE ADMISSION OF WOMEN.

A communication from the censors of the Suffolk District Society and the society at large was next taken from the table. It asked instruction in regard to the admission of women for examination. The censors doubted the legality of the position in which they had been placed by the October vote. — The reading of their communication was voted down. — Dr. Hodges then moved that the October action of the councilors in regard to females be referred to the general society for its consideration at the next annual meeting. — President Lyman said that in reading the paper in question he found there was a legal point of importance yet to be settled. He thought it should go to the general society for their concurrence. — Dr. Millet doubted whether a decision could be reached without the concurrence of the legislature. — Dr. Bronson understood that at their last meeting the council decided that the pronoun *he* meant male or female. He believed the protest of the censors to be an honest creation. He had heard it called "a trick," but did not believe it to be so, and was therefore willing to accept the opinion of the board of censors, and thought their reasoning sound. — Dr. Lyman said the censors had applied to him for information in the premises. He replied that he had no right to authorize them to proceed in the face of the sharp legal point involved. — Dr. Reynolds regretted the action of the October meeting. He did not consider that a fair and honest chance had then been given the question. It attacks the very existence of the society. Councilors should not wish to bring it before the general meeting without previous and full discussion. — Dr. Hodges then withdrew his motion. — Dr. Pineo moved that the council reconsider the vote of the councilors at the October meeting, whereby censors were instructed to admit women for examination. — Dr. Bronson said he did not object to Dr. Pineo's motion in the abstract, that is, as touching the legality of the decision; but on any other ground he opposed reconsideration, for it is boys' play to reconsider when a large vote has been taken. — The motion of Dr. Pineo was then voted upon and decided in the affirmative. This tabled the woman question. The meeting then adjourned.

— Voltolini claims that the only proper position of a patient during an operation for the extraction of a foreign body from the ear is upon the back on a table, the head being allowed to hang over the end.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

F. C. SHATTUCK, M. D., SECRETARY.

MYELITIS, ACUTE AND SUB-ACUTE, WITH A REPORT OF EIGHT CASES.

DECEMBER 15, 1879. DR. S. G. WEBBER, read the following paper on Myelitis: —

It is not always easy to decide whether a case of myelitis should be called acute or chronic. The integrity of the whole cord is so essential to its proper function that if only a small portion is affected there are irregular and defective actions in all that part below, and perhaps in parts above. If an acute affection of one segment is recovered from with permanent injury of the diseased portion, the resulting symptoms are permanent, and there is chronic derangement of function. Inflammation may begin in an acute form in the lumbar enlargement, and then advance upwards slowly, yet pathologically, with the same characters in each segment of the cord; as no vital parts are affected, life is prolonged, and the cases seem to be chronic in time, while being acute pathologically. In fatal cases, then, the chronicity or acuteness depends upon whether vital centres are attacked early or late in the disease.

CASE 1. The first case is one in which the disease ran a rapid course, with febrile action, terminating in death within two weeks from its origin.

E. F., aged thirty-four, farmer, entered the Boston City Hospital November 8, 1879. He had used liquor for fifteen years, in small quantities, but said never to excess. There was no specific history. November 3d, he drove twenty-five miles in the rain and snow, getting his legs wet; he felt chilly on the road. During the day, November 5th, he worked in a barn cellar; he worked hard and was heated. In the evening he worked in a cold milk-house, on his hands and knees. He felt quite chilly while at work, and more so on leaving off. In the night he walked to the water-closet, and there found that he could not pass his water. On the morning of the 6th he rose, dressed himself, and sat by the stove. In half an hour he found that his legs were feeling stiff and weak; he required help to get to his bed. The feet were numb, pricking as if pins were stuck into them. There was no pain except from a full bladder, which was relieved by catheterization; no sense of constriction. The numbness began at about the crest of the ilium; the legs when tested proved to be less sensitive than normal. There was no reflex action on tickling the soles of the feet; tendon reflex was absent. There was entire loss of voluntary motion in both legs. There was no spasmodic action. The temperature was high, running up to 104° F. immediately after his admission, but in three or four days it descended to 101°, and subsequently to the normal, when he died. The pulse followed nearly the same course. The anesthesia crept upwards, breathing became abdominal, and on November 18th, thirteen days after the origin of the disease, he died.

Autopsy by Dr. Cutler. Cord: From a short distance below brachial enlargement, the cord had an irregular, lobulated surface. On section just below the cervical enlargement, there was a considerable amount of hemorrhage into the gray substance. The difference of color between the healthy gray substance and that where the hemorrhage occurred was obscured by the hemorrhage, but it seemed to be decidedly less gray. Below, the lateral columns were quite gray,

softened, and in them were some small hemorrhages. The boundary between the gray and white substance was difficult to make out. The cord below was extensively diseased, the most marked changes, however, being in the few inches below the cervical enlargement. Other organs healthy.

CASE II. The next case is one running a protracted course, which began with less decided symptoms and progressed much more slowly, continuing about fifteen months. Though of such long duration, there was no other element by which it would merit the title chronic. The course, excepting a slight remission under treatment, was steadily progressive; apparently the disease extended slowly through the length of the cord, retaining the same character throughout. This case well illustrates the dangers in myelitis from bed-sore, cystitis, etc.

H. S., single woman, aged forty-four, was seen first in March, 1875. She had always worked hard, for the last twenty years as a laundress. She was much on her feet, and they were often wet. The spring previous she had worked more than usual. One day in May she worked until twelve o'clock at night, washed lace curtains, and rinsed them out in very cold water, the hands being very cold. The next morning the left thumb was numb, "sleepy," around the end on the palmar side; she felt feeble, too, and nervous; going up-stairs, she was tired through the thighs. In about a week both hands were numb; three or four months later the legs were affected. She could walk, however, until October, when she noticed that she staggered. There was some fibrillary tremor in legs. In December, the legs drew up and a sharp pain darted through them. There was a sense of constriction about the abdomen, with distress in breathing. The bowels were confined; she had had retention of urine. Motion of arms caused pain through the ribs, not in the back, but motion of the legs caused pain in the back; straightening of the legs caused a dragging sensation in the back; turning in the bed and twisting of the body were painful.

During the visit, the legs were drawn up much; there was hyperesthesia in the hands, but no spasmodic action. Sensation was much impaired in feet; reflex action was exaggerated; there was tenderness over the upper dorsal vertebrae. Most of the muscles of the leg responded to the faradic current. The vasti interni were the only muscles which did not contract.

Under treatment, using galvanization, iodide of potassium, and ergot, she gained somewhat, the spasmodic action and pain or discomfort being much diminished, and she slept much better; but the improvement was only temporary. Two bed-sores were formed, on the right hip and right side of back; there was first incontinence of urine, then inability to pass it. Cystitis appeared, and it became necessary to wash out the bladder daily. The spasmodic action returned for a short time, then contraction of the muscles set in, the adductors being especially contracted, so that it was difficult to separate the legs to use a catheter.

July 28th, there was entire loss of power in arms and hands; the hands were oedematous. The legs were continually and strongly adducted; a very slight touch caused spasm; when the catheter was passed there was spasm of the adductors and flexors of the thighs, and if the catheter touched the walls of the bladder there was the same spasm. There had been involuntary movements of the bowels. The skin had

been several times jaundiced; there was nausea; heat in back; the legs varied, sometimes being hot, sometimes cold. The mind was somewhat affected; memory failed. She died August 2d.

Autopsy two hours after death. There was considerable fat over the whole body. The muscles of the right thigh had a natural color. Under the pleura were small hemorrhages and spots in the lungs, which were more solid and darker colored than the rest; the bronchi contained much mucus. All the other thoracic and abdominal organs were healthy.

Brain: Membranes clear; convulsions rather shrunken; sulci deepened. On the left the anterior parietal convolution was not regular, and near the median fissure was a depressed spot; on the right side, anteriorly, was a depressed spot of less extent in the first frontal convolution.

Cord: Of good consistency; nowhere did it bulge up from the cut surface, not even in the dorsal region, where it was softer than elsewhere. In the upper dorsal region the section was more yellow than elsewhere. The membranes and the vertebrae were healthy. Microscopic examination: In a fresh condition, the upper dorsal region showed a very large number of granular corpuscles, and these were abundant in the walls of the vessels in the adventitia; there were also many oil globules.

CASE III. A young man, Mr. B., was seen in 1873 in consultation with Dr. Davis and Dr. Bowditch. He had been living in the West in a malarial country, but had not had fever and ague. He was employed out-of-doors, exposed to the weather, and was in the habit of crossing the river on the ice during the winter, often going all day with wet feet. He had no heavy work to strain his back. His first symptom was a slight sensation of numbness in his feet, an absence of feeling, and pricking as if they had been asleep. This sensation was in his feet alone at first, but gradually crept up the legs, so as in two months to interfere with walking. He was not very weak, but his feet were clumsy, and he could not lift them from the ground enough to prevent tripping. The numbness reached in patches as high as the hips. There was no pain. Under treatment he improved slowly, and in about six months he considered himself well. He remained well for nearly a year; then, while traveling and living a rather irregular life with regard to eating and sleeping, the numbness reappeared in the right foot and arm, with loss of power, but less pricking, and in two or three weeks he had to give up walking. He was not exposed to cold and wet before the second attack. Within a week of the commencement of these symptoms in the right side the left side was affected. There was more numbness than loss of motion on the left; on the right both sensation and motion were equally affected. In some positions the right leg trembled; there was twitching on the right side, and the right leg was inclined to draw up spasmodically. Just before this second attack he took strychnia, on account of a remnant of old trouble in his left hand.

When seen, about six weeks after the beginning of the second attack, he could hardly move the right leg and foot, the right arm and hand to a limited extent, the left leg and arm much better. The muscles of the right fore-arm required a stronger faradic current than those on the left to excite contraction. All the muscles responded to the current, and there was no wasting. Sensation was much diminished in both legs,—

most in left. On the right two points could be felt as such, when sharp, only at three inches distance; when blunt, only one point felt. On the left, when blunt, only one or none was felt. He had had a sense of a girdle around the abdomen on a level with the crest of the ilium.

Various remedies were used in succession: first ergot, and later iodide of potassium and counter-irritation to the back in various ways. The iodide was given in large doses, lest there might possibly be a specific taint. The disease seemed to be checked for a short time; perhaps there was a slight gain, but later he became worse; some of the cerebral nerves were affected; there were ptosis on the right, partial paralysis of the facial muscles on that side, and tinnitus. The faradic reaction of the muscles was good in both legs in August. A letter was received from him in March, 1874. Subsequently he died, but the record of the date has not been kept. There was no autopsy.

In this case there was some suspicion that syphilis might have acted as an agent in producing the disease, but the evidence on that point was not clear. The case is chiefly interesting from the almost complete recovery and the appearance of the symptoms again after a less amount of exposure and overwork. The fact that strychnia was given immediately before the relapse is a circumstance deserving of special notice. I have seen bad effects following the use of strychnia in other cases of disease of the spinal cord; indeed, there are very few cases of organic nervous disease where I should feel justified in giving it.

(To be concluded.)

Recent Literature.

Elements of Modern Chemistry. By ADOLPHE WURTZ, Member of the Institute, etc. Translated and edited from the Fourth French Edition, by W. H. GREENE, M. D., etc. With one hundred and thirty-two Illustrations. Philadelphia: J. B. Lippincott & Co. 1879.

Of the numerous text-books on General Chemistry, but very few, unfortunately, are well adapted to the needs of the student. A new book on this subject, therefore, if a good one, is not out of place. This book by Wurtz is to be commended on many accounts. A relatively large part of the book is devoted to the non-metallic elements, as is proper. Theoretical chemistry (a part of the subject generally too much neglected in text-books) has received its proper share of attention. The laws of chemical combination, Gay-Lussac's laws, the law of specific heats, etc., and their relations to the atomic theory; chemical nomenclature and notation; the theory of atomicity; the different classes of chemical compounds, and, in connection therewith, the laws of Berthollet, are all treated of at some length.

Considerable space is devoted to organic chemistry. From the vast number of organic compounds a very careful selection has been made of the more important. There are also short but valuable chapters on the constitution of the carbon compounds, elementary analysis, and the various classes of organic compounds. The symbols are generally written so as to indicate, as far as is known, the constitution of the various compounds. The book is well illustrated, and the illustrations cannot fail to be of value to the student.

In these respects, as well as in others, the book is

superior to nearly all other text-books in elementary chemistry, and we can recommend it. The translator and publishers have done their part of the work well.

Photographic Illustrations of Skin Diseases. By GEORGE H. FOX, A. M., M. D. Part V. and VI. Containing plates of eczema infantile, papulosum, ichorosum and pustulosum, squamosum; and eczema barbae, manuum, e. venis varicosis and ulcus varicosum; psoriasis annulata. New York: E. B. Treat.

The photographs in these parts, as will be seen, make up a nearly complete gallery of the various stages and clinical varieties of eczema, and the accompanying text forms a small practical treatise on the affection. The latter is excellent, and we wish that we could say the same of the illustrations; but they are a disappointment, measured by the high standard of expectation warranted by the first of the series. The plates in Part V. are with one exception poor and of little service to the student, the scale of the pictures being so small as to show little more than the configuration and extent of the disease. In Part VI. they are better, but one only can be considered perfectly satisfactory, — that of eczema manuum.

The Structure and other Characteristics of Colored Blood-Corpuscles. By LOUIS ELSBERG. Printed from the Annals of the New York Academy of Sciences. New York: G. P. Putnam's Sons. 1879.

We are glad that the author of this paper has seen fit to have it reprinted. We hope it may be widely read by both physicians and students. The original investigations of the author are very good; and as a record of the very extensive literature of the subject the work is invaluable. The method of examination consists in mixing a drop of blood with a drop of a forty per cent. or fifty per cent. saturated solution of bichromate of potash, taking measures to prevent evaporation, and examining it with a high power for a considerable time. Some very curious changes are observed, for an account of which we refer the reader to the work. Then follows a concise statement of the views of others on various points, and finally we have the author's conclusions. He does not regard the colored blood corpuscle as a cell, properly speaking, but simply as "an unattached portion of the living matter (bioplasm) of the body." It seems to us that this is hardly in accordance with the similarity of structure of the corpuscles. Dr. Elsberg admits the existence of a net-work extending throughout the corpuscle. He does not believe in a "separate investing membrane," but thinks that the outermost layer, though essentially the same as the inner substance, may "be differentiated from the latter, especially at the periphery of the disk."

"In size, human colored blood corpuscles vary so much that claims to be able to distinguish them by their size from certain other mammalian colored corpuscles are inadmissible."

T. D.

—The *North American Review* for January and February contains among other valuable and timely articles a particularly good summing up of the woman question, by Mr. Parkman, and a striking contribution from Cardinal Manning, on the Catholic Church and Modern Society.

Medical and Surgical Journal.

THURSDAY, FEBRUARY 12, 1880.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly by HOUGHTON, OSGOOD AND COMPANY, Boston. Price, 15 cents a number: \$5.00 a year, including postage.

All communications for the Editors, and all books for review, should be addressed to the Editors of the Boston Medical and Surgical Journal.

Remittances by mail should be sent by money-order, draft, or registered letter to HOUGHTON, OSGOOD AND COMPANY, BOSTON, MASS.

ETHICS AND WOMEN.

THE meeting of the councilors of the Massachusetts Medical Society, held last week, is worthy of notice as being an occasion of the presentation of two subjects of general interest to the profession. The first of these was the selection of a code of ethics, the preparation of which has for the last two or three years been in the hands of a committee carefully selected from leading members of the society. The greatest pains had been taken in its preparation, for which the society is chiefly indebted to the indefatigable and public-spirited labors of Dr. Cotting, to whom thanks are due for the very elaborate and carefully prepared document presented. During the preparation of this report, a feeling of opposition had arisen against so detailed a statement of rules for professional guidance; many indeed preferred to leave the society, as it had been for a century, without a code, and this feeling had found expression in a minority report, which was prepared by the skillful hand of Dr. Bigelow, and embraced a very condensed set of rules for the guidance of the novice in such cases when reasonable doubts might arise as to what should be the most appropriate line of conduct. After a very spirited debate, Dr. Bigelow's code was finally adopted, and we must take this opportunity to congratulate the society, if it must have a code, on the possession of a document of such a high order of literary merit, and, above all, one which shows how briefly such matters can be disposed of.

It may interest those who begin to believe that professional Boston bids fair to be conquered by the female practitioners that the council reconsidered its action by which it voted to admit women to the society, and that the question stands at the present moment precisely as it did before any action was taken. The grounds for reconsideration rested, to be sure, upon a legal point raised by one of the boards of censors, it being thought questionable whether the council could make such a law without concurrent action of the society. The matter will be brought up again at the annual meeting. In the mean time we shall hope for a change of sentiment, of which we have already seen some slight indications, or, at least, for a much more thorough debate than has yet been had upon one of the most important steps the society has ever contemplated.

— The existence of a pair of twins, eight months of age, in good health, and united from the breast bone to the lower portion of the abdomen, is reported from Bombay.

ANNUAL REPORT OF THE MARINE HOSPITAL SERVICE.

THE supervising surgeon-general of the marine hospital service has presented to the treasury department his annual report for the fiscal year ending June 30, 1879. No report was published for the year 1878, and this consequently covers the two years 1878 and 1879. It contains full and valuable tables of statistics, financial and economic, medical and surgical, and an appendix, with some interesting papers and reports by officers in the service.

During the year 20,922 seamen were furnished relief by the marine hospital service. Of this number, 11,499 were treated as hospital patients, and 9243 as dispensary patients; 331,269 days' relief were furnished, and 14,265 prescriptions were supplied to outpatients. The number of patients treated shows an increase over the year 1878 of 2699, and of 4114 over any year previous to 1878. The cost per capita was \$17.93, which shows a reduction in the cost per capita from the year 1878 of \$2.11, and gives a continuous reduction in the cost per capita since the reorganization of the service in 1870, when the cost was \$38.41. The expenditure covers all items of expenses on account of the service. The expenditures from the funds of the service for repairs were for the year 1878 \$8140.01; for the year 1879, \$5051.70.

Surgeon-General Hamilton again recommends the enactment of a law for the compulsory physical examination of seamen before shipment, as tending to the relief of the marine hospital service, and especially to the greater efficiency of the mercantile marine. In support of such a law, he advises that a severe penalty be visited upon all persons convicted of paying or receiving "blood money,"¹ which would relieve sailors of an onerous tax, and take away the incentive to the opposition now shown by the takers of "blood money." Some permanent provision is suggested for seamen worn out in service or disabled by casualty. At present they must either be retained in hospital, or discharged to become inmates of an almshouse. New pavilion hospitals are needed at Baltimore and New Orleans, and cottage hospitals at various points. The decreased per capita cost of the care and treatment of the patients of the service is thought to be owing in great measure to the system of dispensary relief inaugurated by the late Surgeon-General Woodworth, and to the establishment of the purveying depot for furnishing medical supplies in place of the old contract system.

The appendix contains several papers prepared for the annual report of 1878. The first of these is a sketch of the service and a consolidated sick report for the twenty years ended June 30, 1878, at the port of Boston, by then Surgeon J. B. Hamilton. It is an interesting and valuable contribution. There follow several reports on local epidemics of yellow fever at different points in the summer of 1878. The last paper gives notes from the cruise of the U. S. revenue steamer *Rush* in Alaskan waters, extracted

¹ Money extorted from seamen by sailors' boarding-house keepers, and paid to disreputable ship-masters and owners for the privilege of filling their crew-lists.

from the report of Assistant Surgeon Robert White. This expedition sailed from San Francisco in May, 1879, and Surgeon White was detailed as medical officer. Those of our readers into whose hands these notes may come will find them of much interest.

The report in general indicates a very creditable state of efficiency of the marine hospital service, which indeed has been constantly improving since its reorganization in 1870.

MEDICAL NOTES.

— At the present time 165 nurses are registered at the Nurse Bureau in the Medical Library Association building. During the first month of its existence the bureau supplied nurses in the ratio of one and a half per diem.

— Dr. William Budd, of London, the distinguished physician and writer, is dead.

— From the fifth annual report of the Salem Hospital we learn that the number of in-patients admitted during the year was 138, a great increase over that of any preceding year. Thirteen of these were children. The number of out-patients treated in the several departments was 1597. There have been four amputations and two re-amputations of the leg, and three of the arm, in which recovery ensued. Five patients died on the operating table from shock after undergoing amputations for injuries caused by railroad accidents. The results of other grave operations have on the whole been satisfactory. Ether has been administered in the hospital to 225 patients in all. The average number of days spent in the hospital by paying patients was 20+, and by free patients 22+. The cost of each patient per week was \$12.20. The average number of patients in the wards during the year was eight. Board was furnished 433 weeks, of which 346 were free. The hospital staff is composed as follows: Consulting physician, George A. Perkins, M. D. Attending physicians, David Choate, M. D., William Neilson, M. D., A. H. Johnson, M. D., J. P. Fessenden, M. D. Attending surgeons, William Mack, M. D., Arthur Kemble, M. D., Octavius B. Shreve, M. D., Charles A. Carlton, M. D. Ophthalmic surgeon and superintendent, David Coggin, M. D. Physician to out-patients, Thomas Kittredge, M. D. Surgeon to out-patients, T. L. Perkins, M. D. Dental surgeon, Jesse Robbins, D. M. D.

— With regard to Dr. Edes's paper on *The Relation of Drug Manufacturers to the Progress of Therapeutics*, published in the *JOURNAL*, January 15th, the *American Journal of Pharmacy* says: "The paper seems to be aimed on the one hand against the introduction of new remedies without careful chemical and physiological study, and on the other hand against the multiplication of compound medicines, frequently containing ingredients which no intelligent physician would prescribe together, or which may suit a particular case without being adapted to general application. Dr. Edes says: 'When the pharmacist informs us of active principles, or gives us preparations honestly representing a drug, he does good service, but

when he tells us why they act or when they should be used he is going beyond his province.' This is quite correct; but we wish to remind Dr. Edes that the aim and the practice of the various pharmaceutical colleges and associations is, in part, exactly that which he points out in the first part of the sentence quoted, while the condition depicted in the latter half has been brought about, not by the hoodwinking of the pharmaceutical profession, but through the easy-going credulity of the medical profession and press. Medical journals frequently extol preparations of the composition and mode of manufacture of which neither the writers of such articles nor the editors of the journals can have the remotest idea. The dispensing pharmacist is compelled to procure what the physician orders, even though, as Dr. Bolles stated before the society, he may have three or four good manufactures of extract of malt on his shelves, and be obliged to get a fifth kind, 'because it is put up in such pretty bottles.' The physician creates the demand, and in very many cases the pharmacist cannot supply it, but has to fall back upon the manufacturers. Of course it is to the latter's interest — and this is perfectly legitimate — to respond to the demand, and, if possible, to increase it. We do not blame them, as long as they can find credulous doctors to prescribe their inventions, to get up new ones whenever a bright idea, with the probability of money in it, dawns upon them; but we do not regard this as legitimate pharmacy, even though such preparations be indorsed or prescribed by professors in medical colleges. Dr. Bolles was correct in stating that physicians were more to be censured in this matter than the manufacturers or their agents, — and most decidedly more than the pharmacist, who has to gratify such whims, not unfrequently to his loss. Let the physician confine himself as much as possible to pharmacopœial preparations, and let him, as Dr. Bolles suggested, 'hold the pharmacists personally responsible for the quality of their medicines, not directing them to get this or that manufacturer's ordinary preparations, nor allowing them to shield themselves behind the names of any wholesale makers, however famous.' Not until then will the evil of which Dr. Edes complains be eradicated."

— The *Chicago Medical Journal and Examiner* gives the following interesting data of the origin of plants: "Cabbage grew wild in Siberia; buckwheat originated in Siberia; celery originated in Germany; the potato is a native of Peru; the onion originated in Egypt; tobacco is a native of South America; millet was first discovered in India; the nettle is a native of Europe; the citron is a native of Asia; oats originated in North Africa; rye came originally from Siberia; parsley was first discovered in Sardinia; the parsnip is a native of Arabia; the sun-flower was brought from Peru; spinach was first cultivated in Arabia; the pear and apple are from Europe; the horse-chestnut is a native of Thibet; the quince came from the Island of Crete; the radish is a native of China and Japan; the pear is supposed to be of Egyptian origin; the horse-radish came from the south of Europe."

—The outbreak of small-pox in the District of Columbia is interesting from the difficulty of assigning a cause through contagion to the initial case, and, moreover, to several of the succeeding cases. November 28, 1879, occurred the first case, of a colored man in the last stages of consumption, and at that date a six weeks' resident of the Providence Hospital. The case was properly isolated at once in the Small-Pox Hospital, with due means taken to prevent the spread of the disease, and death took place December 6th, the disease being of the confluent type. December 18, 1879, a second case was in the jail,—in a colored boy, eight months a prisoner. Again the authorities were unable to trace the source of contagion, the jail being an entirely new structure. Both the hospital and jail are in what is termed the southeastern section of the city, and since that date to January 22, 1880, fifty-seven cases have occurred, with ten deaths; the health report for the week January 10th to 17th gave twenty new cases, of which two were confluent. These cases are no longer confined to the colored race, as thirteen of the last were among the whites. With the exception of a very few isolated cases, the most of these have been confined to the southeastern section of the city. The record from January 18th to 22d shows a decided decrease in the fact that only seven new cases have developed.

As a consequence, vaccination and revaccination are being pushed vigorously, and the assistants to the health office performing that duty have their hands full constantly. The virus used is that of the New England Company, and its success is a matter of congratulation.

—The *Pacific Medical and Surgical Journal* says: "The new regulations of the United States Marine Hospital Service require that the metric system shall be used exclusively for all official medical, and pharmaceutical purposes, and that the Centigrade scale *only* shall be used for recording thermometrical observations. Under this rule the thermometrical observations will lose much of their value, as they will not accord in form with observations made outside of the service. The great value of meteorological observations is in comparison. The mass of our present records stands in the scale of Fahrenheit, and those of the Centigrade will be useless for comparison until one shall be converted into the other. Whether scientists will be disposed to perform the arithmetical drudgery of such conversion is doubtful. Had all nations begun with the Centigrade the result would have been grand. But Fahrenheit and Réaumur still maintain their ground in countries which gave them birth, and a whole century has not enabled the Centigrade, though confessedly preferable in itself, to thrust them away. It is somewhat inconsistent to permit the inch scale to be used in barometrical records. Not a word is said of it in the new rules. Perhaps it was an oversight not to require the metric system to be applied to the barometer also. We are more and more confirmed in the opinion expressed by us some time ago, that the hasty endeavor to push this system into medicine and science will give rise to much error and confusion.

The movement is revolutionary, and will not be accomplished at a blow. Its rapid advance in some quarters depends more on fashion than reason. We observe that a state medical society resolved on its adoption because it 'could not afford to lag behind the age.' What kind of an argument was that?"

For the sake of uniformity in medical literature it is advisable that the scale which is in most general use — the Centigrade of Celsius — be adopted universally. But, as our contemporary observes, so long as the meteorological and other records of the United States government are kept in the Fahrenheit scale, practical convenience may be of more importance than theoretical simplicity. In many American and British scientific books, however, the Centigrade scale is used. The general adoption of new methods is difficult unless old ones are authoritatively discarded. This involves the overcoming of prejudice and habit, the great drawbacks in the way of the metric system as applied to medical prescribing, but the proverbial ardor of reformers will, we hope, eventually enable "the tail to wag the dog." It may not be amiss again to mention the mode of computing the Centigrade scale in Fahrenheit degrees. The principle of the Celsius thermometer is to divide the space between the freezing point, zero (32° F.), and the boiling point (212° F.) into one hundred degrees. In Réaumur's thermometer, which is used in Russia, Sweden, and parts of Germany, the same space is divided into eighty degrees only. Therefore 180° F. are equal to 100° C. Each Centigrade degree is equal to 1.8° F. One degree F. represents $\frac{5}{9}^{\circ}$ C., or $\frac{4}{9}^{\circ}$ R. To convert Centigrade into Fahrenheit, multiply by 9, divide by 5, and add 32 ; Fahrenheit into Centigrade, deduct 32 , multiply by 5, and divide by 9. These computations, however, are inconvenient and confusing, and it is of practical service, clinically, to remember that the normal point, 98.6° F., corresponds with 37° C., and that 104° F. and 40° C. (32° R.) are also equivalents.

—In Great Britain it is commonly supposed that Dr. A. P. Stewart, of London, was the original discoverer and demonstrator of the difference between typhus and typhoid fevers. The fact is that, although Stewart was prosecuting his studies on this subject simultaneously with Shattuck of Boston and Gerhard and Pennock of Philadelphia, the two last named gentlemen published their views in 1837, in the *American Journal of the Medical Sciences*, while Stewart first presented his conclusions in a paper read before a medical society in 1840.

—Of the use of sponging with cool water in measles, Dr. Cobleigh, in the *Atlanta Medical and Surgical Journal*, says: "If physicians who are afraid of cold in measles will only try it once they will lose all fear of the method; will be happily disappointed at the prompt recovery of their patients; will find their sufferings not only mitigated, but actually shortened as well, though I do not claim abortive powers for the antipyretic plan of therapeutics; and will meet fewer troublesome complications and almost no pathological after-conditions." From experience we can endorse this excellent advice.

PROVIDENCE.

—A series of lectures has recently been inaugurated in this city upon hygienic and sanitary topics, for the benefit of women of the poorer classes. A small admission fee is charged to those whose circumstances warrant it, but tickets are distributed gratuitously to those who cannot pay. Last Thursday, Dr. Mary Safford Blake, of Boston, addressed a good-sized audience upon Sunlight, Ventilation, and Drainage. The next lecture will be delivered by Dr. Anita E. Tyng, of this city, a member of the Rhode Island Medical Society, upon the general outlines of anatomy and physiology. The only obstacle in the way of the accomplishment of all the good anticipated from this course of lectures is the difficulty in securing the attendance of that class of persons who will be most benefited by them. The same indifference in regard to such matters which renders it important that they should be instructed makes them unwilling to avail themselves of the means of instruction thus placed within their reach.

—Dr. E. M. Snow, the efficient superintendent of Health of this city, has recently been appointed supervisor of the census for the State of Rhode Island. This appointment gives universal satisfaction throughout the State, since it is made solely upon the merits of the appointee, and not from any political considerations. It may be confidently predicted that in such hands the work will be done with that thoroughness and accuracy which invariably characterize Dr. Snow's labors.

NEW YORK.

—The New York Neurological Society has had printed and very largely circulated its "answer" to the report of the state senate committee on public health relative to lunatic asylums, together with an appendix containing a large number of letters and affidavits from various individuals, and extracts from medical journals in reference to the subject.

—State Senator W. W. Astor has introduced a new bill regulating the sale of poisons, among the provisions of which are that druggists shall be required to record every such sale, and that the bottle, box, or vessel containing the poisonous substance must possess some distinctive peculiarity by which it can be distinguished during the day by its appearance and at night by its touch.

—Measles still continue to be epidemic. The anticipation that there would be a smaller number of cases in January than in December, which was founded on the temporary abatement of the disease in the early part of the month, has not been realized, as it soon increased again, so that the number of reported cases reached the large figure of 337 in the week ending January 24th. Instead of there being fewer cases, therefore, in January, there were a larger number, more than eleven hundred being reported, against 974 in December. During the week ending January 31st, however, there were 110 fewer cases reported than in the week preceding (when the maximum for the month was reached), and the number of deaths was also much smaller. From the 1st of January to the 1st of June, 1879, the deaths in

the city resulting from measles were 38, while the deaths from the disease in the first four weeks of January, 1880, alone amounted to 84. The largest number of deaths from measles ever reported in a single year was 526, which occurred in 1869, but the largest number of cases in any one year was in that just completed, namely, 2424. Dr. E. H. Jones, the assistant sanitary superintendent, states that one cause why the number of cases now appears so large is that physicians are much more careful in reporting cases than formerly. An epidemic of measles is not to be wondered at, as it is some time since it has been generally prevalent, and there are plenty of young children in the city who have never had it to furnish material for the disease. As a rule, it is not especially dreaded by parents, and instead of taking precautions against its spread it is a very common thing, if one child in a household is attacked, to put all the other children in the same room, as it is thought to be useless to attempt to escape the inevitable, and the sooner the siege is gone through with the better. The health authorities are in all cases ready to destroy the germs of the contagion by fumigation, etc., but families frequently refuse to allow the sick-rooms to be disinfected.

PHILADELPHIA.

—Dr. Charles J. Stillé, provost of the University of Pennsylvania, and "John Welsh centennial professor of history and English literature," has resigned these positions, the resignation to take place at the close of the present college year, which occurs during the summer. This announcement is very much regretted by the friends of the institution, and strong efforts are making to induce him to alter his determination.

—Prof. William Goodell had eight ovariotomy operations last year, with only one death.

—At the Pennsylvania Hospital, Professor Da Costa recently presented to the class a case of exophthalmic goitre in a well-nourished young man, in whom it was associated with cardiac hypertrophy. Rest in bed, the administration of veratrum viride (fluid extract, one drop every three hours), and the local application of an ice-bag frequently during the day caused an immediate amelioration of the dyspnoea and speedy reduction in the size of the gland. The diet also was reduced to milk and eggs, and all stimulants were excluded.

Digestion.

DR. BUMSTEAD'S NEW DEPARTURE ON THE CHANCROID.

BY F. B. GREENOUGH, M. D.

It is to be regretted that at the present time, when the great majority of eminent syphilographers have, after years of argument, discussion, or we might almost say fighting, settled down to the acceptance of certain clean-cut and well-defined ideas on the subject, a new theory should be advanced (unless it is

sustained by evidence of the most positive nature), with all the prestige and weight which the well-won reputation of our lamented colleague Dr. Bumstead's name gives to it, which, if accepted, shows that we have been all wrong from the start.

Strictly speaking, however, the theory referred to can hardly be called new, as it was first promulgated in a paper read by Dr. Bumstead in 1876 before the section on Dermatology and Syphilology, during the session of the International Medical Congress at Philadelphia. At that time the conclusions which Dr. Bumstead drew were not indorsed by the section, or rather, to be strictly accurate, a substitution was made for the most important one of them, which practically nullified the main point at issue, and as far as I know the subject has not been taken up by subsequent observers. Now that he has incorporated it, though greatly modified, in the new edition of his most valuable work on venereal diseases, which from its great excellence is so generally used as a text-book for students and for the purpose of reference by the general practitioner, it does seem that it should not be allowed to pass without a protest, ungracious as it may appear so soon after the loss the profession has sustained by his death.

The chancreoid, soft chancre, or local venereal ulcer as at present understood is a pathological entity possessing certain marked and constant characteristics which distinguish it from the indurated chancre, and all other forms of ulceration or lesions of continuity of the cutis or mucous membranes.

First and foremost of these characteristics is the fact that it is always the result of the absorption or inoculation of the secretion of a chancreoid, and it has the property of being able to reproduce a chancreoid in its turn, by means of the specific virus contained in its secretion. Then its course, appearance, and duration are different from other forms of ulceration, and remarkably uniform. Starting as a pustule at the point of absorption, it soon increases to a fair-sized ulcer, the edges and base of which are characteristic, namely, the former sharply cut, as if done with a punch, and the latter covered with a yellowish-gray pulsatous deposit which cannot be wiped off, and which is entirely different from a slough or any other appearance seen in ulcerations. It might perhaps be compared to what we see on a granulating surface at the very commencement of an attack of hospital gangrene. Unless hastened by proper treatment the duration of a chancreoid is from four to six weeks or more, and on its duration the general health or recuperative power of the patient does not seem to have any influence, excepting of course those cases of very debilitated individuals where the phagedenic action sets in.

Another point of individuality is the fact that in quite a large proportion of cases of chancreoid the nearest lymphatic gland is affected, either by simple inflammatory action which we call, *faute de mieux*, sympathetic, — and this, by the way, may be out of all proportion to the amount of inflammation or irritation of the sore itself, — or by the actual passage of the virus of the sore along the lymphatic vessels until arrested in a gland, where it sets up inflammation of necessity resulting in suppuration, the pus so formed possessing the properties of the parent chancreoid, namely, the power of reproducing other chancreoids.

Even from this very imperfect sketch it must be evident that in the chancreoid we have a typical individuality which differs in many well-marked respects from the indurated chancre or primary syphilitic lesion, or other forms of ulceration.

The conclusions which Dr. Bumstead drew from the paper read by him before the Medical Congress in 1876 were as follows:¹ —

I. "The virus of venereal sores is dual."

II. "Some venereal sores are due to the inoculation of the syphilitic virus."

III. "Other venereal sores are due to the products of simple inflammation."

IV. "These two poisons may be inoculated simultaneously."

It will be seen that this is a pretty radical stroke at the existing accepted ideas on venereal disease. According to it every venereal sore is either the result of syphilitic infection, that is to say, a primary syphilitic lesion, or the result of the products of simple inflammation. The chancreoid is wiped out, and does not exist. The data from which these conclusions were deduced are: (1) several observations from experimental inoculation by well-known observers, which show that a pustule can be produced by the inoculation of pus, and (2) to this the greatest importance is given, from the report of a series of inoculations made by Dr. E. Wigglesworth on himself during the year 1867-68, while finishing his medical education at Vienna. The object of this experiment was, to use Dr. Wigglesworth's words as quoted by Dr. Bumstead, to show that "*pus, pure and simple, might be the cause of the chancreoid.*" Dr. Wigglesworth inoculated with pus obtained from a pustule of acne on his arm, and obtained pustules, the pus of which he again inoculated with the same result, and carried the experiment one step farther successfully. The method of inoculation was by "pricking open the apertures of hair follicles and then rubbing the pus into them." The conclusion which he drew from these experiments was "that pus-products of inflammatory action, if properly introduced into the human integument, may cause local ulcers closely resembling chancreoids, and reinoculable in generations."

The discussion on Dr. Bumstead's paper was a most interesting one, and I regret that the limits of an article of this nature will not allow its reproduction, more especially the remarks made by Dr. E. L. Keyes. Dr. R. W. Taylor was the only delegate who indorsed Dr. Bumstead's conclusions, and he quoted two cases of his own as corroborating the inferences, which I will refer to later. In the introductory chapter on the History of Venereal Diseases in the new edition of Dr. Bumstead's work, which has recently come out, he says,² "The conclusions at which we have arrived may be summed up as follows: —

"I. The chancreoid is entirely distinct from syphilis.

"II. The chancreoid, however, does not depend upon a specific virus of its own, incapable of being generated *de novo*.

"III. The chancreoid in most cases met in practice is derived from a chancreoid, but it may arise, especially in persons debilitated by any cause, from inoculation of the products of inflammation, either sim-

¹ Transactions of the International Medical Congress, Philadelphia, 1877, page 714.

² Page 81.

ple or syphilitic, and subsequently perpetuate itself from one individual to another as a chancreoid."

I omit his fourth conclusion as to the mixed chancre, as it has no interest in this connection. On page 339 he says, "That it [the chancreoid] possesses a contagious element or poison is unquestionable, but we believe this poison, under certain conditions, and especially where the products of simple inflammation have undergone decomposition and are inoculated on persons in a debilitated state, *is capable* of being generated *de novo*, and may then be transmitted to other individuals. That such an occurrence is *frequent* in sexual intercourse we do not claim, and we expect to find a chancreoid in that person of the opposite sex with whom a patient applying to us with a chancreoid has had intercourse; but that it may and does take place, however rarely, the experiments above detailed appear to leave no doubt." It will be at once seen that this is a very different statement from that made in his paper, in 1876. There the chancreoid was ignored; all venereal sores were either syphilitic or the results of inflammatory pus. Now the chancreoid is accepted, described, and referred to almost exactly as in his previous editions, only he claims that it *may*, though rarely, be produced by any purulent inflammatory secretion.

The data from which he draws this conclusion in the new edition of his book are exactly the same as were mentioned in his paper, especial prominence being given again to the experiments of Dr. Wigglesworth, and in addition a case is reported by his collaborator, Dr. R. W. Taylor. What do Dr. Wigglesworth's observations amount to? — that by the inoculation of pus he produced a pustule? That pus corpuscles introduced into the cutis will cause suppuration is certainly nothing new; so will grains of sand, chips of steel, slivers of wood, or any other foreign substance, the resulting pustule being simply nature's process of expelling the offending source of irritation. In the case of pus corpuscles there are undoubtedly other factors for starting the suppurative action in the cutaneous tissues, beyond the mere presence of the pus corpuscles as foreign bodies. These are the possible carrying out of the function of the pus corpuscles, when introduced into living tissues, of multiplying themselves by proliferation, and the special irritant, septic, or chemical character belonging to pus as such. But whatever the causes may be, the fact that by the inoculation of pus into the cutis pustules may be produced is established by the experiments of many observers. A pustule of course is, when the epithelium covering is destroyed, an ulceration, but that this ulceration is a chancreoid is an assumption pure and simple. We have no history of the characteristic appearance of the chancreoid, nor of its course, nor of the peculiar accompanying glandular reaction. All that is stated is that pus inoculated has produced a pustule, and that is a fact which any one who ever experimented with the lancet must be aware of; only if he has been an intelligent experimenter he will have learned to recognize (after a certain lapse of time, perhaps) whether this pustule is the result of chancreoid pus, or of "simple inflammatory product."

It must be remembered that the history of the chancreoid, as we understand it, has been carved out, so to speak, by the point of the inoculating lancet in the hands of such men as Ricord, Diday, Rollet, Henry Lee, etc. They found that pus from a cer-

tain kind of ulcer called forth certain specific results which other pus did not. Now, to claim on the strength of one experiment by one observer that they were all wrong, and that any pus will produce these results, is certainly illogical, to put it in the mildest form. The observation of a single individual, not corroborated by others, must in science always be taken with caution. The temptation to see things as we want to see them, especially when the observer is young and enthusiastic, and is experimenting with the hope of getting certain results, cannot always be controlled.

Is it not strange that, nearly four years having elapsed since Dr. Bumstead first advanced the idea that the chancreoid might be the result of simple inflammatory product, neither he nor Dr. Wigglesworth, on whose observations he founds his theory, have any further corroborating experiments to bring forward, though they both of them, from their connection with hospitals and dispensaries, have had exceptional facilities for pursuing such investigations?

If the inoculation of inflammatory product may create chancreoids, why is it that out of the millions of cases of vaccination we have no record of chancreoids on the arm? Even admitting that pus on the point of the lancet may produce a sore which resembles the chancreoid, it does not by any means follow that such could be the result of contact with the same pus in sexual intercourse. Ward tenders, surgeons, medical students, nurses, etc., are constantly brought in contact with pus of all kinds; they do at times get angry, irritated ulcerations as a result, but nothing that is like a chancreoid, unless they come in contact with chancreoid pus. I am perfectly aware that negative evidence proves nothing, but nevertheless, having observed nearly fourteen thousand cases of skin and venereal disease at the Boston Dispensary, of which nearly fifty per cent. were venereal, besides a very fair number in private practice, and never having once had the generation *de novo* of a chancreoid suggested to me, these facts certainly would justify me in feeling that such an occurrence must be of great rarity at least. But it is with no idea of attempting to *disprove* the point at issue that I have taken pen in hand. The arguments that could be brought against it are so numerous and various that merely to refer to them all would swell this paper far beyond the limits of space for which I should feel justified in taxing the courtesy of the editors, especially on a subject which is not, perhaps, of much general interest. In such a question as this the burden of proof evidently is with the side that combats established facts, and all that I have felt called upon to show is that such proof is lacking.

Dr. Taylor's case is a very interesting one, and at first sight it does seem to show that a chancreoid can be generated *de novo*. He reports the case of a man who contracted gonorrhœa; during the acute stage he had a crop of herpetic vesicles on the prepuce; these vesicles, from the influence of the *gonorrhœal* pus, turned into chancreoids. The man got drunk, had connection with his wife, and infected her with chancreoids. He was, by the bye, syphilitic, having at the time a papular secondary eruption. It seems to me that it is perfectly fair, before accepting an observation as disproving what is generally recognized as an established truth, to require that it should not be capable of explanation in accordance with the

truth it is expected to confute. Now in this case all we have to suppose is that there may have been a urethral chancre, the secretion of which inoculated the herpetic vesicles; or that the wife had been untrue to her husband, as it is admitted that she was afterwards, had contracted chancroids, and had given them to him, instead of having been infected by him. Or even on general principles it might be urged that in a case of that sort, where a man had syphilis and gonorrhoea, got drunk, and had connection with his wife, who afterwards acquired syphilis from a third party, the morale of the patients was such that any history as to exposure or non-exposure was not to be relied on; especially when it conflicted with truths that had been worked out by years of patient and persistent industry by the best investigators in medical science.

It may seem that this is a matter of very small importance, but it is not. The more we investigate the subject of venereal disease, the more we are impressed with the wonderful constancy of the fundamental laws which nature or disease follows, and to claim that these laws may at rare intervals be entirely upset, and that the same results may be produced by entirely different causes, is striking at the foundation stone of the structure of medical science, and introduces an element of doubt and accident where, by slow and gradual steps, we are hoping to show a logical connection between cause and effect. That the data from which the conclusions are deduced are insufficient I have endeavored to show, and it certainly seems that until further corroborative testimony is advanced we should continue to regard the chancre as an existing fact, not to be confuted with irritated herpetic vesicles, inflamed follicles, or the sores resulting from the pricking of hair follicles with or without the subsequent application of pus. Certainly from the amount of evidence up to the present time advanced we can hardly consider the reference to this pathological fact as the "so called chancre," made in "E. W.'s" review of Bumstead in the *JOURNAL* of the 22d of January, as a justifiable one.

I cannot conclude without referring to the very great excellence of the result of Drs. Bumstead and Taylor's labors, as shown in the last edition of the former's treatise on venereal diseases. It is one of the best works on the general subject that has appeared in any language, and will undoubtedly meet with even more success than its preceding editions in being translated for the benefit of foreign science. Its great merit lies in its usefulness as the means of instruction or for the purpose of reference, the fundamental truths being stated in a clear and concise manner, and the exploded theories (of which, alas, there are only too many) being referred to sufficiently to give the student a very clear idea of the important controversies that have been settled and laid upon the shelf, without confusing his mind with a mass of contradictory testimony, only to be grasped in order to be confuted. It is this very excellence as a text-book that has led me to protest against what seems to me a flaw in the otherwise perfect brilliancy of the work. I believe that Dr. Bumstead's accepting the theory in question is due to two marked mental characteristics, estimable and much to be envied in themselves, but liable to cause the possessor of them to go a little further than is justified by facts. Unless I am much mistaken, Dr. Bumstead's mind, without being radical, was progressive to such an extent that anything that

looked like a new truth was *a priori* regarded with favor. Also, I believe that his desire to give other investigators their full due led him to accept their conclusions, taking for granted that the same amount of careful, cautious, and unbiased investigation had been used in deducing them as would have been the case if he himself had been the investigator. That I am not mistaken in this is, I think, shown by the position he has taken on the subject of syphilization. It happened to be my good fortune to be in New York at or shortly after the time that Professor Boeck, of Christiania, was there, and to visit the venereal wards at Blackwell's Island with Dr. Bumstead. He had allowed Professor Boeck to carry on and superintend a series of very complete experiments there, and although to his logical mind the claims of the advocates of syphilization were unfounded, the enthusiasm of that eminent though mistaken investigator impressed him to such an extent that in his edition previous to the present one (1870) he devoted a chapter of sixteen pages to the subject, in which, while not in any way indorsing the doctrines of that school, he still left it rather an open question as to whether there might not be something in the matter worthy of further investigation. In the present edition the subject is dismissed as an illogical absurdity, in the space of half a page, and such, I am convinced, would have been the fate of the theory that a chancre might be generated by any inflammatory product, had been spared for a few more years to medical science.

THE FUTURE OF WOMAN.

MR. EDITOR.—For some time I have read the journal published under your management, and truth compels me to add with very little profit. My aspirations are towards the rose-colored future; but with an iron chain you would fetter me to the cold, dreary past. Still I am not hopeless. There is a light in the East. See what was said to-day at the meeting of our noble Massachusetts Woman Suffrage Association! See, too, who said it! A young gentleman from Harvard College. I do not ask you to trust me; here it is in to-day's *Transcript*:—

"Mr. Burton M. Firman, a young gentleman from Harvard College, thought that the generation that was growing up would largely favor the movement; he knew many young men who were ready to urge the measure, and who would vote for it if the chance were ever given them. It was absurd to say that the natural condition of woman was against it. How did any one know what was her natural condition? She was now what generations of repression and false teaching had made her. He had no doubt that in looking back to this time future generations would wonder that society could have had such narrow views as to deprive woman of what was her right."

What originality of thought! What vigor of expression! Happy will be the day when he and those other young men shall study medicine and begin by reforming their future profession. Who knows, Mr. Editor, but that we shall be there too? Then, instead of dry facts, our society shall echo and reecho with flights of fancy like that of this gallant young gentleman from Harvard. But where will you be then, Mr. Editor? Yours tauntingly, ROSA MATILDA.

Boston, January 29, 1880.

REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 31, 1880.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Total Deaths from				
				The Principal "Zymotic" Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.
New York.....	1,085,000	489	198	20.45	15.95	7.36	1.43	—
Philadelphia.....	901,380	310	95	10.40	6.77	4.84	—	2.26
Brooklyn.....	564,400	217	90	21.66	20.28	13.36	2.77	.46
Chicago.....	—	215	115	54.42	9.77	19.53	1.86	.93
St. Louis.....	—	92	29	22.83	7.61	9.78	2.17	2.17
Baltimore.....	393,796	138	50	18.84	7.97	7.97	5.80	1.45
Boston.....	365,000	141	44	12.77	14.18	4.26	2.13	2.13
Cincinnati.....	280,000	94	45	14.90	11.70	1.06	7.45	3.18
New Orleans.....	210,000	93	28	19.35	6.45	6.45	—	2.15
District of Columbia.....	170,000	62	28	8.06	14.52	3.23	—	1.62
Cleveland.....	160,000	41	16	29.27	9.76	7.32	17.07	2.44
Pittsburgh.....	145,000	48	20	27.08	12.50	8.33	10.42	2.08
Milwaukee.....	127,000	40	23	22.50	7.50	10.00	7.50	—
Providence.....	101,500	58	18	36.21	8.62	6.90	29.31	—
New Haven.....	60,000	—	—	—	—	—	—	—
Charleston.....	57,000	17	7	5.88	23.53	—	—	5.88
Nashville.....	17,000	15	6	20.00	13.33	—	—	13.33
Lowell.....	54,000	27	9	3.70	22.22	3.70	—	—
Worcester.....	53,000	22	6	13.64	13.64	4.55	—	—
Cambridge.....	50,400	13	6	7.70	23.07	7.70	—	—
Fall River.....	49,000	11	3	26.92	3.85	3.85	19.23	—
Lawrence.....	38,600	13	5	18.18	—	—	—	9.09
Lynn.....	34,000	7	2	28.57	14.29	28.57	7.69	—
Springfield.....	27,200	13	4	38.46	—	38.46	—	—
New Bedford.....	26,500	5	2	20.00	—	20.00	—	—
Salem.....	23,500	14	2	14.29	14.29	—	7.14	—
Somerville.....	21,000	5	1	40.00	—	20.00	—	—
Chelsea.....	20,200	10	1	20.00	10.00	20.00	10.00	—
Taunton.....	18,400	8	4	12.50	37.50	—	—	—
Holyoke.....	17,300	5	1	20.00	—	—	—	20.00
Gloucester.....	17,300	—	—	—	—	—	—	—
Newton.....	15,350	6	1	—	—	—	—	—
Haverhill.....	13,500	5	2	20.00	—	20.00	—	—
Newburyport.....	12,600	4	1	25.00	—	—	—	—
Fitchburg.....	12,500	5	1	—	—	—	—	—
Nineteen Massachusetts towns.....	149,760	60	17	28.33	11.67	21.67	—	—

Two thousand three hundred and twenty-four deaths were reported; 892 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 467, consumption 357, lung diseases 280, diphtheria and croup 204, scarlet fever 86, whooping-cough 36, measles 33, diarrheal diseases 32, typhoid fever 30, erysipelas 17, malarial fevers 16, cerebro-spinal meningitis nine, small-pox four.

From whooping-cough, New York eight, Brooklyn five, Boston four, Philadelphia and Cincinnati three, Chicago, Baltimore, New Orleans, Pittsburgh, and Chicopee two, St. Louis, Cleveland, and Fitchburg one. From measles, New York 23, Chicago four, Brooklyn three, Philadelphia, St. Louis, and Holyoke one. From erysipelas, New York seven, Philadelphia two, Brooklyn, Chicago, St. Louis, Pittsburg, Milwaukee, Lawrence, Somerville, and Milford one. From malarial fevers, New York eight, St. Louis three, New Orleans two, Brooklyn, Chicago, and Baltimore one. From cerebro-spinal meningitis, New York three, Philadelphia, Chicago, Worcester, Fall River, Chelsea, and Northampton one. From small-pox, Philadelphia and District of Columbia two; one case was reported in Baltimore. Sixty-six cases of measles, 50 of diphtheria, and 37 of scarlet fever were reported in Brooklyn; diphtheria 47, scarlet fever 16, in Boston; scarlet fever 12, diphtheria eight, in New Bedford. Scarlet fever is declining in Cleveland. The death-rate of whites in the District of Columbia was 15.05, of colored 26.93.

The total number of deaths was nearly the same as for the previous weeks, of deaths under five somewhat less. Measles, small-pox, lung diseases, and consumption caused fewer deaths. In 37 cities and towns of Massachusetts, with an estimated population of 1,021,110 (population of the State about 1,690,000), the death-rate was 20.17 against 20.58 and 20.89 of the

previous two weeks, the mortality from diphtheria, scarlet fever, and measles showing a decline.

For the week ending January 10th, in 143 German cities and towns, with an estimated population of 7,550,717, the death-rate was 27.7 against 27.2 and 27.5 of the previous two weeks. Three thousand seven hundred and ninety-two deaths were reported; 1704 under five: pulmonary consumption 520; acute diseases of the respiratory organs 476, diphtheria and croup 153, scarlet fever 66, measles and *rötheln* 60, typhoid fever 56, whooping-cough 45, purperal fever 20, typhus fever one, small-pox none. The death-rates ranged from 16.7 in Bremen to 36.6 in Strasburg; Königsberg 21.9; Dantzig 24.7; Breslau 26.2; Munich 32.8; Nuremberg 19.2; Dresden 26.3; Berlin 25.2; Leipzig 27.5; Hamburg 31.5; Hanover 20.3; Cologne 25.2; Frankfurt 22.3. For the same week, Vienna 30.5; Prague 41.0; Paris 28.1. Small-pox continues very prevalent in Paris and Bucharest; less so in Vienna, Prague, St. Petersburg, Warsaw, Odessa, Venice, Barcelona, and Alexandria.

For the week ending January 17th, in the 20 English cities and towns, with an estimated population of 7,383,999, the death-rate was 21.2 against 24.0 and 29.1 of the previous two weeks. Three thousand four hundred and eighty-four deaths were reported: diseases of the respiratory organs 512, whooping-cough 164, scarlet fever 143, measles 123, diarrhoea 34, fever 31, diphtheria 19, small-pox (London) four, showing an increase in lung diseases and scarlet fever, and a diminution in whooping-cough, diphtheria, measles, fever, and diarrhoea. The death-rates ranged from 16.0 in Brighton to 28.1 in Liverpool; London 24.6; Bristol 16.9; Birmingham 25.1; Leicester 18.1; Manchester 27.6; Leeds 17.3. In Edinburgh 18, Glasgow 24, Dublin (small-pox seven deaths) 38.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direcion of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
Jan. 25	30.172	33	40	23	75	53	61	63	W	W	C	3	4	0	O	F	F	—	—
" 26	30.247	41	52	30	59	51	58	56	NW	C	SW	0	0	6	O	C	C	—	—
" 27	30.070	39	44	31	79	100	100	93	C	NE	SW	0	6	1	F	R	R	—	.17
" 28	29.917	44	59	37	91	42	65	66	W	W	W	3	24	13	G	C	C	—	.59
" 29	30.616	33	38	13	59	42	66	56	W	NW	NW	8	24	10	C	C	C	—	—
" 30	30.380	35	52	12	66	69	84	73	NW	C	SW	2	0	17	O	O	O	—	—
" 31	29.792	39	53	27	86	42	47	58	W	W	W	40	19	13	O	F	C	—	.10
Week.	30.171	36	59	12				66	West.									22.35	.86

¹ O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, snow; R, rain; T, threatening.

SIXTH DECENNIAL PHARMACOPOEIA CONVENTION.

By virtue of authority developed upon me as the last surviving officer of the Pharmacopoeia Convention of 1870, I again call the attention of "the several incorporated state medical societies, the incorporated medical colleges, the incorporated colleges of physicians and surgeons, and the incorporated colleges of pharmacy throughout the United States" to the importance of appointing delegates to the sixth decennial pharmacopoeia convention, and of sending the names and residences of the same to me for publication. The convention meets on the first Wednesday in May, 1880, and I am required "to publish the names and residences of the delegates, for the information of the medical public, previous to its meeting."

I have received so far the names and residences of the following delegates:

From the Massachusetts College of Pharmacy, Boston: Prof. G. F. H. Markoe, Ph. G.; Samuel A. D. Sheppard, Ph. G.; Thomas Dolber, Ph. G.

From the Philadelphia College of Pharmacy: Prof. John M. Maesch, Alfred B. Taylor, Prof. Jos. P. Remington.

From the Louisville College of Pharmacy: Prof. Emil Scheffer, Prof. C. Lewis Diehl, E. Vincent Davis.

From the Maryland College of Pharmacy, Baltimore, Md.: Delegates, Wm. S. Thompson, Louis Dohme, Jos. Roberts, Alternates, Charles Caspari, Jr., Dr. John F. Moore, Dr. Robert Lautenbach.

From the Medical Society of the District of Columbia: Prof. D. W. Prentiss, M. D.; Prof. Thomas Antisell, M. D.; Emeritus Prof. James E. Morgan, M. D.

From the National Medical College of Columbia University, Washington, D. C.: Prof. W. W. Johnston, M. D., Prof. D. W. Prentiss, M. D.

From the Medical Department of the University of Georgetown, D. C.: Prof. W. H. Ross, M. D., Prof. C. H. Klein-schmidt, M. D.

From the National College of Pharmacy, Washington, D. C.: Mr. W. S. Thompson, Prof. Oscar Oldberg, Mr. R. B. Ferguson.

(Signed,) JAMES E. MORGAN, M. D.

WASHINGTON, D.C., January 28, 1880.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JANUARY 31, 1880, TO FEBRUARY 6, 1880.

DE HANNE, J. V., captain and assistant surgeon. Granted leave of absence until further orders, on account of sickness, to take effect February 1, 1880. S. O. 26, A. G. O., February 3, 1880.

BYRNE, C. B., captain and assistant surgeon. The leave of absence granted him December 20, 1879, from A. G. O., extended four months.

CRIVELLO, T. A., first lieutenant and assistant surgeon. Granted leave of absence for one month, with permission to apply for one month's extension. S. O. 11, Department of Dakota, January 26, 1880.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting will be held Monday evening, February 16th, at eight o'clock, at 19 Boylston Place. Reader, Dr. Cowles. Subject, Non-restraint in English and Scotch Asylums for the Insane. FREDERICK C. SHATTUCK, M. D., Secretary.

SUFFOLK DISTRICT MEDICAL SOCIETY. — The society will meet at 19 Boylston Place, Saturday, February 14th, at seven and a half o'clock. Papers will be read by Dr. F. A. Harris on Society Work and by Dr. E. Cutter on the Salubrious Treatment of Consumption. The proposed act to regulate the practice of medicine will again be brought before the society for discussion. All members of the Massachusetts Medical Society are cordially invited to be present and take part in the proceedings.

BOOKS AND PAMPHLETS RECEIVED. — The Student's Guide to Diseases of the Eye. By Edward Nettleship, F. R. C. S., Ophthalmic Surgeon to St. Thomas's Hospital. Philadelphia: Henry C. Lea. 1880.

Clinical Lectures on the Diseases of Women, delivered in St. Bartholomew's Hospital. By J. Matthews Duncan, M. D., LL. D., F. R. S. E. Philadelphia: Henry C. Lea. 1880.

Annals of the Anatomical and Surgical Society. Vol. I. 1878-79. Brooklyn 1879.

American Health Primers. Brain Work and Overwork. By Dr. H. C. Wood. Philadelphia: Presley Blakiston. 1880. (For sale by Estes and Lauriat.)

How to Work with the Microscope. By Lionel S. Beale, F. R. S., President of the Royal Microscopical Society. Fifth Edition. London: Harrison, Pall Mall. Philadelphia: Lindsay and Blakiston. 1880. (For sale by Estes and Lauriat.)

Essays on the Treatment of Skin Diseases. No. III. On Port-Wine Mark and its Obliteration without a Scar. Fourth Edition. By Balmanno Squire, M. B. London: J. and A. Churchill. 1880.

Salisbury's New Physical Signs of Syphilis. By Ephraim Cutter, M. D. (Reprint) 1879.

The Pathology of Mind. Being the Third Edition of the Second Part of the Physiology and Pathology of Mind, recast, enlarged, and rewritten. By Henry Mandesley, M. D. New York: D. Appleton & Co. 1880.

The Answer of the New York Neurological Society to the Document known as the Report of the Committee on Public Health relative to Lunatic Asylums. New York. 1880.

The Chemistry of Common Life. By the late James F. W. Johnston, M. A., F. R. S. S., L. D. and E., etc., Professor of Chemistry in the University of Durham. A New Edition, revised and brought down to the present time, by Arthur Herbert Church, M. A. Oxon. New York: D. Appleton & Co. 1880.

A System of Medicine. Edited by J. Russell Reynolds, M. D., F. R. S. With numerous Additions and Illustrations, by Henry Hartsorn, A. M., M. D. In three volumes. Vol. I. General Diseases and Diseases of the Nervous System. Vol. II. Diseases of the Respiratory and Circulatory Systems. Philadelphia: Henry C. Lea. 1879. (Subscriptions received by Mr. French, agent, who will soon visit physicians in this neighborhood.)

Transactions of the Medical Association of the State of Missouri. 1879.

Lectures.

CLINICAL LECTURE, WITH REMARKS, UPON A CASE OF TYPHOID FEVER AND THE SO-CALLED SPECIFIC TREATMENT.

DELIVERED AT THE JEFFERSON MEDICAL COLLEGE HOSPITAL, PHILADELPHIA.

BY PROFESSOR ROBERTS BARTHOLOW, M. D.

GENTLEMEN, — The first patient brought in this morning will be the case of ambulant typhoid which was presented to you a week ago. As I told you then, such cases are rather rare. When we saw him at that time, it was the case of a man going about suffering from inflammation and ulceration of the glandular patches in the small intestine near its termination, which are the characteristic lesions of typhoid. The risk is so great in these ambulant cases that we could not allow the patient to continue going about; perforation and peritonitis would be liable to occur, and a fatal issue would naturally result. He was put to bed, and since then he has exhibited the characteristic fever of a remittent type, which we recognize as typhoid fever. The fever of typhoid is said to be of the continued type, but it is so only relatively, not absolutely. In health, as you know, there is a daily fluctuation in the bodily temperature, which attains its maximum in the early evening and its minimum in the early morning hours. The fever of typhoid shows the same variations, — an evening exacerbation and morning remission. During the first week of the fever the morning decline is exceeded by the evening rise until the maximum is attained in the second week, towards the end of which we observe the morning remissions becoming more marked, until the temperature returns to the normal in the fourth week.

Upon the day of admission this man's temperature was 104° F. in the evening. You remember I told you that if the temperature did not go above 102° F. we would not interfere, but if it rose above this point we would rely upon a full dose of quinine for an antipyretic action. The resident physician very properly gave him twenty grains that evening with decided effect. Now the excursions of the temperature record are less, — as it is the third week, — preparatory to convalescence, which is nearly at hand. He has only two evacuations per diem; his tongue is cleaning, although still raw and glazed, and the hebetude is passing away. You must be struck with the improved expression and intelligent appearance of his countenance; and you notice that his mental condition is brighter than at the beginning.

There was a plentiful crop of the peculiar rose-colored erythematous eruption of typhoid. It is now disappearing, but still can be recognized. The distention of the abdomen and gurgling in the right iliac region are also less. Notwithstanding the diminution of the gurgling there is still some tenderness, and our patient is not yet free from danger. Notwithstanding the fact that it was a mild case, there may ensue a perforation of the intestine with serious results; we shall therefore still carefully attend to his diet, and keep him strictly in bed. While these ulcers of the intestine are only partially healed, if he were careless and ate indigestible food, a sudden development of flatus might distend the bowel, and cause a rupture and fatal collapse or peritonitis. This accident may occur both in

light and in grave cases of typhoid fever, but it is a remarkable fact that perforation is more liable to take place in the ambulant cases than in the severer forms, and may be produced by a single apparently insignificant ulcer in the intestine. We should therefore always insist upon these precautions as to rest and diet in each individual instance of typhoid fever, although it may not be a very marked case of the disease.

In regard to the treatment, I have told you that when the temperature rose we gave him a full dose of quinine with the desired antipyretic effect. He has had the so-called specific treatment of Lugol's solution, five drops three times a day, well diluted. Upon this he has done very well. I pointed out, in the previous discussion of the case, that there were two main points in the mode of treatment, termed by the Germans the specific treatment for typhoid fever: calomel given early in the disease in ten-grain doses for three or four days during the first week of the disease; and the administration of iodine, either in the form of tincture or Lugol's solution. The latter form is preferable, and it is that which this patient has been taking.

From experience in other cases I consider the above method certainly an advance in the treatment of typhoid fever. It is not termed specific on account of any supposed influence it has directly upon the typhoid fever, but from the power of the iodine to destroy the germs of the disease in the discharges of the intestinal canal, on account of its well-known antiseptic properties. The propagation of typhoid is due to a peculiar *matres morbi*, which is supposed to be in the alvine discharges, and which subsequently finds its way into our bodies with our food or drink, or even through the inspired air, and there reproduces the disease. The mode of action of iodine upon these ferments has led to the supposition that it would be a useful agent in the treatment of typhoid, and experience has confirmed this view.

POSTERIOR SPINAL SCLEROSIS.

As this man walks into the arena, notice his peculiar method of locomotion. Observe his gait, the manner he has of swinging his foot around, describing a semi-circle, bringing his heel down with considerable force; he treads with weight, making some noise in walking. This affection gives a man rather an imposing gait, unless the difficulty is very far advanced.

Now, from the inspection of the man's gait, who will make a diagnosis of the case?

Let us note his history. The disease has existed for a long period, at least five years, and it was preceded and subsequently accompanied by acute neuralgic pains in the lower extremities, which he describes quite correctly as "lightning pains shooting down the legs." He also complains of a feeling of pressure or stiffness in the muscles of the calf; he has not noticed the sensation of a constriction tightly around his limbs, like a cuirass closely binding them, as is sometimes experienced in these cases. He has decided disturbances of sensibility in the lower extremities, especially a marked degree of numbness. To determine the physical condition of the parts, we will now have the limbs stripped, and apply certain tests to ascertain whether we shall obtain the normal reactions or not. We shall follow certain methods to determine accurately the condition of the muscular and other parts of the limb, and, indirectly, the general nervous system, to see if it shares in the affection. What are these methods?

In the first place, we test the power of motion; interrogating the muscles to see if their mobility is impaired, and if so in what respect. This point we shall now ascertain. You have noticed that in walking he moves the limbs abnormally, and we ask, Is this because they are weak, or is it simply disordered motion?

As he lies on his back, now, he kicks with vigor, although the movements are badly directed. As I now grasp his leg, with the knee partially flexed, I find that he uses considerable power in attempting to extend the limb; there is no muscular paralysis. The trouble in walking is therefore not due to want of muscular power, but to want of coordination in the muscles, which makes his movements appear awkward. This loss of coordination is observed even when he directs his attention to his efforts, but when his attention is called off, or his eyes are shut, the condition becomes more marked; therefore we say that both voluntary and automatic coordination are disordered. I have pointed out to you that the mechanism in walking is partly automatic and partly volitional. In ordinary walking we are not conscious of any effort in using the muscles, but our attention is free for other objects, while the muscles regularly and rhythmically perform their functions, deriving their innervation from the spinal cord; these movements are automatic. If I should take up a pen to write, and there happened to be want of coordination of the muscles, I would be unable to write intelligibly; the voluntary action would be affected, while the brain (apart from the special cortical centre for written language) would be intact. Applying our test to the patient, we find that if we talk to him while he walks he cannot walk well, but staggers; but when he directs his attention to the effort he is making he can walk better.

In order to walk with success, it is essential that sensibility should be unaffected, so that we can feel the resistance of the ground, or the surface we walk upon; we must be conscious of the feet pressing upon the ground. If this is imperfect, our movements are disordered. Therefore it is that plantar anesthesia plays a large and important part in the troubles under discussion. We find that ordinary tactile sensibility, sensibility to heat and cold, and perception of pain — which are entirely distinct properties of sensory nerves — are not always equally affected. Let us first try the sense of touch, for which we use the aesthesiometer, a pair of compasses with sharp points. At the same time that we ascertain the accuracy of his tactile impressions, we will also learn the rate at which impressions are transmitted to the cerebral centres. You know that even in health we do not perceive peripheral impressions immediately; it is only apparently so, although we think we recognize them at once. In this case, asking him to tell us when I touch his foot with the point of the compasses, you notice that the transmission of impressions is delayed; they take a longer time than in health to reach the brain. There is a perceptible interval between touching the surface and his perceiving it; we may say, therefore, that the transmission of tactile impressions from the surface to the centre is retarded. Now try his ability to distinguish heat from cold. Applying in succession hot and cold sponges, we find that he faithfully interprets temperature, as he is correct in his replies; he can distinguish heat from cold. Testing his appreciation of pain by pricking him with the points of the aesthesiometer, we learn

that there is actually less numbness in the plantar surface than in the legs, although the perception of pain is sensibly impaired in both regions.

With the aesthesiometer two points are felt as one, one and one half inches apart on the dorsum of foot; on the leg they are felt as one at two inches; so that the tactile sense is impaired, but not abolished. Sensibility to touch, pain, temperature, we may therefore say is present, but is impaired.

This examination changes to some extent my opinion of the locality of the lesion in the spinal cord. I was disposed at first to locate the disease in the antero-lateral region, but as the disorder is mainly that of coordination the lesion must be located farther back, and mainly in the posterior columns.

His difficulty in walking is not so much due to the want of sensibility in the plantar surface, which at first suggested itself as the explanation, as to the marked want of coordination in the muscles concerned.

The electrical examination is necessary to complete our study of the case. You see the muscles respond perfectly to the faradic current, and contract energetically to a moderate current.

In the early stage of posterior spinal sclerosis, you remember that the disorder, as a rule, manifests itself first in the lower extremities, and afterwards extends to the arms in the second stage, or, in the opinion of some writers, in the third stage. Our patient has no trouble in his upper extremities; he can use his knife and fork in eating, and button his clothes without difficulty. We infer that the disease is in its first stage, and has not involved the upper part of the spinal cord. What confirms our opinion as to the diagnosis and the localization of the affection in the lower part of the cord is the fact that the sexual functions are recently impaired; he has not had an erection for some time, and lately has had some nocturnal seminal losses. This sexual impairment generally belongs to the early symptoms, and usually precedes, rather than follows, disturbances of motility.

The disease is therefore still limited to the lower part of the spinal cord, and as the power of coordination resides in the posterior part of the structure we conclude that it involves mainly the posterior columns, making it a case of posterior spinal sclerosis, which now explains fully the attacks of fulminant pains that have so long annoyed him.

In considering the question of treatment, we find a general agreement of opinion among authorities that, as regards therapeutics, the condition is not encouraging. No one will dispute this who has had anything to do with the disease. The best results obtainable — palliation of symptoms and the arrest of the disease — are perhaps secured more satisfactorily with phosphorus than anything else. It should be given for a long time and in small doses (about one hundredth of a grain), for which cod-liver oil is a good vehicle. Some curative results have been obtained by this treatment. In order to maintain the nutrition of the parts affected, a weak continued current should be applied from the spine to the lower extremities; although this will have no effect upon the disease, it will materially relieve the pain. He shall therefore have the constant current daily, in conjunction with the internal administration of phosphorus dissolved in cod-liver oil, of which he should take a teaspoonful, containing one hundredth of a grain of phosphorus, three times daily, after meals.

Original Articles.

RECENT PROGRESS IN THE TREATMENT OF THORACIC DISEASES.¹

BY F. I. KNIGHT, M. D.

Berkart on Asthma (concluded).—In the chapter on the treatment of asthma the author says that so long as the asthmatic tendency was supposed to be a mysterious derangement of the nervous system, there could obviously be no question as to the prevention of the disease; but, according to the view by him adopted of its nature, an efficient prophylaxis, though, for various reasons, impracticable in some cases, appears by no means so in all of them. On the contrary, the fact that in the vast majority of instances asthma is traceable to pneumonia, whooping-cough, and measles affords just grounds for assuming that by timely subduing the catarrhal inflammation the subsequent disposition to the dyspneal seizures may be completely averted or greatly diminished. Whether this assumption will prove correct or not is a matter of future observation. Meanwhile, although every case of catarrhal pneumonia is not necessarily developed into asthma, still, as this so often appears to be the consequence of the former, it is no superfluous prevention to guard against the contingency. The precautionary measures required for the purpose merely consist in the judicious management of those affections in which the inflammation of the bronchi has a tendency to spread to the parenchyma of the lungs.

When asthma has declared itself there are, as a rule, changes of the pulmonary tissues, which vary in nature and extent in different cases. But though those changes do not always betray themselves by adequate physical signs, they are, notwithstanding their latency or seeming insignificance, essentially the disease, and no plan of treatment, unless in the first place and specially directed to them, can be productive of permanent benefit. Indeed, the proverbial intractability of asthma is mainly due to the exclusive attention hitherto bestowed upon the dyspneal paroxysms, at the expense of the organic lesions from which they arise. No amount of attention to the exciting causes will protect against the attacks of asthma unless the morbid susceptibility to them be simultaneously diminished. Thus the treatment of asthma aims at arresting the progress of the existing pathological changes, and at maintaining the healthy portions of the lungs in a state of greatest efficiency. These objects are quite attainable in most cases, partly by improving the nutrition of the organism and indirectly that of the lungs, partly by restoring the normal function of the bronchial surface.

Directions concerning hygienic measures should be at least as definite as those that are usually given with regard to the purely medicinal treatment. Foremost among them is the constant supply of pure air. Not only the impairment of nutrition, but in many instances the nocturnal attacks of dyspnoea are due to an imperfect supply of pure air at night. But if patients have lived for a length of time in a confined atmosphere their bronchial mucous membrane generally is in a state of anesthesia from the narcotic influence of the carbonic acid, but as, on exposure to a

purser atmosphere, that membrane recovers part of its sensibility, cough is now readily induced by the irritating substances contained in the air. Such return of the bronchial sensibility, however, is usually regarded, not as a favorable sign, but as a "fresh cold." The patients therefore refuse to continue the treatment, and immediately return to narcotics in order to suppress the cough. Hence, the longer they have breathed in a vitiated atmosphere, the more gradually are their habits to be changed. In the summer and autumn it may be necessary for such patients to sojourn at the sea side or on a small island, on account of the dyspnoea which the pollen and spores of the fungi floating in the atmosphere are likely to produce. A yacht cruise answers this purpose especially well. In the winter asthmatics should live at places where the genial climate and beauty of the scenery both permit and attract them to spend the greater part of the day in the open air.

The systematic employment of warm baths at a temperature of from 95° F. to 102° F. has a direct curative influence upon asthma. By no other means than this is it possible so effectually to relieve the lungs of the chronic congestion, with its abundant exudation of white blood corpuscles which choke up the bronchi. Chronic gastric catarrh, if it exists, must be treated upon known principles. In regard to the medicinal treatment, the author says that among the numerous remedies that have been recommended for the treatment of asthma, the great majority are narcotics or so-called nerve tonics, intended to allay the supposed morbid irritability of the centre of respiration. But apart from the uncertainty of their operation, even in the hands of those who most loudly proclaim their virtues, their prolonged exhibition is not indicated by the nature of the disease, nor has experience shown them to be productive of more than a transient benefit. The medicinal agents which in certain cases appear to be useful are: (1.) *Arsenic*. This is indicated for the relief of the dyspepsia of asthmatics, and for the improvement of their nutrition, provided that the alimentary canal is free from inflammatory affections, and the action of the heart is not too feeble. In cases in which asthma is due to compression of the air tubes by enlargement of the bronchial glands, arsenic may be cautiously tried. The dose of this drug should be gradually increased, the patient being carefully watched, its maximum being reached in fourteen days, and it being suspended at once if signs of poisoning appear. (2.) *Alkalies*. In the cases in which viscid mucus occludes a number of bronchioles so as to impede the access of air to the lungs, the means previously mentioned as intended to reduce the disposition to asthma remain ineffectual, in consequence of the imperfect oxygenation of the blood. Under these circumstances alkalies may be usefully given, with the view of removing the existing obstacle to respiration, and of modifying the secretory function of the bronchial mucous membrane. As in such case the alkalies have to be continued for a length of time, the salts of soda are preferable, because they are better borne by the stomach than those of potash. They are best given in the shape of a mineral water, such as Ems, Wiesbaden, Kissingen, Vichy, etc. Iodide of potassium, which forms the base of Aubré's well-known specific [also of Jonas Whitcomb's], was first given in asthma by Horace Green. It has all the properties of an alkali, and possesses, moreover, as Heubel sup-

¹ Concluded from page 154.

poses, a special affinity to the pulmonary tissue. Its administration in suitable cases is always attended by the best results. The dose varies from five to ten grains several times a day. [Dr. J. P. Oliver, of this city, has recently introduced, with surprisingly satisfactory results, the plan of gradually increasing the dose of iodide of potassium up to fifty or sixty grains, and continuing it for a long time. He warns against expecting relief too soon, and informs the patient that he may not notice any change during the first six weeks.] It should be freely diluted, and taken upon an empty stomach. Iodide of potassium is inapplicable, however, when the bronchial mucous membrane is in a state of acute inflammation. For, in contact with the atmosphere, the iodine is disengaged from its combination with the albumen of the blood, and when thus set free it is apt to irritate the surface of the air tubes, and to produce here an analogous process, as it does upon the skin and the nasal mucous membrane. Chlorate of potash also may be advantageously given.

The balsams and sulphur occupy a doubtful place in the treatment of the asthmatic tendency.

The mechanical treatment of the respiratory tract greatly assists, so far as it is practicable, the various constitutional remedies. Its effective operation, however, is almost entirely limited to: (1.) *The mucous membrane of the nose.* This part of the air-passages demands more attention than it has hitherto received in the management of asthma, for there is little doubt that the permeability of the nasal canal is necessary for the due performance of the respiratory function and for the protection of the respiratory surface. (2.) *The bronchi.* The deep inspirations which patients are directed to take whilst inhaling (the gymnastics) are, no doubt, most beneficial to those who do everything for the cure of their dyspnoea but breathe properly. (3.) *The respiratory surface.* Inhalation of compressed air, in chambers specially prepared for the purpose, is greatly appreciated by the patients who have tried it. As to the manner in which condensed air acts nothing is definitely known. The question is as yet of little practical importance, for, besides being costly and within reach of but a few, the remedy has avowedly only a palliative effect. The inhalation of, or rather the expiration into, rarefied air in cases of emphysema appears to be more practicable on account of the greater simplicity of the instruments employed for the purpose. But inasmuch as the author is convinced that even the most extensive emphysema is, as such, not productive of dyspnoea, but that this, if present, is always due either to hyperæmia, or to inflammation of the mucous membrane, or to obstruction of the bronchi, he hesitates to attribute the relief which he observed in several cases to the use of the apparatus, and calls attention to the fact that Waldenburg in the cases reported as cured or relieved by its use employed also inhalations of chloride of sodium and of turpentine, together with the internal administration of arsenic.

The treatment of the paroxysm necessarily varies according to the nature of each case, so that an accurate diagnosis is the first condition of success. The prodromal symptoms, where such exist, afford valuable indications, by acting upon which the attack may either be prevented or promptly relieved. Thus there are on record numerous instances in which, upon the appearance of the signs peculiar to carbonic-acid intoxication, as headache, vertigo, fretfulness of temper,

and pain in the muscles, an efficient ventilation of the lung — by walking, driving, riding on horseback, etc. — successfully averted the threatening, and completely cured the fully developed dyspnoea.

Frequently, however, the precursory phenomena are either wanting, or are not so conspicuous. In that case, if the diagnosis remain doubtful, the treatment is necessarily deprived of its reliable basis. The removal of any known exciting cause, as of irritating gases, will usually cause the hyperæmia of the bronchial mucous membrane to subside. Hot and strong coffee, however, prove occasionally very useful when the energy of the heart is temporarily weakened by an excess of carbonic acid in the blood. The dyspnoea produced by a loaded condition of the stomach or of the rectum is speedily relieved by an emetic or an enema. If the offending substances cannot be at once removed by either of these means there is often a flatulent distention of the intestines that resists for a time all possible treatment. The best results are then obtained by small doses of creosote in camphor or cinnamon water. The fluxionary hyperæmia or inflammation of the bronchi, that arises from the inhalation of dust, can be subdued only by the removal of the irritants. This is often a matter of great difficulty. The dyspnoea may thus last for days, or even longer, until the particles of dust are detached from the bronchial surface by a copious exudation of serum. What is wanted is a rinsing, as it were, of the bronchial surface. Alkalies, although they increase the bronchial secretion, are yet too slow in their action. Copious draughts of warm water would best answer the purpose, but it is preferable to give hot infusions of *flos sambuci* or of senega root, to which acetate or carbonate of ammonia may be added. Jaborandi has been recommended, and, considering its physiological action, deserves a trial in asthma produced by the inhalation of foreign bodies. It is difficult to persuade the patient to take the drug a second time, on account of the very unpleasant effects which accompany its administration. Ipecacuanha, tartar emetic, lobelia, the smoking of tobacco and stramonium, act by producing arterial pressure and consequent increase of the serous exudation. In case of obstruction of the bronchi by viscid sputa the principles of treatment just alluded to are also applicable. The plugs of mucus are practically foreign bodies, the displacement of which is alone capable of procuring relief. Inhalations of salt lime-water, chloride of ammonium, fumes of burning nitre paper, and oil of turpentine sometimes give relief. Dyspnoea interferes with efficient inhalations. Then iodide of potassium in large doses and strongly diluted produces the desired bronchorrhœa, and its exhibition is indicated in the absence of an acute inflammatory process. In the cases in which the rhonchi, by their changes of site, show the mobility of the plugs, emetics are useful, since the compression of the thorax in the act of vomiting serves to remove the bronchial obstruction. Subcutaneous injections of apomorphia afford speedy relief, and, in the presence of cyanosis, they are preferable to the internal administration of drugs of a similar kind. Gerhardt recommends the manual compression of the bases of the lungs. This should be gentle, and made at the end of each expiration, but it should not be continued too long, lest it produce bronchial hæmorrhage.

In cases of embolism of the pulmonary artery stimulants may be required. Nitrite of amyl, which paralyzes the cutaneous vessels, and in small doses stim-

ulates respiration, may be cautiously tried in cases of pulmonary œdema.

In regard to the symptomatic indication, the author says, if the paroxysm be protracted and severe the relief of the symptom dyspnoea becomes the paramount object of the treatment. That object, however, can be obtained only by suppressing the irritability of the nervous system; and in attempting to do so it is well to remember that, desirable as a speedy relief is, it is yet not purchased without, at the same time incurring considerable risk. Instances are not wanting in which such purely symptomatic treatment has led to consequences more painful and also more serious than the disease itself is capable of producing (that is, the habitual ingestion of narcotics). Among the remedies most frequently used for the purpose of reducing the irritability of the respiratory centre are chloroform, chloral, and morphia.

The Antiseptic Treatment of Empyema.—It seems as if a great advance had been made in the radical treatment of empyema by operating and changing the dressing under the antiseptic spray. In the JOURNAL for January 29th is the report of an interesting clinical lecture, by Mr. Lister, on this subject. Fraentzel, in the first edition of Ziemssen's Cyclopaedia, strongly recommended this method, and gave results in eleven patients operated on by him. In the second edition of his article, published in 1877, he gives statistics in regard to twenty-two patients operated upon in this way. In eleven there was complete cure; that is, the patients were discharged without any noticeable deformity of the chest and without thoracic fistulae. In two of these cured cases the exudation had been fetid, and in two there had been a fetid pyo-pneumothorax, which had evidently arisen from pulmonary gangrene. The operations on these eleven successful cases were done from the third to the fourteenth week. Of the other eleven cases, three from whom the canula was removed too soon, and in whom the strict after-treatment was partially thwarted by their unreasonable resistance, were discharged with fistulae incompletely healed. Eight died not long after the operation: three with sanious exudation in the pleural cavities, from severe tubercular pleuritis and circumscribed caseous deposits in both lungs; one, in whom there existed at the time of the operation amyloid degeneration of the kidneys and a thoracic fistula, and from whom a piece of rib was taken at the time of the radical operation, died of secondary peritonitis; a fifth, in whom the purulent pleuritis had come on during the convalescence from a severe typhoid fever, of an acute pneumonia in the lower parts of the uncompressed lungs, which probably arose from taking cold during the operation; the sixth patient, in whom a pyo-pneumothorax had developed in the course of a caseous pneumonia, died of dysentery, which came on the day after the operation, and which was endemic in the hospital at the time; to the same disease another patient succumbed, in whom the autopsy showed that a cure would, in all probability, have taken place, and also showed that the pulmonary pleura and also the lung tissue superficially had been wounded by the catheter; in the eighth patient, three weeks after the operation, from some unknown cause, an interstitial nephritis developed, of which, at the end of another four weeks, the patient died. It will be seen that some of these patients died from purely accidental complications, and that others were in a hopeless condition before the operation.

Fraentzel has concluded in the future to abstain from the radical operation in case of purulent exudation in consumptive patients. Three such patients operated upon by him did badly, inasmuch as they quickly succumbed to fresh extensive tubercular inflammation in the opened pleura, with ichorization of the pleural contents, which was not affected by the most careful antiseptic procedure. In such cases, when there is severe dyspnoea and the pulse is small and frequent, or when, without these symptoms, the exudation is evidently very large, he aspirates and removes, at the most, eight to ten hundred centimetres at a time. He believes that in this way the patient's life is more prolonged than by the radical operation.

Fraentzel operates very differently from Lister, in that he washes out the pleural cavity not only at the time of making the opening, but afterwards, and Lister says any washing out is unnecessary. It would seem as if washing out at the time of opening the chest at least, were necessary, inasmuch as "shreds of fibrine, small or large, sometimes the length of one's hand, thickly infiltrated with pus corpuscles, having been washed out of the dependent parts of the pleural cavity, make their way into the wound, and are to be carefully removed." At the time of the operation and for two days afterwards Fraentzel washes out with warm distilled water, then for several days with warm salt water (one half per cent.), and afterwards, perhaps, with tinct. iodine (two to five per cent.), potass. permang. (one fifth per cent.), or acid. carbol. (two fifths per cent.). It would seem as if the cases of these two gentlemen might afford a chance for comparison of the two ways of operating antiseptically; but one possible source of error strikes us, and that is that distilled water is not aseptic, and there might be doubt also about a one per cent. spray of carbolic acid (the strength used by Fraentzel).

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.¹

F. C. SHATTUCK, M. D., SECRETARY.

MYELITIS, ACUTE AND SUB-ACUTE, WITH A REPORT OF EIGHT CASES, BY S. G. WEBBER, M. D.

THE next case is also one in which there was a relapse, coming on after overexertion, perhaps with some exposure. These two cases teach us the necessity of cautioning patients who may be so fortunate as to recover from myelitis lest they should ignorantly overtax themselves. Of course it is scarcely necessary to say that the chances of recovery are much less after such a relapse.

CASE IV. John C., aged twenty-five, seen last October, was sent to me by Dr. Driver. Had worked hard carpentering, not exposed to wet nor cold. In May he took care of a man sick with erysipelas for about a week, running up and down stairs much. He then felt numbness in his legs from the hips down, which came on suddenly, he waking up in the morning with it, having been well the night before. No pricking sensation, no pain; his feet felt as if he had on "an awful thick pair of socks." No weakness, but it tired him to walk. These symptoms lasted about six weeks,

¹ Concluded from page 159.

gradually disappearing. After this he walked a great deal, peddling; he then opened a restaurant, and in two or three weeks the old symptoms returned, but not quite so bad. No pain. He had to use his eyes in walking. There was a loss of sensation in legs and absence of tendon reflex. The result in this case I have not yet learned.

In the next two cases syphilis was undoubtedly an active agent in causing the disease, at least in predisposing to it. In the first of these two the cord alone seems to have been affected; in the second there is sufficient reason to believe that the membranes were also affected. Time enough has not yet elapsed to settle the question of recovery, but both patients have improved. Both of these cases progressed rather slowly. As a general rule, syphilis of the cord is a very serious, even fatal affection, much more so than cerebral syphilis.

CASE V. Mr. A. was seen in consultation with Dr. Belt. There was a history of syphilis. He did not have a very hard position, but was necessarily up at night, and sometimes exposed to inclement weather. One night in August he was thoroughly wet by the rain, and left his clothes to dry on him. After this wetting he had a pain in his right side, running round to the umbilicus. About September 1st he had a tickling sensation in both great toes. In a week or two the numbness extended up the leg to the knee, and then slowly as high as the waist, advancing most rapidly on the right. He continued to keep about until the last of October. About two weeks previously, however, he suffered loss of power in his legs, and they occasionally gave out under him. One week before he was seen he took to his bed, not able to move the right leg, but he could move the left leg. Reflex action on tickling the soles of the feet was very marked in the right leg, less so in the left. Tendon reflex was exaggerated in the right leg. There was decided loss of sensation in both legs, less decided loss over abdomen. A line just above the umbilicus defined the limit of anæsthesia, passing around on the right level, but on the left running down diagonally towards the groin. Irritation of the skin in testing sensation caused, not the so called *tâche cérébrale*, but a general vaso-motor paralysis, the whole abdomen becoming bright red after the examination. Except as mentioned, in August there was no pain anywhere; there had been some pricking sensation, as if the parts were asleep. The bowels were obstinately constipated, and there was inability to retain the urine after a desire was felt to pass it. He had been taking iodide of potassium, and this drug was given in yet larger doses; oleate of mercury inunction was used and hot-water bags were applied to the back. He has slowly gained since.

CASE VI. J. E. T., age thirty-five, entered the City Hospital November 12, 1879. He had had chancre three times, the last time in 1864. In 1866 he had sore throat, but no other symptoms. He had spinal meningitis in January, 1878, and was confined to bed four weeks; his legs and hands were drawn up. Eight months before entrance, during coitus in an almost upright posture, he noticed trembling of the left leg. Within forty-eight hours the left leg became heavy and the foot numb; this feeling increased daily, extending upward. Five weeks later these sensations had reached the left thigh, and the right leg began to be affected similarly. There had been no tingling in his

feet and no pain; since the legs gave out he has had a sense of constriction about his waist and ankles. There was difficulty of micturition, and the use of a catheter had been found necessary.

During the three months before admission there had been spasmodic contractions of the legs, more marked in the evening and during sleep. At one time he partially regained the use of the right leg; then had a feverish attack in which he was delirious, since which he has lost ground.

At the time of entrance he was able to draw up his right leg, but not the left; could turn over in bed, but was unable to stand; tendon reflex was greatly exaggerated; there was diminution of sensation in the leg and lower part of abdomen; there was a burning sensation in the calf and the popliteal space; when the legs were spasmodically contracted there was a sharp, severe pain in the small of the back and in the abdomen. Temperature normal.

At first he was given fluid extract of ergot, iodide of potassium, and had dry cups to his back. After five days the ergot was omitted, and the iodide of potassium was increased gradually till he took forty-five grains three times a day. On December 8th he could manage his legs better; there was less spasm; he controlled his water; there was more sensation in the legs; and the sense of constriction was less marked.

In this case there were spasm and pain in the back, to lead to a suspicion that the membranes were somewhat affected. There was less decided loss of sensation than is usually seen when the central gray substance is the seat of the disease. There was probably an implication of the membrane, though undoubtedly the cord was chiefly affected.

In the next two cases there has been almost, if not quite, complete recovery. It may be a question as to whether there was inflammation or merely congestion. I cannot decide that with certainty. In Case VIII, probably there was congestion, or only the very initial stages of inflammation.

CASE VII. Mr. H. F. B. was seen with Dr. Wheeler, of Chelsea, July 31, 1877. He was conductor on a passenger train; had never been in an accident; had been on the railroad eleven years; for about eight years he ran eighty miles a day, but lately every four weeks he had lighter work, only sixty miles a day. Towards the latter part of June, on a public occasion, he stood up in a crowd for two hours, part of the time on tip-toe. Soon after that he had severe pain in his shoulders when putting his shoes on; also pain in the back and hands. The night of July 3d he sat in a draught, but moved out of it as soon as he felt it. During the first week of his illness he tried to work, but was obliged soon to give it up. He had then numbness and pricking sensations in both hands and feet; there was no pain excepting on motion; he was able to walk, and felt the floor with his feet; but towards the latter part of the first week his legs began to be weak, especially when going up-stair. These symptoms increased in severity till the end of the second week, when he could not feel the stairs, and had to look at the steps when going up to see whether his feet touched them. When the bowels moved he did not feel the motion, and the passage of the urine was not always felt; there was no incontinence. The numbness in the ends of his fingers caused him trouble in buttoning his clothes; he felt as if a string were tied round toes and fingers. There was no spasmodic action, excepting tremor

of the arm when going up-stairs. He walked and stood very unsteadily with his eyes shut; much better with them open. Reflex action still remained, not exaggerated. The æthesiometer showed no difference in sensation between the two hands; the feet were not tested. He improved under treatment, and I subsequently heard of him as recovered.

CASE VIII. E. G., age twenty-four, was admitted to the City Hospital October 10, 1879. He had used liquor, but not usually to excess. About a year before he had chancre, followed by rash, sore throat, and falling out of hair. For a week before his attack he had been more or less drunk, lying out-doors at night. Three days before admission he found he could not pass his water; there was also pain in the abdomen, but none in his back, and no vomiting. For three days there had been spasmodic twitching of the legs when he was falling asleep; there was a "sleepy," prickling sensation in his legs and arms when lying still and when walking, but no pain excepting about the bladder. He stood and walked fairly well even with his eyes shut; but when walking the right leg was put down harder than the left, with a slight stamp. There was considerable tremor of the hands. Sensation was diminished in the right as compared with the left leg. Tendon reflex was much exaggerated, especially on the right; the foot, after a blow on the ligamentum patellæ, being jerked up twice, and after the second jerk being held up for a few seconds, then falling slowly to its normal position. Even a slight tap was sufficient to excite the reflex action. The urine contained albumen, blood, and pus.

He was given a hot-air sweat, then fluid extract of ergot, one drachm three times a day, and was confined to bed. October 14th, all the unpleasant symptoms had disappeared, and he insisted on going home.

REMARKS.

In these cases, as in many others, there had been one or more of three ætiological conditions present, either syphilis, wet and cold, or overwork. In the syphilitic cases the other causes were present as well. To be sure many other patients have overworked themselves, and many who are not patients have been exposed to wet and cold. But in these cases and in others which I have not reported, the first symptom of the disease appeared in intimate connection with the exposure, and the parts first affected being those most exposed it is almost necessary for us to refer the origin of the disease to such exposure or overexertion. Thus when the feet were wet and cold the legs were first affected, as in Cases I. and III.; also after unusual exertion, in Case IV.

In Case II. the wet and cold were applied to the hands, and there was undue labor of the hands as well as of the legs. The following night the first symptom appeared in the thumb of the left hand, and it was only a week before the right hand was affected, three or four months before the feet were involved. Case VII. stood two hours, part of the time on tip-toe, and later in a draught. The first symptom appeared in the hands and feet. Case V. was exposed by having his clothes wet; then there was pain in the abdomen, and later symptoms in his feet. Case VI. is rather more complicated. Syphilis, coitus in the upright posture, an irregular life, various excesses and exposures, concurred in causing the disease. The attack began, after unusual exertion, in the legs. Case VIII. lay on the

ground all night in October; the first trouble he noticed was with the urine and legs.

In all the above cases, numbness or some other abnormal sensation was the first, or one of the first, symptoms noticed. This numbness is described differently by different patients, but seems to be a combination of prickling and anesthesia, with perverted sensation such as is felt when a limb is recovering from having been "asleep." This peculiar sensation may be so strong as to be extremely painful. Sometimes there is a feeling as if the leg was in hot water, or as if hot water were being poured over portions of it. Pain has been a comparatively rare symptom in those cases of myelitis which I have seen. In the case of one patient, aged sixty-two, who had been frequently exposed to cold and wet, and had worked very hard, there was acute, severe pain in the back. This pain ceased about the time that the numbness and weakness began in the legs. When pain is a marked symptom either the disease is situated near the periphery of the cord so as to implicate the pia mater, or the fibres of the posterior roots pass through the affected portion of the cord, or swelling causes pressure upon the membranes.

The motor symptoms, such as weakness, and inability to walk, may appear sooner than in the cases reported; generally a slight degree of motor disturbance or spasm will be found with the earlier signs. Contraction is a late symptom, and necessitates the integrity of the cells of anterior cornua and the anterior nerve roots at the level whence the nerves arise supplying the affected muscles. The contraction may be most marked during sleep. It is no unusual event to have a patient's sleep disturbed by the violent spasm in the limbs. When this severe it is the more probable that the meninges are affected.

In much the larger proportion of the cases which have come under my observation the sensory tracts were primarily affected. Considering that cold and wet, with exhaustion from overfatigue, play so important a part in ætiology, it is in harmony therewith that this tract should be first affected; the reflex vaso-motor and trophic influence, it would be supposed, would be first felt in the sensory tract.

In three cases the tendon reflex was exaggerated, sometimes very much so. In two it was absent. Other patients, who were seen before this symptom was brought into notice, showed an increase of reflex action.

I cannot now go into the pathological anatomy at any length. Other cases, which have had the same symptoms as those reported, showed at the autopsies the changes of myelitis, not always softening so as to be diffident, but parenchymatous inflammation of the nervous structures of the cord, either of the white or gray substance, or of both. Two of the cases reported showed that change.

As to treatment, the first essential is rest,—absolute rest in bed. A patient who feels perfectly well excepting a little numbness in his hands or feet or both, and a slight weakness in his legs in walking, scarcely noticeable; who has no pain, no discomfort; whose head is perfectly clear, and appetite remarkably good; who has no feverishness, can scarcely be made to understand that absolute rest is all important for recovery. This rest should be prolonged even after the immediate symptoms have disappeared. It is not safe to allow a patient to get up and be about too soon. All doctors, even, do not realize the importance of keeping

patients with myelitis in bed awhile after the symptoms have disappeared.

For active treatment ergot is the best drug to use, but of course be sure it is a good preparation. Counter-irritation in some form to the back is valuable, and dry cupping is one of the best methods. Other methods, such as cauteries, iodine, or blisters, also prove useful. Iodide of potassium is certainly indicated if there has been syphilis. In Case VIII., as the kidneys were evidently disturbed, a sweat was given to call the skin into activity and relieve the renal vessels. It is not unlikely that this may have been of benefit to the spinal cord as well. It might be worth while in a recent case to test the value of a sweating.

That a relapse is possible is shown by two of the cases reported, both of which essentially recovered, but in consequence of overexertion were again attacked. As might be expected, the second attack occurred after rather less exertion and exposure than before the primary attack.

The results in these cases show that myelitis, when treatment is commenced early, is not necessarily fatal. They do not show the true proportion of recoveries, for I have selected the cases with regard to aetiology and symptoms rather than recoveries. A large number of other cases which I have had under my care, or which I have seen, either have died or have been lost sight of. The prognosis is decidedly unfavorable as a rule; the recoveries are exceptional. If, however, the disease is recognized early the chances are much more favorable. A partial recovery is more likely to occur than a perfect one. A section of the spinal cord is permanently injured beyond all possibility of restoration; the disease does not advance, but the function of a portion of the cord being interfered with, the symptoms in the parts below the point affected persist; there is no possibility of perfect restoration. It is not often that the whole diameter of the cord is so seriously affected; more frequently, when there is partial recovery only, a small portion of one column or cornu is destroyed, and there is a proportionate restoration of function below.

DISCUSSION.

Dr. ELLIS expressed himself as much interested by the paper, and asked the reader how early the disease might be detected. A patient presents himself with slight numbness, but without any motor disturbance. Are we to suspect myelitis and confine him to bed? — Dr. WEBBER replied in the negative; but if there be numbness and pricking sensations, slight motor disturbances shown most perhaps in a peculiar gait, which the physician sees, but which may have escaped the notice of the patient, exaggerated tendon reflex, or any affection of the bladder, we are on the safe side in enjoining absolute rest. — Dr. ELLIS thought that there was often a good deal of difficulty in drawing the line between these cases and many others which one saw of numbness which comes and goes, lasts perhaps for years, but finally ends in recovery. — Dr. WEBBER said that he had seen these symptoms often, chiefly in elderly people, more often unilateral than bilateral, and hence hemiplegic rather than paraplegic. Under these circumstances they are due to poor circulation in the brain, perhaps from rigid arteries, or are purely reflex phenomena. But, having seen apoplexy follow these symptoms in two instances, he thought it well to be on the watch in such cases. — Dr. ELLIS said that he

had also seen this kind of perverted sensation in early and middle life and in women, and asked Dr. WEBBER whether he would agree to the statement that unless there be disturbance of motion as well as of sensation we need not fear myelitis. — Dr. WEBBER considered this a fair statement, and added that the personal peculiarities of the patient and the way in which he spoke of his symptoms afforded some help in diagnosis. — Dr. J. J. PUTNAM said that he had lately seen at least two men who had complained of numbness in the legs and fatigue on walking. After watching them for some time he came to the conclusion that their troubles were due to varicose veins. He then asked Dr. WEBBER on what grounds he had based his diagnosis of spinal congestion in some of the cases reported. Dr. PUTNAM could not see that a group of symptoms characteristic of congestion of the cord can at present be recognized, though there is no presumptive evidence against the possibility of such a condition. On the other hand, there is no proof that symptoms such as the reader described may not be due to actual inflammation which ceases at an early stage, and there is analogical support for this view. It is quite different in the case of the brain, where there is a pretty well marked group of symptoms which are distinctive and do not lead to inflammation, and which there is reason to attribute to congestion. In the case of the cord, furthermore, it is doubtful if it is fair to say that congestion is the first stage of myelitis. — Dr. ELLIS also criticised the use of the term congestion, and said that the symptoms may be due to anemia. A modification of nutrition is all that is needed. — Dr. WEBBER replied that he was perfectly prepared to admit that we have no absolute knowledge of congestion of the cord. But the inference does not seem unreasonable in view of the facts that congestion is the common precursor of inflammation, that similar cases beginning with the same symptoms end in inflammation found on post-mortem examination, and that slight cases run imperceptibly into the severer ones. — In illustration of the excessively rapid course which the disease may take, Dr. PUTNAM spoke of a case which had been under his charge. A woman was somewhat indisposed one day, having been apparently perfectly well before that, and on rising the next morning and walking about the room she had a peculiar feeling of suffocation. She lay down upon the bed, soon after vomited, and was then paralyzed from the neck downward. Dr. PUTNAM supposed the cause to be hemorrhage, but Dr. Seguin, of New York, to whom he mentioned the case, told him that he had seen a very similar case in which the autopsy revealed acute softening. In connection with the point of first appearance of the disease, he mentioned a case he saw in Boston. The patient had sat in a cold and wet place, and the first symptoms were confined to the rectum. He was told by two railway employees this summer that riding long distances produced a desire to urinate frequently, and a German railway physician states that railway employees are more liable than other men to diseases of the spinal cord. — Dr. FISHER being called upon said that his experience with myelitis was limited, but with cases such as those alluded to by Dr. Ellis very large. In cases of neurasthenia and anemia, numbness and pricking, often unilateral, are quite common, and recover under tonic treatment. They are generally due to changes in the circulation. The pathological lesion of cases of myelitis which end in recovery may be slight inflammation. We know

that the inflammation of general paralysis is often very slight. He then asked Dr. Webber what value he attached to tendon reflex. — DR. WEBBER replied that the phenomenon is one to which attention has been called so recently that he did not feel prepared to give a definite answer to the question. It is generally, but not invariably, absent in locomotor ataxia.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. ROTCH, M. D., SECRETARY.

FEBRUARY 9, 1880. DR. JAMES C. WHITE, permanent chairman, presided.

RAPID PULSE AND HIGH TEMPERATURE AS SYMPTOMS OF PUERPERAL INFLAMMATION.

DR. FRANCIS MINOT read the following paper: —

The state of the pulse and that of the temperature are generally reckoned to be pretty sure indications of the general condition of a woman after delivery. So long as they continue normal, or but moderately raised above the healthy standard, the physician feels free from anxiety; on the contrary, a rapid pulse or a high temperature always gives rise to apprehension lest it be the forerunner of some local inflammatory process or grave general disease.

But I have met with several instances in which a rapid pulse continuing many days after delivery gave rise to much anxiety, and yet no inflammation or other unfavorable condition followed. In a few cases high temperature was associated with rapid pulse, and the condition closely resembled peritonitis or septicæmia; but I am satisfied that in these cases the disease was purely functional, and dependent on some nervous condition, either of excitement or exhaustion. I will first relate three cases of rapid pulse in the puerperal condition. They occurred several years ago, and no temperature was recorded.

CASE I. In February, 1863, I attended a lady in her first confinement who was of a marked nervous temperament, though a woman of much self-control. She was the second wife of her husband, and the fact that the first wife had died in childbirth caused her to feel a certain amount of apprehension lest she might share the fate of her predecessor. The labor was in all respects natural, but the patient was unable to make water spontaneously for several days afterwards, being wholly dependent on the catheter. During that time, also, she was somewhat excitable and nervous, but free from hysterical symptoms. The most striking symptom she exhibited, however, was great rapidity of the pulse, which remained at about 116 to 120 in the minute for nearly a week, and then slowly subsided to 80. There was no chill, no heat of skin, no tenderness of the abdomen, or other sign of inflammation. I felt a good deal of anxiety about the safety of the patient, and watched for the first symptom of local trouble, but as none appeared I concluded that the rapidity of the pulse was owing to mental anxiety. She made an excellent recovery.

CASE II. In August, 1864, I took care of a lady about twenty-two years old, who was delivered of her first child with forceps, on account of inefficient pains. She belonged to a family of nervous temperament, though she herself was not excitable. During the first

half of her pregnancy she had suffered from excessive nausea and vomiting. Her convalescence after delivery was in all respects satisfactory, except that the pulse was at the rate of 120 a minute for several days. There were no other symptoms of inflammation. It would seem as if the family temperament, ordinarily latent in her, showed itself in the increased action of the heart.

CASE III. The same month another patient, also primipara, was confined. She was blonde, and had a strongly marked nervous temperament, as also had other members of her family. For years she had been troubled with irritability of the bladder, and had also been for a long time under treatment for supposed spinal disease, but she was in good health at the time of her confinement. The labor was natural, but the catheter had to be used for about a week, and the pulse ranged from 92 to 120 for a fortnight. There were no other symptoms of inflammation, and she did well.

CASE IV. In the next case both the pulse and the temperature rose suddenly, a few days after delivery, and the patient was apparently in great danger. The symptoms were supposed to indicate peritonitis, and the recovery was attributed to the treatment employed, especially injections of a solution of carbolic acid into the uterus; but after carefully considering the circumstances of the case, I am inclined to believe that there was no inflammatory disease, and that the patient might have recovered without any local treatment. She was under my care for more than nine weeks, and I will only give a brief outline of the case. On the fourth day after delivery, her condition having been, so far, perfectly satisfactory, she was seized in the evening with severe pain in the lower part of the abdomen. There was no rigor. At half past three o'clock, the next morning, she had a temperature of 105°, and a pulse of 132. The respirations were 36 in a minute; there was no pallor, no tympanites, no vomiting. The abdomen was soft, and tender in the supra-pubic region. The legs were not drawn up; there was a free bloody uterine discharge; the urine contained a considerable amount of albumen. (Intrauterine carbolic injection; six grains of quinine, three times daily; turpentine externally.) Evening temperature, 103.5° F.

Sixth day. Morning temperature, 104.8° F.; pulse, 120. Evening temperature, 103° F.; pulse, 108. (Carbolic injections.)

Seventh day. Morning temperature, 101.3° F.; pulse, 96. Evening temperature, 102.8° F.; pulse, 100. There were six loose dejections during the night. Abdomen flat, and hardly tender. The patient was more comfortable. (No injection.)

Eighth day. Morning temperature, 102.2° F.; pulse, 108. At noon, temperature, 103.4° F.; pulse, 108. At ten p. m., temperature, 101.3° F.; pulse, 104. Delirium during the day, which increased towards night, the patient trying to get out of bed. (Carbolic injection at ten p. m.; chloral hydrate and bromide of potassium.)

Ninth day. Morning temperature, 100.2° F.; pulse, 100. Evening temperature, 101° F.; pulse, 112. Much delirium; coldness of the extremities; aspect, hystero-manical. (No further intrauterine injections were given throughout the case.)

Tenth day. Morning temperature, 99.7° F.; pulse, 92. Evening temperature, 105° F.; pulse, 104.

Eleventh day. Morning temperature, 99.8° F.;

pulse, 104. Evening temperature, 102.8° F.; pulse 108. More comfortable; rational; the milk has disappeared from the breasts.

From this time there was gradual improvement, the evening temperature being two or three degrees above normal, till the seventeenth day, when there was some pain and tenderness over the left ramus of the pubes, with increase of pulse and temperature, the latter rising to 103.4° F. The symptoms slowly subsided, and on the twenty-second day the patient seemed convalescent; but a moderate attack of phlegmasia dolens set in on the thirty-ninth day, which lasted two weeks, the whole duration of the case being about sixty days. The albumen disappeared from the urine, and the patient recovered completely.

It will be noticed that although there was a subsidence of the temperature after each intrauterine injection, yet, on the other hand, the temperature also fell when none had been given. Thus, on the evening of the ninth day it was 104° F.; the symptoms were threatening, and yet the next morning it was 99.7° F. It rose to 103° F. the same evening, but fell again, the following morning, to 99.8° F. On the whole, considering the absence of chill, of vomiting, and of much abdominal tenderness, the continuance of the lochia throughout the normal period, and the predominance of nervous symptoms, I am of opinion that there was no inflammatory condition of the uterus or peritoneum and no septicæmia at the bottom of the alarming array of symptoms which this patient exhibited.

CASE V. This patient was a primipara, of nervous temperament. She had always been well and strong. Her labor began with a pulse of 96, which rose to 120 in the course of a few hours. The presentation was natural, but the pains were slow and feeble, and delivery was finally effected by forceps, without any accident. For some days the pulse fluctuated between 116 and 128 in a minute, and the temperature varied from 102° F. to 103° F. There was nervous excitement, and on several occasions she had to be etherized when the catheter was passed, which was frequently necessary. There was plenty of milk, and she nursed her child. There was some complaint of pain in the abdomen, but no tenderness except a little about the fundus of the uterus; no chill; no vomiting; the lochia discharge was sufficient. The filtered urine contained some albumen.

On the ninth day after delivery her condition was very unsatisfactory. Morning temperature 103° F.; pulse 122. Nursing caused so much nervous excitement that the child was taken from her, and fed by the bottle. There was considerable tympanites, but no abdominal tenderness except over the womb; no appetite; no chill; no vomiting; the lochia were light colored, not offensive, and sufficiently abundant. (Carbolized vaginal injections had been regularly given, at least twice daily, since delivery, as also in the preceding case.) She lay upon her side, and had no difficulty in moving. At three p. m. the temperature was 104.6° F.; pulse 136. There was an ominous groan with each expiration. Dr. J. P. Reynolds, who saw the patient in consultation, agreed with me as to her alarming if not dangerous condition, and it was decided to employ intrauterine carbolized injections. One was given at seven p. m. Soon afterwards the temperature was 104.8° F.; pulse 132. A second injection was given later. On account of the extremely sensitive condition

of the patient it was very difficult to administer the injections, and I doubt if they were thoroughly given. She had a comfortable night, and the next morning the temperature was 100.8° F.; pulse 112. No further injections were given. In the evening the temperature rose to 104.3° F.; pulse 132. The next day (the eleventh after delivery), morning temperature 103.6° F.; pulse 132. Evening temperature 101.7° F.; pulse 110. On the twelfth day the figures were about the same. On the thirteenth day the temperature was nearly normal. After this it varied very much for several days, being in the neighborhood of 99° F. in the morning, 104.8° F. at six p. m., and 102.5° F. at nine p. m. On the nineteenth day it became normal, and remained so. The pulse corresponded with the temperature. The patient recovered perfectly.

The same remark applies to this patient as to the preceding one: that although there was a marked fall of the temperature and pulse after the employment of carbolized intrauterine injections, yet the same thing afterwards occurred when none had been given. The patients were alike in temperament, and both at times had a hystero-maniacal aspect, and I would add that both were much benefited by morphia, chloral hydrate, and bromide of potassium.

The lesson which I would draw from the study of the above observations is that a rapid pulse and high temperature in puerperal women do not necessarily indicate an inflammatory condition of the womb or peritoneum nor septicæmia. They may be caused by some condition of the nervous system not yet well understood, and unless unaccompanied by other symptoms, such as rigor, suppression of the lochia, vomiting, great tenderness, fixed dorsal decubitis, etc., do not call for active, or at least hazardous, treatment.

I have seen apparently favorable results from the employment of carbolized intrauterine injections in well-marked cases of puerperal inflammation, and I believe in their efficacy; but in view of numerous reported cases,¹ in which they have been followed by dangerous and even fatal results, they should always be avoided when not necessary, although doubtless much depends upon the skill with which they are administered.

DR. C. E. STEDMAN had not heard the beginning of Dr. Minot's paper, which was timely and important. There had been of late more trouble than usual with puerperal patients; and last summer the Lying-In and the New England hospitals had had to close their doors. Nothing like an epidemic had been observed in private practice, but high temperatures and pulse were uncomfortably common. One perplexing matter to decide was the separation of milk fever from the puerperal inflammations. Some philosophers deny that the former should have a place in our nomenclature; others that it is a mild form of septicæmia. But in milk fever the temperature seldom if ever runs higher than 102° F., and the disturbance subsides when the engorged breasts are relieved of their burden. It is not so common now as when nurses and mothers-in-law denied systematically to the patient cold water, light bedclothes, and fresh air.

Several cases like Dr. Minot's had given the speaker much worry, from their close resemblance to the real disease. One of the undoubted cases was the follow-

¹ Among others, by Küstner, Fritsch, and Herwegen, see *Die Irrigation des puerperalen Uterus*, Schmidt's Jahrbücher, 1879, No. 9, page 269.

ing, when the fever began before labor was completed: The patient was a primipara, about thirty years old; the os dilated slowly and painfully (it was before Dr. Stedman used chloral in such cases), the pulse rose, the patient looked and felt exhausted, and the case had to be finished by the long forceps applied through an undilated os. After delivery the febrile symptoms increased, and the patient died, conscious, of pelvic inflammation, in three or four days. In contrast to this, a primipara, aged about thirty, was safely confined. On the second day came a chill, followed by temperature of 106° F. and a riotous pulse, giving unbounded anxiety to physician and family. But the case cleared up in a day or two, and the temperature, etc., subsided, when the nurse was changed, with whom the patient—a spoiled, imperious, and nervous woman—had had a battle royal of words. One day, a medical neighbor, who was ill, desired Dr. Stedman to see a patient whom the former had delivered a day or two before, and who had sent for him again. Dr. Stedman found the woman with a full bladder and puerperal fever. Of course she had to be closely cared for, while the attending physician went into quarantine, as respected midwifery practice. The patient died in about a week. At this time, Dr. Stedman was engaged to attend a particular friend, and at one A. M.—one hour after the time of seclusion agreed on had passed—he was called to the lady, who had an easy labor of a third child. But three or four days after she developed symptoms much more urgent than those of the last patient, as regarded pain, pulse, and temperature, giving rise to horrible fears. The storm blew over in a day or two, and proved to be the result of mental worries to a nervous system several sizes too large for her delicate body.

Last month the speaker saw in consultation, out of town, a young primipara four days after an easy labor, with milk secreted and lochia somewhat scanty, chill, fast pulse, tenderness, and temperature of 105.5° F. She was far from being a nervous person, and was perfectly collected, though she was aware of the anxiety felt for her. Her face was pinched, hippocratic. She had been possibly exposed to the influence of diphtheria and erysipelas near her. Under hot, weak carbolicized intrauterine injections, the symptoms rapidly disappeared and she made a good recovery. Dr. Stedman mentioned another case, lately seen, where from the dull, sleepy, and listless appearance of the patient, the high temperature and pulse, with absence of milk and scanty lochia, a grave prognosis was made; she speedily recovered under weak, hot carbolicized intrauterine injections and free stimulus. Dr. Stedman relied greatly on the *facies* of the patient in this disease; those cases which present a dull and apathetic expression being of a dangerous character. It is often difficult to make a diagnosis, and the physician would be oftenest right who had previous acquaintance with the patient, and who did not place too much reliance on one or two symptoms only.

In conclusion Dr. Stedman remarked that in the treatment of typhoid fever he had found the pulse to be the guide for prognosis and treatment, while in the *puerperal* inflammations the temperature required the most watching. He had seen recovery follow a temperature of 107° F. in typhoid, where the pulse kept down, but in the metria such a temperature, without reference to the pulse, would demand the most active attention.

DR. A. D. SINCLAIR said that during a practice of

twenty years he had met with but two or three cases of puerperal disease, until this last year, when he had seen quite a number, and that there appears to be something in the atmosphere which has caused a prevalence of the disease lately, just as he had found in his practice that patches in the throat were more common than in former years. The Lying-In Hospital had to be closed for a time, and although it had been carefully fumigated and cleansed, high temperatures occurred more frequently than formerly, and the greatest vigilance was necessary to prevent more serious symptoms from breaking out; he thought, however, that the treatment by intrauterine injections of those cases which threatened to do badly had proved to be of great service. He had frequently met with cases such as Dr. Minot had mentioned, and had never seen any of them end fatally, so that a tympanic abdomen and high pulse, without other indications of puerperal disease, he did not consider to be dangerous symptoms. In regard to the term "milk fever," he for his part considered that there was such a thing, and that in certain cases it was a proper term to use.

DR. F. C. SHATTUCK spoke of cases of high temperature arising from nervous excitement, mentioning the case of a woman in Montreal, where the temperature went up to 117° F. He also quoted English authors as saying that in inflammatory affections a high temperature, say 107° F., is very dangerous, while in these nervous cases it is not of much importance.

DR. REYNOLDS said that he had lately heard Dr. Sims express the opinion that you may have considerable heightening of the pulse and temperature in nervous cases without any danger. As to the local treatment by intrauterine injections of solutions of carbolic acid, he would inquire of Dr. Sinclair whether any accidents had occurred in the eleven cases which had been treated in the Lying-In Hospital.

DR. SINCLAIR answered that no accidents had occurred, and that usually great amelioration of the symptoms had followed their use.

DR. STEDMAN remarked that with the fountain syringe the injections could be given without any danger.

DR. RICHARDSON agreed with Dr. Minot in regard to the first three cases, but he thought the histories of the last two showed unquestionably the presence of some localized inflammatory process. Until within a few years obstetricians were apt to enumerate a long list of diseases which might follow a delivery, such as metritis, peritonitis, cellulitis, ovaritis, etc. The tendency of the present day is too much to the other extreme, and to group all these diseases as only different forms of puerperal septicæmia. This is a mistake. While as a rule these diseases may and do accompany puerperal septicæmia as a local lesion, there are cases in which, though rarely, they exist without giving rise to, or resulting from, any septic absorption. He agreed entirely with Dr. Stedman that in cases of puerperal septicæmia the temperature was of the greatest significance, and that the pulse was of no especial value except as a guide in the administration of stimulants. As regards the use of intra-uterine carbolic injections, he believed them to be of the utmost value, and had never seen the slightest injurious effect from their use. The fact, alluded to by Dr. Minot in the fourth case, that the lochia were not offensive cannot be considered an infallible sign that the interior of the

uterus is healthy. A patient died at the Boston Lying-In Hospital whose lochia were never offensive, and yet the autopsy showed that the whole of the lining membrane of the uterus was gangrenous and broken down. As to the influence of the mental condition on the pulse of the patient, he had lately seen a most exceptional case, in which a woman of marked nervous condition, who was subject to several hysterical attacks during the first five or six days following her delivery, had during that time a steady pulse ranging between 40 and 50, although her normal pulse was about 80.

Dr. REYNOLDS thought that accoucheurs ought to pay more attention to these intrauterine injections, and he doubted whether we were right in not using them where, for instance, we have a cellulitis. As yet we do not know enough about these processes, and perhaps ought to use injections more frequently for smaller troubles than those for which they were usually supposed to be indicated.

Dr. HODGES said that in surgery the thermometer was not considered a very important aid in connection with inflammations of the serous membranes, especially the peritoneum.

A few months ago a gentleman was thrown down by a horse, and bruised or trodden upon. During the night following the accident symptoms of peritonitis developed, and he died at the end of five days. At the autopsy eleven inches of the small intestine were found torn from the mesentery. The thermometer ranged from 97.4° F. to 99.8° F., with one exception, when, eighteen hours after the accident, it reached 101.5° F. The pulse steadily rose from 100 to 132.

A female, with malignant disease within the abdomen, accompanied by ascites, and seen in consultation with Dr. Wyman, of Cambridge, about the same time that the previous case occurred, also had peritonitis, as shown by chills, heat, pain, especially at the hypogastrium, tenderness, tympanites, rapid pulse, and the lymph in the fluid drawn off. The temperature on the second day was 100.2° F., on the fourth day 97.4° F., and on the ninth day 98.6° F. In a note written me at the time, in which Dr. Wyman speaks of low temperature in peritonitis, he says in regard to another serous membrane, the pleura, "I was asked to see a woman with chest symptoms, just a week ago. She was confined five weeks previously. I diagnosed empyema. Last Sunday two pints of pus were removed. The previous temperature was reported about 100°. The day after the puncture it was 97.2°, on the third day 97.2° (morning), 99.8° (evening), on the fifth day 99°. These cases correspond with others of which I have notes. They followed the rule that the thermometer gives us but little reliable information as to the severity of inflammations of serous membranes."

Dr. W. F. Whitney, who assisted me in the care of the injured gentleman first spoken of, was good enough at the time to look up authorities in regard to temperatures in peritonitis, and sent me the following memoranda, which I will read:—

"Loxain (Paris, 1877) gives eight cases of puerperal peritonitis, in all but two of which the temperature rose to 104°, and over, within twelve hours. In the latter it reached that point within forty-eight hours."

"Winckel says, 'The type of fever in peritonitis is sub-continual, as a rule. The rise of temperature is very quick after a few hours, showing a change of 1.8°

to 2.7°. The temperature varies from 102.2° to 105.8°, and the exacerbations are in the afternoon or evening. At times there are strong remissions to 100°."

"Kunze says the fever in acute diffuse peritonitis, which is almost always present from the beginning, is joined to a rapid elevation of temperature."

"Niemeyer says fever is one of the symptoms of acute diffuse peritonitis, and when this does not begin with the disease it occurs very early. The temperature rises to 105°, or more. Wunderlich, on the other hand, says that in inflammations of the great serous cavities there is absence of any typical character. They may run their course without any fever, or may have a high one. Of peritonitis, he says subnormal temperatures (96.8° to 97.7°) are especially common, and always highly suspicious. Death very often occurs with temperatures below the normal, which may either result from a fall shortly before death, or may have lasted some time already, or have alternated with normal and elevated temperatures. Peritonitis, especially when puerperal, may develop a very high temperature, and this is a bad prognostic."

"Other authorities in England also confirm the statement that uncomplicated inflammations of the serous cavities are accompanied by slight fever, often not over 100°."

These somewhat conflicting statements would certainly seem to indicate that there is a degree of ambiguity in the thermometry of inflamed serous surfaces, which requires something more than mimetic cause to explain the conflicting evidence of a rapid pulse and a low temperature.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

T. M. ROTCH, M. D., SECRETARY.

JANUARY 31 and FEBRUARY 14, 1880. Dr. CALVIN ELLIS, the president, in the chair. On motion of Dr. F. A. HARRIS it was voted that the society should meet once a fortnight.

LAW TO REGULATE THE PRACTICE OF MEDICINE.

Dr. E. W. CUSHING, in reporting the measures which have been taken by the committee of the American Social Science Association to perfect its draft of a proposed law to regulate the practice of medicine for the protection of the community, said that as at and after the reading of the first draft of such a law at a meeting of the association, in November, some opposition was manifested, it was deemed proper to test the feeling of the profession in the State. After consultation with gentlemen eminent in the medical and legal professions, a printed copy of the amended draft of a law was sent to seventy-five physicians, selected as representative men, in various parts of the State, outside of Boston, together with a circular asking for suggestions and the use of their names as approving the general purpose and principal features of the proposed law. Of these some few failed to reply, while many wrote at length, showing the pressing need of such a law, and offering valuable suggestions and the use of their names. Only two wrote refusing to approve. Encouraged by this, the committee had printed eleven successive editions of the draft, each embodying some new and valuable suggestion, obtained by a wide correspondence with physicians of this State, and with

the boards of examination in Illinois, Texas, New Hampshire, and the British Provinces, where, as well as in Vermont and Alabama, such laws are in successful operation. The leaders of the other two state medical societies were consulted, and by correspondence it was found that the proposed law would meet with their approval and that of their fellow members. The reason for this rather unexpected unanimity may be found in the manner in which the matter was presented by the eminent non-medical gentlemen having charge of this movement. It was very evident from the first that this is no attempt of physicians to get themselves protected, or of one society to oppress the others, but that it is a movement, supported by the thoughtful part of the community, against the disgraceful state of things in the commonwealth, which was so prominently brought to public notice by the so-called "trunk tragedy." The presidents of the Associated Charities and of the Boston Provident Association are on the committee which has brought the matter before the legislature, in conformity with the suggestion in the governor's message. Many of the first citizens of Boston headed a petition to the General Court, asking for such legislation, which was printed with their names annexed, and circulated widely in the State, everywhere receiving the signatures of leading citizens. Encouragement by word and letter has been offered to the committee from all quarters in the most gratifying manner. The clergy have shown a deep interest in the subject, as being a matter of public morality, and in fact there seems to be a general consensus of the competent that something ought to be done, and that the manner and means proposed are suitable and efficient. The committee was fortunate in securing the assistance of an eminent member of the bar, formerly on the judiciary committee of the legislature, who has condensed its draft, and put it into legal form.

In regard to the attitude of the profession in this matter, it is sufficient to say that its members approve of this movement, but do not sign petitions, being, on the one hand, unwilling to ask for what many would erroneously consider a bill to protect their pecuniary interests; and, on the other hand, being unwilling to obstruct a movement eminently useful and proper, merely from questions of personal taste and professional feelings, in the matter of serving on an examining board containing members of the other state societies; while it must always be remembered that the leaders of those societies, in consenting to support this law, which they could easily defeat, and in consenting to form a small minority of such a board, have trusted to the honor of the stronger society never to use its majority for the purpose of discriminating unfairly against their schools or candidates for licenses.

The provisions of the proposed law were then explained, and it was stated that the condensed draft contains all the important points of the former and longer one, which was the result of so much careful comparison of existing American laws, so many valuable suggestions, and such wide correspondence.

DR. D. W. CHEEVER offered some objections to the proposed petition to the legislature, as follows:—

MR. PRESIDENT,—I avail myself of your permission to state my views on the proposed petition to the legislature for a law to suppress quackery in this State.

But one side of the question has been presented. The results of the legislation asked for seem to some

members of our profession disastrous to the true interests of the members of the Massachusetts Medical Society.

It is proposed to have a state board of medical censors, consisting of five Fellows of the Massachusetts Medical Society, two Fellows of the Homœopathic Medical Society, one Fellow of the Eclectic Medical Society, and also one dentist, appointed by the governor and council, to examine and license to practice all future physicians, of all classes, in this State; and that those failing in such examination, or not seeking a license, shall be prosecuted as quacks, and forced to quit practicing in Massachusetts.

The object sought for is worthy and desirable could it be made practicable in operation, and could it be left in the hands of the Fellows of the Massachusetts Medical Society. It is not proposed so to leave it. But an offer is thus made by the fourteen hundred members of the Massachusetts Medical Society to the one hundred and seventy-five members of the Homœopathic Society, and the one hundred members of the Eclectic Society, to join hands, occupy one common position before the public, and have equal standing and equal rights (*pro rata* to their numbers) in deciding who are and who are not irregular practitioners of medicine.

(1.) This constitutes the first objection: We ask those whom we have denounced and expelled from our society as irregulars to join us and judge *who are irregulars*. We extend the ægis of a legal license to those with whom we have recently refused to associate. It would be much more logical to invite them back again to be members of the Massachusetts Medical Society.

(2.) The second objection is that the power of appointment and of judging who are fit and who are unfit to hold the supreme office of state censors is put in the hands of the governor and council, and the selection is not left in the hands of the sole party competent to judge, the medical profession itself. To what results this might lead in ten or twenty years we will leave those familiar with politics to decide.

(3.) The third objection is that such a law as is proposed will be as impossible of execution as a liquor law. The most stringent measures under despotic governments, as in France, have failed to suppress quackery. Will there always be found an American jury with not one spiritualist or quack medicine manufacturer or vendor upon it?

DR. CORNELL spoke of the inconsistency of the proposed law, so far as members of the Massachusetts Medical Society were concerned.

DR. CHADWICK, as an advocate of the proposed act, said: I accept Dr. Cheever's definition of its aim and scope. (1.) Without pretending to know the motives which led to the expulsion of the homœopaths from the society, a good and sufficient reason exists in the fact that their practice is entirely based upon theories which we believe to be utterly false. If the conjoint board of examiners were to consider such questions, I should oppose this act. But inasmuch as the examination of candidates is expressly restricted to those branches of medical science which are accepted by and indispensable to all who practice medicine under whatever system or belief, I see no inconsistency in members of the Massachusetts Medical Society serving upon this board. And as it will not be known to the board what system of medical prac-

tice a candidate intends to adopt until after the examination is concluded and its result recorded, I do not think our members can be said to "license irregular practitioners" in any objectionable sense of the term.

(2.) While the medical appointments made by the governor and council may not have invariably been the very best, yet when we look at the character of the men occupying positions as medical examiners, and upon our state and city boards of health, and at the efficiency with which their responsible duties are performed, I see no reasonable ground for doubting that suitable men will be appointed upon the proposed board.

(3.) As to the impossibility of carrying out the act, if passed, I can only say that similar, though much less efficient, laws have been carried out in six or eight other States of the Union, and have conduced greatly to the welfare of the communities and to the elevation of the profession, as is shown unequivocally in the published reports of the several boards. I will not admit that the physicians of this State are less capable of performing such duties than those of other States.

Dr. GAY said that in other States he found that laws of this kind had resulted in driving away "medical tramps," but had not affected resident irregular practitioners; that it was his opinion that such a law would make quackery respectable. — Dr. ORDWAY remarked that a theoretical bill of this kind could not be passed through the legislature. — Dr. BECKINGHAM said that there was nothing in this law to prevent the worst men from practicing; for these men are often the smartest, and will pass the examinations.

Dr. CUSHING spoke of the large number of physicians and others who had been consulted in arriving at the present form of the law; said that the committee in charge of it had been asked to get the views of the profession in the State, which is practically unanimous in approval of the present draft, and as this would come before the committee of the legislature for a hearing in three days, and was already in the hands of every member of the General Court, it was rather late for any alterations. He drew attention to the fact that the letters of Dr. Gay showed that the law was effectual in protecting the people of New Hampshire from tramps and charlatans, although it did not reach "irregulars," among whom the correspondents of Dr. Gay probably included homeopaths and eclectics, against whom this law is not aimed, as the State has no right to interfere with any one's opinions concerning therapeutics, but can and should inquire into the moral character and education of all who attempt so serious a matter as the practice of medicine. He read a letter from the president of the Board of Medical Examination of Quebec, who said, "I have given the subject my most careful attention and consideration, and regard the whole scheme as a very happy one, and likely to attain the desired result of protection of the community. . . . The Quebec law has been very effective, is well supported by the press, by public opinion and juries, is not difficult of execution, nor likely to fail." Dr. Cushing referred also to letters in his hand from the presidents of examining boards of New Hampshire, Illinois, and Texas, who all approved of this form of law, and had made valuable suggestions to those who had drawn it.

Dr. HUNT said that this proposed law was ridicu-

lous and unwise, and that it was contrary to all the philosophical reasoning of Adam Smith and Herbert Spencer.

Dr. WIGGLESWORTH responded that the Social Science Association had not inaugurated this reform as philosophers, but as public-spirited citizens.

As to the three original objections to the law, considered in inverse order, the third says practically, "Though the law is good, we fear it may not succeed; therefore we oppose it." Such reasoning is not only faint-hearted, but illogical. If the law is good, let us put our shoulders to the wheel, and at least do our duty by aiding it as far as we can, and thus satisfy our consciences. If it fails of success because the community is not as yet educated up to it, it will at least not fail as a means of education. We do not expect to attain perfection at one bound; but unless a first step is taken no progress will ever be made.

The second objection might be raised against all government appointments, and is a mere stricture upon republican institutions. We can judge of the future merely from the past, and surely every one is satisfied with the appointments to the state and city boards of health, to the hospitals, to the office of medical examiners, etc.

The first and practically the only objection is based solely upon feeling, rather than upon reason and philanthropy. A few of the elder members of the profession naturally grieve at the failure of their attempt to elevate the practice of medicine to a point beyond the comprehension of the average patient. All the more reason, then, for proceeding at present with more moderation, and for profiting by the assistance offered us against the common enemies, not of varying methods of practice, but of the community. This feeling, moreover, is confined to this city almost exclusively, while the law is a state measure. The state as a whole has been appealed to, and from every city and town and village come, not merely assenting, but most enthusiastically approving letters. Only two gentlemen wished to be excused from active exertion in behalf of the law. [Several letters were read, and a large bundle was shown.] And because this is a state measure, the exclusive management *cannot* be "left in the hands of the Fellows of the Massachusetts Medical Society." The State recognizes three societies, principally owing to the fact that the mistake, as a matter of policy, of the Massachusetts Medical Society enabled other societies to raise the cry of "Persecution!"

Finally, and most important of all, gentlemen carried away by their feelings forget that this is not a medical society matter. It was inaugurated by private citizens as a means of opposing the actual homicide, mutilation, and robbery of the ignorant and credulous lower classes. Poor victims, injured in health or person, and stripped of their means of support, are daily turned over by ignorant and criminal "quacks" to our hospitals to be supported at the public expense. Their families are thrown upon the community; meanwhile the "quack" is shielded from the consequences of his malpractice; and the money obtained by the latter is hardly spent for the welfare of the community. All that physicians are asked to do is to express their individual opinions upon a matter in which they have had exceptional experience.

Dr. WEBBER said, in speaking in favor of the law, that we here had an opportunity to protect the pub-

lic. It is well to make a beginning and to prepare an entering wedge for something better. The law will probably tend to diminish the ranks of the homeopaths. — DR. J. G. BLAKE wished, as a duty, to express a strong feeling in favor of the bill, which he thought of great importance to the community in guarding the public health. — DR. C. H. WILLIAMS said that no matter how carefully a bill may be drafted, it will not be successful, for the fault lies in the community itself. The people *will* employ quacks, and they do it with their eyes open, knowing that they are quacks. — DR. CHEEVER said that the Massachusetts Medical Society has a charter which cannot be taken away from it, and which grants the right to practice to its members, which cannot be taken away by any subsequent law. By the New Hampshire law each state or county society has its own board of examiners and licenses its own members. That plan is not open to the objections which exist in the law which we are now considering, and perhaps something of this kind might be advantageously carried out here.

DR. CHADWICK replied that, while the right to "license to practice" conferred upon all members of the Massachusetts Medical Society in its original charter secures that society against the concession of any similar right to any other set of men to the exclusion of its members, several prominent lawyers and legislators had given their unqualified opinion that the legislature had the full power to "regulate" the practice of medicine, and such would be considered the operation of this law. He thought it curious that Dr. Cheever should prefer the medical act of New Hampshire, when several of the members of the board in that State had expressed themselves as greatly preferring the provisions of our bill. Dr. Chadwick objected to the licensing of its members by each of the three societies, because three different standards of proficiency would thus be established, and because the day might come when one of these three societies might become so degraded as to admit to membership, and thereby to license to practice, with little or no examination. The temptation thus to increase its importance would be constantly before each society.

Recent Literature.

Transactions of the American Ophthalmological Society.
Fifteenth Annual Meeting. Newport. 1879.

The present volume of the *Transactions of the Ophthalmological Society* contains but little of general surgical interest. There are some exceptional cases reported and some very ordinary ones. As a rule the articles are not exhaustive; they rather suggest than instruct.

Dr. Henry D. Noyes furnishes an account of a plastic operation at the inner canthus, which he would not have referred to as "not described in the textbooks" if he had carefully consulted Szymanowski's *Handbuch der operativen Chirurgie* (page 225); this reference is of additional interest in this connection from the fact that Hasner's criticism concerning the effect of the transplantation of a portion of the orbicularis muscle is there noticed. Dr. Knapp's papers are of more special interest; two of them contain accounts of tumors of the optic nerve and a case of sarcoma of the choroid removed at an early stage, while

a third suggests a T-shaped opening of the capsule in hypermature cataracts, and the omission of the iridectomy in cataracts complicated with marked fluidity of the vitreous. In Dr. Derby's paper we notice twelve cases in which the left eye was more myopic or less hypermetropic than the right, and two cases in which the opposite condition prevailed; this marked divergence from the general law which is believed to obtain in these cases may emphasize the care needed in dealing with a limited quantity of medical statistics. The paper of Dr. Theobald upon the treatment of strictures of the nasal duct contains an account of the cure of five cases out of a total of twelve; this meagre result was, however, obtained by using probes four mm. in diameter. When we recall the fact that this is about the diameter of the bony duct, we may conclude that the twelve of the original twenty-four cases who did not continue treatment decided with a certain degree of wisdom; it is more than probable that the force implied in this method of treatment displaced a certain amount of careful study of the conditions of the lid, of the nature of the accompanying blenorrhœa, of the condition of the eye itself, and of other concomitants. Of the other papers of interest to the general practitioner we would mention that of Dr. Coggin upon Ischemia of the Retinal Vessels of both Eyes following Facial Erysipelas, and that of Dr. C. S. Bull upon Hyperostosis and Periostosis of the Bones of the Orbit. D. II.

The Mouth and Teeth. By J. W. WHITE, M. D., D. D. S., Editor of the Dental Cosmos. Philadelphia: Lindsay and Blakiston. 1879.

This is the seventh volume of the *American Health Primers*, and contains in a condensed form much valuable information. From the point of view of the dentist the teeth are perhaps more important to the general health than any other set of organs. Without them mastication and digestion are but imperfectly performed, and the whole organism suffers.

The information here given, though of the briefest, is such as no one should be without, and even the practitioner of general medicine might find some useful hints to aid him in the routine of his daily duties.

The first three chapters are introductory, and devoted to the Anatomy of the Teeth and the surrounding parts. Chapter IV. is on the Development of the Teeth, and states facts not generally appreciated even by the dentist, of the early appearance of the germs of the second sets, which have their corollaries on pages 79, 97, and *passim*, where reference is made to the necessity of care for the health of the mother during the whole period of gestation and nursing, for the sake of the child's teeth.

The chapters on the Temporary Teeth, Sixth Year Molars, Food, Constitutional Peculiarities, Irregularities, and Hygiene of the Mouth are especially valuable, and may be read with profit even by dentists.

Such a book is not supposed to do more than give hints, which the intelligent seeker for further knowledge can easily follow up, and should not be regarded as a complete treatise on its subject. Every parent who has young children to bring up should possess and study it. Its hints wisely followed will not lead to self-treatment, as do too many of the popular books of the day that treat of health, but to early and regular visits to a competent dentist and a careful following of his advice.

Medical and Surgical Journal.

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A PROPOSED ACT TO REGULATE THE PRACTICE OF MEDICINE IN MASSACHUSETTS.

THE attention of our readers is called to the draft of a proposed act to regulate the practice of medicine in Massachusetts, and to the report of a late meeting of the Suffolk District Society, at which this proposed act was discussed. These will be found in full in another part of our present issue. More than once of late we have had occasion to direct attention to the existence and more or less satisfactory operation of somewhat similar laws in other States and countries. The discussion of the subject was taken up by the health department of the Social Science Association, and the first draft of the proposed act originated in that body. The final draft, as about to be submitted to the committee of the legislature, is the result of consultation with men of standing in various walks of life, with a large number of physicians in all parts of this State, and with men concerned in the operation of similar laws elsewhere. The draft as now presented is drawn up, there is every reason to believe, in the interest of the State at-large.

Many criticisms, both general and special, easily suggest themselves. Most of these will be found elsewhere. Some of them would not be made, we think, and others would find an easy answer, if it were borne in mind that there are two interests to be considered, which it is hoped at some day, perhaps a distant day, to make one, namely, the interest of the public and the interest of the practitioner. The liberal man, whether physician or layman, should give each of these interests its due weight.

Should the proposed act become law, we do not see how the public at large can be injured. The governor and council might appoint inferior men to the board of censors, though the past leads us to hope and expect that fit men would be appointed: the censors may neglect to prosecute or fail to convict offenders, which seems to us a much more probable difficulty. Should, however, these fears be realized, in what respect would the public be worse off than at present, when any individual, male or female, however ignorant, may practice medicine on his fellow-beings with an impunity which it would be impossible to increase? On the other hand, it appears to us that there is sufficient reason to hope that the proposed act may be of immediate positive benefit to the community, and that, if it answered such moderate expectations at first, time and experience might show where its provisions could be improved and its operation made more effectual.

Neither do we see how the act, even if it failed to meet the hopes of its advocates, could work any injury to the intelligent and respectable practitioner; and if it meets the hopes of its supporters it will be of an equal service to him and to the public. The ignorant charlatan, whom it is hoped to reach, will not like the act, the believer in the inalienable right of the American citizen to do what he pleases with himself will not like it, and there are some members of the Massachusetts Medical Society who do not approve of it. These last are called upon to sacrifice a sentiment; we do not believe they sacrifice any principle. In return there is the possible attainment of real public benefits, and it is perhaps permissible to hope that a law of this kind may open the way to the gradual renunciation of dogmas, which even now, we take it, have no very strong hold upon the heads and hearts of their enunciators. We do not expect that an act of the legislature will reverse the law of gravity, or purge the commonwealth of all fools and knaves. Something may be done, however, if the community is ripe for it, as something is done to control the adulteration of food, the character of buildings, the standing and attainments of the legal profession.

The proposed act seems to us worth trying, and should it become law we hope the profession will give its cordial coöperation.

MEDICAL NOTES.

—We learn from the *Pacific Medical and Surgical Journal* that the supreme court of California has at last rendered its decision in the case of Dr. Frazer, sustaining the medical law as constitutional. The question is now settled definitively. The decision was unanimous, and is therefore irreversible for at least seven years, according to the new constitution.

—According to the *British Medical Journal*, a petition to two ladies is being signed in Edinburgh asking their consent to be nominated as managers of the Royal Infirmary at the January election by the court of contributors. The petition states that since nearly one half the patients are female, and the nursing staff entirely so, the petitioners think there should be some female managers.

—“We lately mentioned with regret,” says the *Medical Press and Circular*, “that our contemporary, *Guy's Hospital Gazette*, had been placed under the inquisitorial control of the treasurer of the hospital, and that in future nothing would be permitted to enter its pages without first undergoing supervision. Such a state of things is of course incompatible with honest journalism, and this week the humiliating announcement is made by the editors of that journal that, ‘under the circumstances, they will be unable any longer to continue its publication.’ That such an abuse of power should be possible in this age, that a layman should be allowed to gag the press in order to suppress opinions contrary to his narrow-minded bigotry, is simply astounding! While con-

gratulating the editors of the *Gazette* upon their determination, the question arises, "What will the staff do?"

—Schlaefke, in *Græfe's Archiv*, calls attention to the fact that when calomel is applied to the eye, if iodide of potash be simultaneously given internally, severe inflammation of the conjunctiva is liable to arise. He explains this result by stating that there occurs a formation of the iodate and iodide of mercury, which, in the presence of common salt or iodide of potassium, are soluble and act as caustics.

—Those of our readers who have seen and used Pond's sphygmograph have already been convinced of its utility. It is more manageable than Marey's instrument, which, by comparison, is clumsy. Moreover, the usefulness of the latter is impaired by the frequent difficulty of its adjustment. It must always be bound to the arm, and its lack of compactness renders it inconvenient as a bedside instrument. On the other hand, Pond's sphygmograph is so compact that it can be carried in the pocket. The patient has merely to place the wrist in a metallic rest to which the instrument is attached. It may, however, be used without the holder. Its delicate diaphragm has only to be held upon the radial artery as a stethoscope is applied to the chest. Consequently, in taking the pulse, the physician can use it with ease, and the pulse tracing of one visit may be compared with that taken at the next. Thus the progress of the disease may be followed more closely than would be possible if the finger alone be used in taking the pulse, for no finger is so finely educated as to be able to give the physician so accurately the varying qualities. Moreover, warning may sometimes be given earlier and with more certainty than by any other means, as in the cardiac paralysis which occurs in typhoid fever. It is of value in diagnosing and localizing aneurisms. It is so simple in construction as not easily to get out of order, and in every way is satisfactory for use in private practice. Our readers who are not familiar with this instrument will find a description and illustration of it in the *JOURNAL* for June 28, 1877.

—According to the Paris correspondent of the *Medical Press and Circular*, M. Richard, in a paper on the treatment of naso-pharyngeal polypus by the injection of chloride of zinc, read before the Surgical Society, cited the case of a lad who entered the hospital to be treated for epistaxis. A large naso-pharyngeal polypus was found compressing the velum palati and interfering with deglutition. Operation having failed, the tumor was injected with a few drops of a solution of chloride of zinc (proportions not mentioned). After a few days a large white slough was detached, and the injection was renewed. In three weeks the lad was dismissed, cured.

—In the annual report of the Massachusetts School for Idiotic and Feeble-Minded Youth Dr. Tarbell says:—

"During the past year I made a brief visit to the institutions for feeble-minded at Syracuse, N. Y., and Columbus, Ohio, Dr. H. B. Willbur in charge at Syracuse, and Dr. G. A. Doren at Columbus, and I cannot close this report without again calling your atten-

tion to the great need of more room for out-of-door work for our boys. Could you see the farm-work carried on by the boys at these two schools, you would be convinced, as I was, that no school can compare favorably with the best until it has land upon which to employ and educate its boys. At Columbus, a school of four hundred and seventy-five pupils, the boys, under the direction of one farmer and one gardener, raise all the fruit and vegetables used in the institution; keep the grounds in fine order; take care of a herd of twenty to thirty cows, ten to fifteen horses, and pigs innumerable,—in fact, do all the farm-work on an estate of about two hundred acres, and for an institution of five hundred to six hundred persons. At both institutions various trades and manufactures are taught, and carried on to a limited extent; but both superintendents were agreed—and were emphatic in their statements—that farm-work was not only the most profitable, but developed the slumbering faculties and senses of the boys more rapidly than any other method of education, and certainly rendered them more nearly self-supporting than any other occupation. During the coming year I hope to introduce into our shop some of the simpler trades or manufactures, not with any idea of profit, but simply to carry out in a more practical way the avowed object of our school."

—M. Georges Herbelin, a medical student at the Hôpital St. Eugénie, in Paris, according to an account given in the *British Medical Journal*, was buried on Tuesday last with well-deserved honors. The young man, whose courageous devotion to the sick had won the admiration of the hospital authorities, caught diphtheria while tending a little girl suffering from that terrible malady. Before dying, the brave student had the satisfaction of receiving the Cross of the Legion of Honor, which was taken to him on his death-bed, and which he clasped to his breast as he expired. M. Lepère, minister of the interior, M. Herold, prefect of the Seine, several municipal councilors, and a number of leading physicians and medical students attended the funeral. A detachment of infantry rendered him military honors. Several speeches by professors of the faculty were made over his grave. It is remarkable that the father of the deceased, who was a medical man, lost his life in the same way.

—The *British Medical Journal* states that M. Schwartz speaks in the *Archiv für Gynäkologie* of an extraordinary and shocking case, in which a midwife, by inconceivable violence, seems to have torn away during the act of labor what she described as "the rest of the after-birth," but which, when examined by the physician, proved to be the whole of the uterus. The ovaries and Fallopian tubes remained in the abdomen. The uterus is preserved at Halle. The woman recovered in fifteen days, and has since enjoyed good health. Venereal desires still existed, although less pronounced, and coitus was accompanied by less obvious sensations.

—One tenth of a grain of apomorphia introduced hypodermically, it is said, will relieve the orthopnea of asthma in a surprisingly short time.

— We find the following in the *Medical Press and Circular*:—

"A few days since there died at Herne Bay, whither he had retired from a busy London practice, at the ripe age of eighty-two, Mr. Thomas Hunt, a member of our profession, whose literary efforts a few years since attracted considerable attention from the facetious portion of the lay press. 'Hunt on the Skin' was too much for *Punch's* sense of the ridiculous to resist. "'Hunt on the Skin,'"—'it is too bad to be thus instructed publicly in newspaper advertisements: it would be shocking in cold weather: in hot—bah! it makes one feel creepish all over. Gentle reader, whenever you see this reminder in the literary announcements, "'Hunt on the Skin,'" take *Punch's* advice, and don't.' Hunt's little book was certainly illustrative of the familiar query, 'What's in a name?' By it the treatise—one not of the highest order of merit—sold extensively, and the author made a considerable practice."

PROVIDENCE.

—A circumstance illustrative of the so-called "liberality" of sentiment which prevails among a certain portion of the profession has recently occurred here. At a meeting of the Rhode Island Homœopathic Medical Society held in this city last week, a well-known member of the Rhode Island Medical Society was present, and responded to the following toast: The Rhode Island Medical Society,—distinguished for that broad culture which insures liberality. In the course of his remarks he predicted that the time would soon arrive when there would be no distinction between the two schools of medicine. He failed, however, to state the grounds upon which he based this prediction.

NEW YORK.

—It seems that the individual who died in the latter part of November last from eating a lemon meringue pie was not poisoned by verdigris from the copper vessel in which the meringue was prepared, as was at first supposed, but by an aniline dye introduced into it in some mysterious way that still remains unknown. The coroner's inquest has just been concluded, and this was the verdict of the jury, upon which there were six medical men. The deputy-coroner, Dr. D. B. Miller, testified that at the autopsy evidences were found of the presence of an irritant poison, and that death was due to gastro-enteritis. Dr. Hermann Endermann, an expert chemist, found present in the meringue that was left uneaten a quantity of dye of strong acid properties,—about three centigrammes to the ounce, or about one per cent. of the interior filling of the pie. The dye, by chemical tests, was proved to be aniline yellow, such as is used exclusively for dyeing wool; and its toxic character was demonstrated by experiments on dogs, which immediately after its administration exhibited symptoms of acid poisoning. There were no precedents to establish the extent of its injurious effects upon the human organism. Dr. George A. Prochazka, after explaining the tests that he had employed, testified that in both

the stomach and liver of the deceased (which were analyzed separately) he had found appreciable quantities of a yellow dye, the shade of which, as well as the manner of obtaining it, conclusively demonstrated its identity with that found by Dr. Endermann in the pie. No other metallic poisons could be detected, and the amount of the dye found in the stomach was greatly in excess of that in the liver. Dr. Alfred Purdy, who attended the man in his illness, described the symptoms present and the treatment that he had resorted to. As soon as he took charge of the case he ascertained that the family had purchased a lemon meringue pie, and that all who had partaken of it, to the number of four, were sick. The baker at whose shop the pie was made was exonerated from all blame in the matter; and the only explanation that has been suggested for the presence of the aniline dye in the meringue is that it was put in by a workman who had had a quarrel with one of his companions at the bakery, and who had been heard to say that he "would yet get square with him." This man is said to have sailed for Europe very shortly after the poisoning took place, and his whereabouts are now unknown.

—Mr. Bergh, the irrepressible president of the Society for the Prevention of Cruelty to Animals, has had introduced into the legislature a bill making vivisection under any circumstances a misdemeanor; accompanying it with a memorial which sets forth, among other things, that "divers learned and scientific (but misguided) medical men have perverted the meaning and intention" of the act passed in 1867, which provides that the laws previously made for the prevention of the infliction of unnecessary suffering upon the brute creation shall not be construed to prohibit or interfere with any properly conducted scientific experiments or investigations, which shall be performed only under the authority of the faculty of some regularly incorporated medical college of the State. The memorial goes on to say that these learned and scientific, but misguided, medical men, "under the pretense of demonstrating to medical students certain physical phenomena connected with the functions of life, are constantly and habitually in the practice of cutting up alive, torturing, and tormenting divers of the unoffending brute creation, to illustrate their theories and lectures, but without any practical or beneficial result either to themselves or to the students; which practice is demoralizing to both, and engenders in the future medical practitioners a want of humanity and sympathy for physical pain and suffering, which will greatly deteriorate their influence in their future professional life." It then makes the refreshing statement that "this matter of vivisectioning animals for so-called scientific purposes has been the subject of discussion and universal condemnation by the more eminent members of the medical profession in Europe," and finally calls upon the legislature to "wholly suppress this barbarous and unjustifiable sacrifice of animal life and infliction of unnecessary physical pain, suffering, and death upon the brute creation."

In commenting on the above, one of the daily pa-

pers very sensibly remarks that Mr. Bergh will gain nothing in his crusade against vivisection by thus misrepresenting the case, and that the statute of 1867, which he cites in his memorial, is a very discreet and well-considered enactment; providing all reasonable safeguards against the abuse of vivisection, as it does, without forbidding its legitimate use. The value of vivisection, it continues, is a question for experts, and there is no reason to believe, nor does Mr. Bergh make any effort to show, that it is resorted to when the same end might be gained by other means. In other words, there is no reason why the law should be altered.

— Ex-Governor Horatio Seymour has been in Albany lately, making an appeal to the Ways and Means Committee for an appropriation to aid in the suppression and stamping out of infectious and contagious diseases among cattle.

— An inmate of the Female Insane Asylum on Blackwell's Island has died from the effects of a fracture of the skull, which was caused by a blow with a wooden pail in the hands of a fellow patient. The occurrence took place at night in what is known as the "retreat," where the most violent patients are confined, and it could, no doubt, have been avoided if there had been a sufficient number of nurses on duty, or if the building, like all those under the care of the commissioners of charities and correction which are used for the insane, had not been so overcrowded. Dr. A. E. MacDonald, who is the temporary superintendent, and has charge of the asylum on Ward's Island in addition, in his statement to the coroner investigating the case, said that there were about two hundred patients in the retreat, and that they were in charge of eleven nurses in the day-time, but only one nurse (who is assisted by three prisoners from the work-house) at night. He also stated that, unlike the state asylum at Binghamton or private institutions, the authorities were compelled by law to receive all the patients sent to them, and, as the present buildings were entirely inadequate to accommodate them all properly, they were obliged to put patients in the same rooms in many cases where this was by no means advisable. Immediately after the occurrence Dr. MacDonald asked for more night nurses, a request which was at once granted by the commissioners, although the salary account was already overdrawn; but he said he would like to have six on duty every night, one for every ward, and to do away entirely with the system of employing work-house women to assist them. Within the past year or two several cases of a similar nature have occurred in the Lunatic asylum on Blackwell's Island, and it is now proposed to make a searching inquiry into its condition and management. The principal cause of trouble will probably be found to be in the insufficiency of the present appropriations to provide adequately for the proper care of such a large number of insane as are now in the institutions belonging to the city. At the inquest in the above case the Neurological Society asked the privilege of being represented by Dr. E. C. Spitzka, a request which, after some objection

by Dr. MacDonald on behalf of the asylum authorities, was acceded to by the coroner. The following is the letter addressed to the latter: "Sir,—The undersigned, the committee of the New York Neurological Society on Asylum Abuses, have learned with great satisfaction that you have resolved, in your official capacity, to inquire thoroughly into all the circumstances connected with the recent homicide in the City Lunatic Asylum on Blackwell's Island. Believing that we are in possession of much information relative to the proper management of insane asylums, the defects which exist in the system under which the asylum on Blackwell's Island is conducted, and the fitness of its officers for their duties, we respectfully request that you will, in the interests of justice and insane-asylum reform, permit a representative of the Neurological Society to assist you in your important investigation." The communication bore the signatures, among others, of Drs. E. C. Seguin, Wm. A. Hammond, and T. A. McBride. Dr. MacDonald objected on the grounds that the society, not being chartered, and having no legal standing, had no right to be represented at the inquest, and that its members were at a direct issue with him, being his personal and official enemies. He then stated that he had no desire to have anything concealed, and explained that he had been superintendent only two months, and had accepted the position very reluctantly. He was placed in charge, he said, for the purpose of correcting, if possible, certain abuses which were acknowledged to exist, and he was only too willing to have them exposed. They were the results of years of mismanagement, and he thought it unreasonable to expect that they should all be corrected in two months.

—The Rev. Edward Cowley, who was deposed from the management of the "Shepherd's Fold" on account of the legal action of the Society for the Prevention of Cruelty to Children, has been indicted by the grand jury for his ill-treatment of the inmates of that institution, and committed to the Tombs in default of twelve thousand dollars bail. In the proceedings on behalf of the above society to procure the removal of the children from the Shepherd's Fold, a number of the older ones testified to the filth, cold, hunger, and harsh treatment to which they had there been subjected, and a special investigation was made of the case of a little boy named Louis Victor, who was sent from the institution to St. Luke's Hospital. The house-physician of this hospital described in court his deplorable condition when admitted, and said that the child cried incessantly for food, especially meat, while he seemed not to have mental power to think of anything but eating. He stated that he could find no evidence of constitutional disease in the boy, as was claimed by the manager of Shepherd's Fold, and that he was convinced that his condition was due to "want of proper food, both as to quality and quantity." Dr. Abram Jacobi also testified that he had examined Louis Victor, and that he was firmly of the opinion that his condition was the result of starvation. Then Dr. Frank H. Hamilton testified that the ulcers on the child were of the character

known as "starvation ulcers," and Dr. J. Lewis Smith corroborated the statements of the others, while Dr. Edward C. Spitzka expressed his belief that the child's mind would probably never recover from the shock which it had suffered in consequence of the poor and insufficient food which he had been obliged to live upon.

— On the evening of February 4th there was opened, under the management of Mr. Steele Mackaye, the new Madison Square Theatre, which is claimed to be a model place of amusement in every respect, and in the fitting up of which great care has been taken and much money expended. The appointments are all of the most elegant description, and the ornamentation in the most approved style of decorative art, while, in addition to other special features, such as the double stage, the theatre has been provided with ample means of exit in case of fire, and the most complete system of ventilation of any such building in the country. All the lights are inclosed in plate-glass lanterns, each having a separate flue to carry its gas or smoke to the roof, and under all the seats in the orchestra and dress circle there are the openings of four-inch pipes, through which an immense circular pan in the basement is made to force either hot or cold air. It is asserted that with the system adopted, which is said to be the invention of Mr. Mackaye himself, the whole interior atmosphere can be replaced by pure air every ten minutes.

Correspondence.

A DAY IN NEW YORK.

MR. EDITOR, — There is probably no one sight with which the medical visitor to this city would be more interested or entertained than a glimpse into the interior of the house, during "office hours," of that apostle of orthopaedic surgery and the present head of our national association, Dr. Sayre. The house itself is conveniently situated on a Fifth Avenue corner, a wing, or rather an additional house, on the side street being devoted to professional purposes. The guest is immediately shown past a room full of expectant patients and up a short flight of stairs, and without ceremony is ushered immediately into the professor's sanctum. Original as the owner is himself, it is not likely that the visitor's attention will be wholly diverted from the apartment, which is altogether unique. It may be said to occupy the entire interior of the building, which for three stories has been eviscerated to construct a very effective and capacious library. On the level of each row of windows it is encreased by an iron gallery, the three tiers thus formed being reached from the polished hard-wood floor by a graceful spiral staircase in one corner. Books in solid columns extend from the floor to the ceiling, while from the iron-work hang at every available point oil-paintings, portraits, photographs, testimonials, and water-colors, many evidently of a high order of merit. A low mantelpiece and paneled mirror, opposite which stands a large library table, give an air of cosiness and comfort to the apartment, while the corners are occupied by apparatus showing it to be devoted not only to literature, but to that art also in which its owner excels.

From a beam roughly thrust through a corner of the balcony hangs the well-known suspension apparatus, and near by, in place of ancient breast-plates which one might look for in this antique hall, we find the gauze and plaster trophies of many a more modern victory lying about in picturesque confusion. A young Hibernian knight, whose portrait will soon find its way to your columns, has just donned his armor as we enter, and is proudly stepping off with an elastic gait to which the little fellow has not for a long time been accustomed, while the professor gazes at him with almost paternal pride, giving his locks such a turn with the brush as will set off his jury mast to the best advantage. We need hardly say that our greeting was a cordial one, that room was made among a knot of medical visitors, and that the case was explained with an enthusiasm which, as you well know, is characteristic of our veteran host. Do not imagine that this is a public clinic, for in another corner is ensconced an English clergyman or "rector" with his little boy, and opposite him a "gent" just arrived from the West this morning to have his "jacket" inspected, which, by the way, was put on nearly a year ago; it has been cut down the front and bound with leather, hooks having been also inserted for a lacing, and is still in excellent condition. These cases disposed of, a young girl is brought in with an extreme lateral curvature; when first taken in hand the lower right ribs rested nearly upon the prominence of the buttock. The method adopted by Professor Sayre in this case is, we believe, entirely new. The plaster jacket is applied while the patient suspends herself by the pulleys. In a few weeks the jacket no longer hugs the prominent ribs; this part is then cut away and a new piece applied, holding the advantage thus gained. This process is repeated frequently, so that on the visit in question a nearly symmetrical jacket had been obtained. It might be supposed that an entirely fresh bandage would be preferable to the partial change; this, however, is not the case, but we will not anticipate what its originator may have to say upon the subject. The rapidity, the ease, and the skill with which Dr. Sayre, assisted by his two sons, whips off an old bandage and replaces it with a new one is an instructive lesson. There is a decided "boom" about the place which many of those disposed to criticise or smile at some of Dr. Sayre's ways would do well to imitate.

On Fifteenth Street, a few doors from Fifth Avenue, stands the new New York Hospital. At a little distance it has the appearance of a neat set of "chambers." It bears, however, the name of no saint, but is simply dedicated to the "down-town poor of the great city." Beneath a broad, low archway a flight of steps leads one into the centre of the building. Once inside, we find the stern simplicity of a hospital, but further inspection reveals the fact that there are many luxuries not often found in such a place: the neatly tiled floors, the brass gas bracket behind each bed, the cranes which swing out from the wall over the bed to lend a helping hand to the occupant. The most noticeable feature is the "polarium," a sort of winter garden, filled with tropical plants and tanks of fishes, where patients may lounge and smoke, and enjoy the fine view of the city lying beneath them. The operating theatre is small, and the light, as is so often the case, arranged so that the operator must place himself between the patient and the class to see well; but the members of the staff are at pains to inform you that for this and many of

the unusual luxuries the trustees are responsible. The antiseptic treatment of wounds is in vogue, though all the details laid down by Lister are not carried out. We find the dressings, but not the spray. Dr. Markoe uses a long drainage tube, the ends of which project through the dressing, and through which a weak solution of carbolic acid is injected every four hours. Although this hospital is built on the old plan, its general sanitary condition is said to be good, and it undoubtedly serves a useful purpose from its central situation. It is in communication with the lower part of the city by means of ambulances, which dash through the streets at great speed, and have the right of way before every other vehicle, not excepting those of the fire department.

LETTER FROM NEW ORLEANS.

THE AUXILIARY SANITARY ASSOCIATION.

MR. EDITOR.—The year 1879 was unexampled in the sanitary history of our city, and a striking contrast to the preceding year. The total mortality for 1879 was 5122, — less than half that of 1878. Estimating our population at 210,000, this would give a ratio of 24.39 per 1000, — not a bad showing for a large city in a semi-tropical latitude with malarious proximities. The mortality for the whites was 3267; and, estimating the white population at 155,000, we have a ratio of 21.07. The colored population is estimated at 55,000, while their mortality was 1855, giving a ratio of 33.72 per 1000. In 1878 the ratios were 52.01 for the whites and 41.01 for the colored, with the same estimate for respective numbers of population; while, eliminating yellow fever mortality, the ratios per 1000 would have been 27.09 for whites and 37.69 for colored. It is apparent, therefore, that some cause apart from yellow fever must be sought to account for so great a difference.

The epidemic of 1878 could not fail to make a profound impression on our citizens, and, on the approach of warm weather in 1879, some of our most intelligent and liberal men became convinced that further action was demanded beyond what the constituted authorities were able to undertake. The city government appropriated only \$10,000 for the use of the board of health to carry out its work of house-to-house inspection with abatement of nuisances, — a sum inadequate to meet the salaries of sanitary inspectors and sanitary police, and leaving nothing for disinfectants, in case of need, or for sanitary improvements. The outcome of the situation was the formation of a voluntary organization of citizens, who incorporated themselves under our general laws, taking the title of "the Auxiliary Sanitary Association of New Orleans."

A call for a mass-meeting was issued March 31st, and the same night the association was organized. Over two hundred gentlemen soon were enrolled as members, subscriptions were solicited, and collections were made during the season amounting to more than \$35,000, of which somewhat more than \$32,000 were expended. Some of the principal results of this expenditure were the following: Ten sanitary policemen were furnished the board of health for four months, to aid in the annual house-to-house inspection. During the summer a rapid inspection of the city was made by the combined force of the association and the board of health, for the purpose of disinfecting all privy vaults

and causing a general cleaning up of yards, alleys, and private inclosures. A disinfectant solution consisting of zinc and iron chlorides was distributed at one hundred different points throughout the city, and offered gratuitously to all who would apply for it. Nineteen covered garbage carts and three garbage boats were supplied to the city authorities, and the practice of filling low lots with kitchen offal and dead animals was discontinued.

It may be added that the members of the association feel so much encouraged by the improved health of our city that they have no intention of disbanding. They propose now to raise \$100,000 for the present year, by forming a list of property owners, assessing them for such contributions as they are supposed to be able to make, and then collecting what they can. The assessment will be made for about \$150,000, with the idea of realizing something like two thirds. Their grand object is to provide a sufficient volume of water from the river to wash out the street gutters and the drainage canals often enough to remove accumulation of mud, and prevent stagnation and foul odors.

I may have mentioned in a previous letter that our natural drainage is from the bank of the river back to Lake Pontchartrain, four miles away. The river runs upon a ridge produced by its own deposit during the high stage, and the lower country is protected from overflow by artificial embankments, called *levees*, on both sides. In New Orleans there are no sewers, but the drainage is effected by open gutters into several large drainage canals in the rear of the city, which discharge into the lake. The flow of water is aided by large undershot wheels, driven by steam-engines, which lift the water over protection levees in the rear. These levees are required to protect the city from storm tides from the lake during the prevalence of northeast winds.

Now, the plan of the Auxiliary Sanitary Association is to lay a large pipe, built of cypress wood with strong iron hoops, along the front of the city, five miles in length. This pipe will have outlets into all the gutters of streets perpendicular to the river, and will be supplied by three powerful steam pumps from the river during the ordinary stage of water. In time of high water it will be necessary only to open sluices through the levees, as is done already in some places for this purpose. It is estimated that the cost of this pipe, twenty-two inches in diameter, built of cypress stuff, two and a half inches thick, will be \$1.50 per foot, or \$39,600 for 26,400 feet; and the cost of the pumps, with boilers and engines complete, \$18,000. This system of cleansing the gutters and canals will therefore cost \$57,600 for original outlay, while the running expense will be far less than the old plan of cleaning the gutters by hand-work with spades followed by carts, and a periodical excavation of the canals by dredging machines, and it is expected that the result will be much more satisfactory.

In addition to the sanitary work already mentioned, the infected portion of the city (where most of the cases of yellow fever occurred in 1879), comprising about forty squares, underwent a repeated process of cleaning up and disinfection during the month of September. Garbage and rubbish of all kinds were removed, lime was scattered freely in street gutters, and a strong solution of copperas was thrown into all privy vaults and cess-pools. The cost of this work was paid by the National Board of Health.

It might be unwarrantable to attribute our escape from another epidemic in 1879 wholly to improved sanitation. The preceding severe winter should probably be allowed some credit, but that did not avail for the protection of Memphis, nor prevent a wide-spread visitation of Southern Louisiana. Candor requires the acknowledgment that we are ignorant of some of the causes that govern the origin and spread of yellow fever, as we are in case of typhoid and scarlet fevers. Yellow fever did not seem to have, last summer, in New Orleans an epidemic disposition, just as, at the present time, is the case with scarlet fever and diphtheria, which exists in a sporadic form. S. S. H.

NEW ORLEANS, January 27, 1880.

COUNTRY PRACTICE: LEAD POISONING.

November 26, 1879. S. L., age fifty-eight years. Patient had nausea, tenderness of mouth and swelling of gums, slight diarrhoea, pains in abdomen and chest, and leaden-colored lines along the mucous membrane bordering the teeth. The breath was offensive, the odor like that produced by salivation from mercury. Soon the whole cutaneous surface became intensely yellow, changing to a copper hue. This had considerably faded before death. Skin dry; urine scanty and of the color of saffron; micturition difficult; tender-

ness and pain in region of liver. Later there was constipation, with very severe pain in abdomen, chest, arms, and legs. Then came paralysis of arms and legs, most complete on right side; feet swollen, right more than left; an abscess in right hand, with bad pus; three small abscesses on right leg. Temperature never above 101° F.; usually nearly normal, or a little below.

Diagnosis: lead poisoning. *Treatment:* iodide of potassium, laxatives, and generous diet. Patient died December 30th. No post mortem.

Remarks: Though lead poisoning was suspected on the first visit, yet its source could not be ascertained until two weeks before death. The physician then found that the patient and others of the family had been drinking cider from a tub that had been painted inside with white lead and oil a few months before. Of course the impurity was unknown to the physician, until he accidentally learned of the painted tub.

Other members of the family had characteristic condition of gums, nausea, neuralgic pains in chest and abdomen, but no paralysis or hepatic disturbance.

Query: What relation had the lead poisoning to the jaundiced condition of the skin and urine? The liver was not larger, but rather smaller than normal.

WILLIAM CHILD.

BATH, N. H., January 20, 1880.

REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 7, 1880.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Deaths under Five Years.	Percentage of total Deaths from				
				The Principal Zymotic Diseases.	Long Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.
New York.....	1,085,000	521	200	17.66	17.27	5.95	1.13	.56
Philadelphia.....	501,380	288	109	12.84	10.76	7.29	2.08	2.08
Brooklyn.....	564,400	226	93	25.66	12.39	14.16	3.10	—
Chicago.....	—	170	76	40.59	7.06	35.88	6.47	1.18
St. Louis.....	—	82	24	15.85	9.76	6.10	—	2.44
Baltimore.....	393,796	121	47	18.18	10.74	6.61	6.61	.83
Boston.....	365,000	144	54	15.98	23.92	8.33	1.39	2.08
Cincinnati.....	280,000	71	26	12.68	9.86	—	4.22	4.22
New Orleans.....	210,000	—	—	—	—	—	—	—
District of Columbia.....	170,000	78	39	6.41	21.80	2.56	—	—
Cleveland.....	160,000	67	35	47.76	2.98	14.92	22.39	4.48
Pittsburgh.....	—	72	33	29.17	15.28	12.50	4.17	4.17
Milwaukee.....	127,000	33	14	18.18	9.09	9.09	3.03	—
Providence.....	101,500	39	14	23.08	17.95	5.13	17.95	—
New Haven.....	60,000	22	13	13.64	13.64	9.09	—	—
Charleston.....	57,000	27	10	22.22	7.41	11.11	—	7.41
Nashville.....	17,000	23	4	13.04	34.78	4.34	—	8.69
Lowell.....	54,000	23	13	21.74	8.70	4.35	8.70	—
Worcester.....	53,000	27	6	22.22	14.81	3.70	—	—
Cambridge.....	50,400	18	7	44.44	5.56	27.78	—	5.56
Fall River.....	49,000	21	10	33.33	—	—	23.81	4.76
Lawrence.....	38,600	16	4	25.00	6.25	6.25	—	12.50
Lynn.....	34,000	14	7	—	7.14	—	—	—
Springfield.....	31,800	5	1	20.00	—	—	20.00	—
New Bedford.....	27,200	17	7	29.41	5.88	29.41	—	—
Salem.....	26,500	12	3	—	8.33	—	—	—
Somerville.....	23,500	5	1	—	20.00	—	—	—
Chelsea.....	21,000	10	2	10.00	10.00	10.00	—	—
Taunton.....	20,200	11	2	—	27.27	—	—	—
Holyoke.....	18,400	12	5	33.33	16.67	16.67	—	16.67
Gloucester.....	17,300	11	9	18.18	—	—	18.18	—
Newton.....	17,300	—	—	—	—	—	—	—
Haverhill.....	15,350	11	0	9.09	—	9.09	—	—
Newburyport.....	13,500	3	1	100.00	—	—	—	—
Fitchburg.....	12,600	3	1	33.33	—	—	—	—
Twenty Massachusetts towns.....	155,860	40	11	17.50	5.00	7.50	2.50	5.00

Two thousand two hundred and forty-three deaths were reported; 881 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 463, consumption 366, lung diseases 295, diphtheria and croup 205, scarlet fever 80, typhoid fever 38, diarrhoeal diseases 35, measles 33, whooping-cough 29, erysipelas 19, malarial fevers 13, cerebro-spinal meningitis seven, small-pox four. From *measles*, New York 24, Chicago five, Brooklyn two, Pittsburgh and New Haven one. From *whooping-cough*, New York seven, Brooklyn, Boston, Cleveland, and Pittsburgh three, Baltimore and District of Columbia two, Philadelphia, Chicago, Cincinnati, Newburyport, Fitchburg, and Weymouth one. From *erysipelas*, New York six, Brooklyn five, St. Louis two, Philadelphia, Boston, District of Columbia, Cleveland, Worcester, and Cambridge one. From *malarial fevers*, New York five, Brooklyn three, Chicago two, St. Louis, Baltimore, and Milwaukee one. From *cerebro-spinal meningitis*, Chicago and Cincinnati two, Charleston, Worcester, and Fall River one. From *small-pox*, Philadelphia and Worcester two. Sixty cases of measles, 51 of diphtheria, and 33 of scarlet fever were reported in Brooklyn; diphtheria 26, scarlet fever 11, in Boston; diphtheria 19, scarlet fever seven, in Milwaukee; diphtheria 12, in New Bedford. During January diphtheria was the most prevalent infectious disease in New York.

Allowing for New Orleans, not reported, the total number of deaths and of deaths under five are very nearly the same as for the previous week. Lung diseases, consumption, diarrhoea, and especially typhoid fever caused more deaths, scarlet fever fewer; other diseases remain without noteworthy change. Scarlet fever is reported as being more malignant in Cleveland. Since the appearance of small-pox in Worcester, two months ago, up to date there have been 22 cases of small-pox and varioloid, all *unvaccinated* except two. The death-rate of whites in the District of Columbia was only a little over one third of that of the colored population. In 37 cities and towns of Massachusetts, with an estimated population of 988,610 (population of the State about 1,690,000), the death-rate was

20.41 against 20.17 and 20.58 of the previous two weeks, with a somewhat increased mortality from diarrhoea and typhoid fever.

For the week ending January 17th, in 142 German cities, with an estimated population of 7,648,478, the death-rate was 26.2 against 27.7 and 27.2 of the previous two weeks. Three thousand eight hundred and forty-eight deaths were reported; 1700 under five; pulmonary consumption 528; acute diseases of the respiratory organs 426, diphtheria and croup 155, scarlet fever 73, whooping-cough 58, typhoid fever 39, measles and *rötheln* 36, puerperal fever 20, small-pox (Cologne and Bremen), two, typhus fever one. The death-rates ranged from 14.1 in Götting to 38.0 in Dantzig; Königsberg 26.1; Breslau 29.2; Munich 34.4; Dresden 20.8; Berlin 25.5; Leipzig 26.2; Hamburg 27.9; Hanover 17.5; Bremen 22.8; Cologne 26.8; Frankfurt 21.1; Strassburg 37.2. For the same week, Vienna 28.5; Prague 37.5; Paris 33.2. Small-pox and diphtheria continue very prevalent in Paris. In the 20 chief towns of Switzerland acute diseases of the respiratory organs were widely prevalent and fatal; the infectious diseases except diphtheria caused very few deaths. In Belgium small-pox was the most prevalent and fatal of the zymotic diseases, being chiefly confined to the smaller towns, typhoid fever coming next in order, diphtheria being almost absent; lung diseases caused very great mortality.

For the week ending January 24th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 26.0 against 24.2 and 24.0 of the previous two weeks. Three thousand seven hundred and forty-one deaths were reported: diseases of the respiratory organs 559, whooping-cough 198, scarlet fever 145, measles 129, diarrhoea 28, fever 24, diphtheria 17, small-pox (London) three. Under the milder temperature there was a considerably increased mortality from whooping-cough and lung diseases. The death-rates ranged from 19.6 in Oldham to 30.7 in Manchester; London 27.1; Brighton 20.9; Bristol 23.7; Liverpool 28.3; Birmingham 25.1. In Edinburgh 21, Glasgow 26, Dublin (small-pox caused five deaths) 40.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.				Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
Feb. 1	29.912	19	38	3	62	38	60	53	SW	W	NW	4	34	28	C	C	C	0.10	—
" 2	30.463	10	18	5	37	48	46	44	NW	W	C	16	4	0	C	C	C	—	—
" 3	29.447	22	33	10	100	100	49	33	SE	E	NW	35	40	21	S	S	S	17.55	.97
" 4	29.900	23	28	15	69	53	73	65	SW	W	W	22	19	11	C	C	C	—	—
" 5	30.292	28	39	15	68	38	56	54	SW	SW	SW	2	6	8	C	C	F	—	—
" 6	30.247	28	41	22	77	45	75	66	SW	W	W	15	17	16	F	C	C	—	—
" 7	30.257	24	28	17	71	76	75	74	C	NE	W	0	2	13	O	S	F	4.00	.02
Week.	30.073	22	41	-5				63		Southwest.								22.05	.99

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., snow; R., rain; T., threatening.

A PROPOSED ACT TO REGULATE THE PRACTICE OF MEDICINE IN MASSACHUSETTS.

Be it enacted, etc. SECT. 1. The governor, with the advice and consent of the council, shall appoint from the members of medical societies in the commonwealth, incorporated with power to examine candidates for membership and to approve their members, eight discreet persons, learned in the science of medicine and graduates of an approved medical institution, with one discreet practitioner of dentistry, as a board of medical registration; three of whom shall serve for one, three, and five years, respectively, as may be arranged by lot after their appointment. Vacancies occurring by expiration of the term of service of members shall be filled by the appointment of new members for the term of five years. The selection of members of said board from said societies shall be so made that the number of members of each society serving thereon shall be, as nearly as possible, proportional to the whole number of members of such society living in the commonwealth; provided, however, that there shall always be upon said board one practitioner of dentistry, and at least one member of each of said societies, so long

as it has thirty or more members, and upon the board as first appointed an additional member from each society having one hundred and fifty members. Any member of the board may be removed at any time, for sufficient cause.

SECT. 2. The board may elect a president from their own number, and a secretary who may but need not be a member, and who shall receive for his services such portion of the fees collected by the board as they may determine. The necessary expenses of the board, and of the members while actually engaged in their official duties, shall be paid from the fees hereafter provided, and any surplus of fees not expended for the purposes above named shall be paid into the treasury of the commonwealth annually.

SECT. 3. The board shall meet at least twice at Boston, once at Worcester, and once at Springfield, in each year, for the examination of applicants as hereinafter provided; the first meeting at each place to be held within three months after their appointment.

Notice of such meetings, specifying the purposes for which they are held, and containing a reference to this act, shall be published not less than three times in one newspaper in each

county. At such meetings any applicant not less than twenty-one years of age, of good moral character, shall, on payment of fifteen dollars therefor, be examined by the board in such subjects as they may deem necessary, not including therapeutics; and any applicant who has studied medicine three full years, and has received the degree of doctor of medicine, or a license to practice medicine, from an approved institution having power to grant the same, shall receive a license to practice medicine within the commonwealth, if found qualified therefor.

SECT. 4. Any person who at the time of the passage of this act is a member of any society described in section one may practice medicine without further license so long as he remains a member of either of said societies; and any person of good moral character who has received the degree of doctor of medicine, or a license to practice medicine, from an approved institution having power to grant the same, and who has practiced medicine within the commonwealth for one year before the passage hereof, shall be entitled to a license to practice medicine upon payment of two dollars therefor. The board may also grant a license, without examination, to any person of good character and reputation who has practiced medicine within the commonwealth for ten consecutive years on payment of two dollars; and to any person of good character and reputation who has so practiced for two consecutive years, and who is found qualified therefor after an examination in such subjects as are agreed upon by all the members of the board, on payment of fifteen dollars.

SECT. 5. A license may be granted, without examination, to any practitioner of medicine not residing in the commonwealth, of good character and reputation, who has received the degree or license mentioned in section three, on payment of two dollars; and a temporary license for a period not exceeding three months may be granted, without examination, to such person, on payment of two dollars. A temporary license to render gratuitous medical services under the direction of his instructor or superior officer may be granted, without examination, to a student of any incorporated school of medicine in the commonwealth who has studied medicine not less than two years, or to a student of medicine or dentistry employed in a public hospital or dispensary, on payment of one dollar.

SECT. 6. A license to practice midwifery may be granted to any person not less than twenty-one years of age, of good character and reputation, who, on examination by the board, is found qualified therefor, on payment of five dollars.

SECT. 7. A license to practice dentistry shall be granted to any applicant not less than twenty-one years of age, of good moral character, who has studied medicine or dentistry three full years, and has received the degree of doctor of medicine, doctor of dental medicine, or doctor of dental surgery from an approved institution having power to confer the same, and who on examination by the board is found qualified therefor, on payment of fifteen dollars; and such license shall be granted to any person of good character and reputation practicing dentistry in the commonwealth at the time of the passage hereof, on payment of two dollars.

SECT. 8. It shall be the duty of every applicant for a license hereunder to furnish to the board satisfactory evidence of his qualifications therefor or right thereto, as hereinafter provided. The board may refuse a license to any person who has been convicted of crime; and if any person holding a license shall be so convicted, or shall, in the unanimous judgment of the board, cease to be qualified therefor in accordance with the provisions hereof, such license may be revoked; and a license obtained by fraud or false representations shall be void.

SECT. 9. Nothing herein shall be construed to forbid the practice of medicine by medical officers in the service of the United States, the treatment of a ship's company by its surgeon, the rendering of medical services by a non-resident, duly authorized to practice medicine in the place where he resides, in any case wherein he is called into the commonwealth by any person residing therein for the purpose of rendering such services, nor the gratuitous rendering of medical services by any person in case of emergency; provided that it shall not be necessary to negative these exceptions in any complaint or indictment hereunder. The word "medicine" herein shall be construed to include surgery and midwifery.

SECT. 10. No certificate of death shall be received or recorded by any town or city clerk or registrar unless the same is signed by a person duly licensed or authorized to practice medicine, as herein provided.

SECT. 11. Any person who shall practice or shall in any manner publicly offer or advertise to practice medicine or dentistry within the commonwealth, without being duly licensed or authorized thereto, as herein provided, shall be punished by fine not exceeding five hundred dollars.

SECT. 12. For the purpose of the appointment of the board

of medical registration, and of all proceedings by them hereunder, this act shall take effect upon its passage, and shall take full effect on the first day of October next.

The board shall on or before the first day of January of each year return to the secretary of the commonwealth the names of all persons licensed or authorized to practice medicine, dentistry, or midwifery.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM FEBRUARY 7, 1880, TO FEBRUARY 13, 1880.

TAYLOR, M. K., captain and assistant surgeon. To repair to Washington, D. C., and settle his accounts with the treasury department. On completion of this duty, rejoin his proper station. S. O. 30, A. G. O., February 7, 1880.

MCLELLERY, H., captain and assistant surgeon. Relieved from duty in Department of the East, to proceed on or before March 1, 1880, to Fort Omaha, Nebraska, and report in person to commanding general, Department of the Platte, for assignment to duty. S. O. 29, A. G. O., February 6, 1880.

HOFF, J. V. R., captain and assistant surgeon. To report in person to commanding general, Department of the East, for assignment to duty at Fortress Monroe, Va. S. O. 29, C. S., A. G. O.

HALL, WILLIAM R., first lieutenant and assistant surgeon. The leave of absence granted him December 5, 1879, from headquarters, Department of the Columbia, is extended three months. S. O. 32, A. G. O., February 10, 1880.

APPEL, D. M., first lieutenant and assistant surgeon. So much of the order of December 29, 1879, as relieved him from duty in Department of the Missouri is revoked. He will report in person to commanding general, Department of the Missouri, for assignment to duty. S. O. 32, C. S., A. G. O.

BOOKS AND PAMPHLETS RECEIVED.—A System of Medicine. Edited by J. Russell Reynolds, M. D., F. R. S., Fellow of the Royal College of Physicians of London, etc. With numerous additions and illustrations by Henry Hartsorne, A. M., M. D., Fellow of the College of Physicians of Philadelphia, etc. In three volumes. Vol. I. General Diseases and Diseases of the Nervous System. Vol. II. Diseases of the Respiratory and Circulatory Systems. Philadelphia: Henry C. Lea. 1879.

We refer to this important work now only for the purpose of recommending it to those of our readers who may be in need of a complete treatise on British and American Medicine, as we shall take a later opportunity of calling attention to many of the chapters which deserve especial commendation. The English edition of five volumes is reduced by skillful economy of space to three very handsome ones, with a great reduction in cost. The work is published by subscription, and an agent, Mr. French, is at present calling upon the practitioners of New England, whom we have no hesitation in advising to buy it.

Partial Forward Dislocation of the Head of the Humerus, or Backward Displacement of the Tendon of the Long Head of the Biceps, replaced after the Lapse of One Month. By David Prince, M. D., Jacksonville, Ill. (Reprint.)

Pay Hospitals and Paying Wards throughout the World. Facts in Support of a Rearrangement of the English System of Medical Relief. By Henry C. Burdett. London: J. and A. Churchill, New Burlington Street, W. 1879.

Catalogue of Dartmouth College and the Associated Institutions for the Year 1879-80.

Responsibility restricted by Insane Delusions. By T. L. Wright, M. D. (Reprint.)

Fourteenth Report of the Board of Trustees of the Connecticut Hospital for the Insane. 1880.

Eyesight: Good and Bad. A Treatise on the Exercise and Preservation of Vision. By Robert Brudenell Carter, F. R. C. S., etc., etc. With numerous illustrations. London: Macmillan & Co. 1880.

A Manual of Pathological Histology. By V. Cornil and L. Ranvier. Translated, with Notes and Additions, by E. O. Shutepease, A. M., M. D., and J. Henry C. Simes, M. D. With three hundred and sixty illustrations on Wood. Philadelphia: Henry C. Lea. 1880. (From A. Williams & Co.)

On the Internal Use of Water for the Sick, and on Thirst. By J. Forsyth McKim, M. D. Philadelphia: Lindsay and Blackiston. (A. Williams & Co.)

A Synopsis of the Physiological Action of Medicines. By Louis Starr, M. D., and James B. Walker. Second Edition, revised and enlarged.

Report of the Committee on Organization of the State Lunatic Commission. New York.

Original Articles.

INTESTINAL OBSTRUCTION.

WITH A REPORT OF SIX CASES.¹

BY WILLIAM B. DAVIS, A. M., M. D.,

Professor of Materia Medica, Mount Medical College, Cincinnati.

It is my privilege this evening to present the society with a report of six cases of intestinal obstruction, which have fallen under my personal observation. These obstructions were within the bowel or in the walls of the intestines. It is well known that the chief characteristics of obstructions of this kind are pain, chiefly about the umbilicus or right iliac region; constipation; vomiting, which may become feculent; distention, which may be general or confined to a portion of the abdomen; hiccup, which usually appears late, but may manifest itself early when the obstruction is high up; suppression of urine, and collapse. Arrest of urine may occur, according to Sedgwick, if the attack be sudden and acute, and implicate the small intestines; or it may be produced by the vomiting, fever, local inflammation, and collapse. In addition to the above symptoms we are likely to observe in invagination of the bowel frequent desire to go to stool, tenesmus, and discharge of blood.

Feculent vomiting, according to Professor Macleod,² of the University of Glasgow, is the only certain sign of obstruction. Leichtenstern³ states that an obstruction of the intestine may remain latent for a long time, and then suddenly appear with the severest indications, and that there is no cause of acute obstruction which cannot spontaneously disappear as well as originate. "Nevertheless," he says, "the number of these spontaneous cures is exceedingly small when compared with the mass of cases that have ended fatally, and we must describe the prognosis of internal occlusion of the intestine as in the highest degree unfavorable, and ileus as — to use De Haën's words — a *morbus terribilis, ereberrime letalis*."

The duration of acute obstruction of the bowels is stated to be on the average six days, and varies from eight hours to thirteen days. The most common termination is by general peritonitis. In twelve thousand necropsies, Brinton⁴ found one in every two hundred and eighty deaths to be from obstruction of the bowels, hernia excluded. Leichtenstern's investigations led him to the conclusion that in every three or four hundred deaths one was from obstruction of the bowels.

Concerning the percentage of recoveries there are but few reliable data to be found. The General Hospital of Vienna reports sixty cases of ileus, of which about eight per cent. recovered.

CASE I. OBSTRUCTION FROM INTUSSUSCEPTION.

F. R., aged five months, a large and vigorous child for his age, was suddenly seized, on the morning of May 22, 1879, with violent pains in his bowels, characterized by sharp agonizing cries, limbs flexed on abdomen, severe and almost continued tenesmus, and discharges of mucus and blood. The mother said the child had passed a comfortable night, and seemed perfectly well up to seven o'clock in the morning. I saw him at

¹ Read before the Cincinnati Medical Society, January 13, 1880. See Report of Proceedings on page 201.

² British Medical Journal, November 18, 1876.

³ Ziemssen, vol. vii. page 518.

⁴ Intestinal Obstruction, page 33.

nine A. M., and ordered a tablespoonful of castor-oil to be administered and hot fomentations to be applied over the abdomen. Three P. M. No passage from bowels; more quiet, but straining continues, with some discharge of blood and mucus. Seven P. M. No passage; other symptoms about the same, except that the child shows signs of collapse. I was now convinced that I had a case of invagination to deal with, and sent for Dr. John Davis. He corroborated my diagnosis, and we at once placed our little patient in an inclined position, with pelvis raised and trunk dependent, and with the aid of a "fountain syringe" filled his bowels with a quart or more of warm water. We then applied a compress over the anus, in order to prevent the escape of the fluid, and occasionally lifted him by his legs, and, with body dependent, gave one or two quick jerks; then gently kneaded the bowels. Some of the water escaped during our manipulations, but not much. At eleven P. M. we introduced more warm water into his bowels, and as the child was in a state of collapse we directed him to be wrapped in blankets, with warm bricks closely applied, and left, not expecting him to survive the night. On the morning of the 23d we found him alive, warm, perfectly blanched, very quiet, but no operation, not even the discharge of the water we had injected. We ordered small doses of beef tea and wine to be given him. At three P. M. that day the child had a copious feculent passage, and after that slowly rallied, until he was restored to perfect health.

CASE II. OBSTRUCTION OF DOUBTFUL ORIGIN.

J. E., aged forty-three years, born in Germany; occupation, saloon-keeper. Very obese, weighing near two hundred and fifty pounds. During the past two years he has had several severe attacks of inflammatory rheumatism, and for the three months immediately preceding his last illness he was a great sufferer from rheumatic gout. On the evening of September 19, 1879, he informed me that he was suffering from a pain in his stomach and bowels, which had annoyed him for several days. As he had been troubled before with indigestion and acid stomach, I thought this attack might be of a similar character, and ordered some pepsin and soda for him, and also prescribed a mild aperient. September 20th, ten A. M. He passed a very uncomfortable night, having constant pain in right hypochondriac region, with more or less distention of the bowels. He had several small, watery stools, but felt in no way relieved by them. Pulse 100; temperature, 101° F. I directed morphia in one-eighth grain doses to be given every two or three hours, when in pain.

September 21st. Pulse, 120; temperature, 102° F.; tongue dry and furred; urine scanty and high colored; bowels tympanitic and very painful; vomited everything taken into the stomach. Gave one sixth grain of morphia subcutaneously, and directed a nurse to give him copious enemas of warm water. Three P. M. No relief. Gave another injection of morphia, and repeated the warm-water enema. Seven P. M. Much worse; pain very agonizing; no operation; urine suppressed; entire abdomen distended to its utmost capacity. Called Dr. Falls and Dr. Clendenin in consultation. We inserted a large gum catheter, its entire length, into his bowels and injected three quarts of warm water, continuing the subcutaneous use of morphia, giving it often enough to keep him well under its influence.

September 22d. Pulse 100; temperature 99° F. Urine suppressed. Early in the morning he had a watery discharge, which had a slight feculent odor; ten A. M., he had another passage, which was more feculent in character; at one P. M. he had a passage of more consistence. His pain was almost gone, and the bowels were softer. His pulse was rapid and weak, and his surface suffused with a cold, clammy perspiration. We ordered brandy and beef tea to be given freely, but he rapidly sank, and died at three o'clock that day.

This man's habits of life and rheumatic attacks had so impaired his health that he had not sufficient vitality to resist any severe strain; hence he died. The obstruction was overcome, his bowels were moving, temperature falling, and pain almost gone.

CASE III. OBSTRUCTION FROM ULCERATION OF THE APPENDIX VERMIFORMIS.

J. B., aged twenty-one years, American, married, green-grocer, was a large, powerful young man, of active habits and robust health until his last illness. I was called to see him May 10, 1868, and found him suffering with severe pain in his bowels. He had not felt well for several days, but kept at his work until compelled to desist. His abdomen was very much distended and exquisitely painful in every part, and he had had no passage for several days. He had a high fever, with full, bounding pulse. His treatment consisted of full doses of opium and enemata of warm water. His pain was somewhat controlled, but there was no amelioration of the acute inflammatory symptoms, and he sank, and died on May 12th, without having had any movement from his bowels. Drs. John Davis and David Judkins saw him in consultation with me.

Autopsy. We made a post-mortem examination, and found acute inflammation of the peritoneal covering of the bowels, and the appendix vermiformis in a state of suppuration and almost detached from the cæcum, being held by but a small filamentous tissue. In the appendix we found a hard, dry, scybalous lump about the size of a pea. There was occlusion near the ileo-cæcal valve and distention above.

CASE IV. OBSTRUCTION FROM TWISTING OF THE INTESTINE.

Mrs. S., aged thirty, married, German; has three children. Her husband keeps a saloon, and serves a free lunch to his patrons every day. They employ no servants, Mrs. S. attending to her family and household duties and the preparation of the daily lunch. This often requires rapid work and severe exertion. On February 19, 1879, after the hurry of her morning's duties were over, she experienced a severe cramp, as she described it, in her stomach. She took some home remedy, without obtaining relief. The pain increasing and vomiting setting in, she sent for me at three P. M. I found her suffering with pain in her right hypochondriac region, with some distention of bowels, nausea, and vomiting. I ordered one eighth grain of morphia and five grains of bismuth, to be given her every hour until relieved. Six P. M. All of her symptoms intensified. Increased the morphia to one fourth grain every hour. Nine P. M. No relief; suffering very intense. She informed me that she felt a large lump in her right side. I examined, and found an enlargement in her right hypochondriac

region, which was perceptible to the eye as well as the touch. It was about the size of a hen's egg, and felt like a strangulated knuckle of intestine, being resonant upon percussion and painful on pressure. I injected over the protrusion and in the most painful locality one fourth grain of morphia, and directed her to send for me at twelve P. M. if she were in much pain. No messenger came, and I did not see her until the next morning at nine o'clock, February 20th. She then informed me that the subcutaneous injection gave her almost instantaneous relief; that she went to sleep soon after, and did not wake until morning, when she felt for her lump and found that it was gone. I could find no traces of it except some tenderness on pressure. She made a good recovery, and was discharged on the third day, after her bowels had been moved by a gentle purgative. She had never had any hepatic difficulty, and during this attack and afterwards there was no yellowishness of skin or conjunctiva, and no gall-stones were found in any of her passages. I have thought that this obstruction was occasioned by a spasmodic action or twisting of the bowel, probably in the upper portion of the ascending colon, and what Dr. Brinton calls "torsion of the bowel on its axis."

CASE V. OBSTRUCTION FROM FÆCAL IMPACTION.

Mrs. M., aged sixty-three years, American, married, was seen in consultation with Dr. Robert F. Carver. As I saw her she presented the appearance of an infirm, emaciated woman. She had been ill for a week with obstruction of the bowels, which Dr. Carver had diagnosed as impaction of feces. There was slight pain and much distention of the bowels, with some derangement of stomach, but no febrile disturbance. The abdominal parietes were so thin and flaccid that the colon could be clearly traced. The descending portion was much distended with impacted matter. By the aid of frequent enemata of warm water the impaction gave way, and she discharged enormous quantities of strawberry seeds, and made a good recovery.

CASE VI. OBSTRUCTION FROM PROBABLE ULCERATION OF APPENDIX VERMIFORMIS.

Mr. F., aged thirty-three years, Irish, teacher, married; florid complexion, nervo-bilious temperament, general health good. A compactly built, muscular man. On July 15, 1878, I was called to see him, and found him suffering from a severe pain in the region of the umbilicus and extending to the right iliac fossa. It yielded readily to opium treatment, and he left on the 17th to spend his vacation in the far West.

December 26, 1878, Dr. W. Wenning was called to see him at twelve P. M. He was suffering with excruciating pain in his bowels, attended with distention. Under treatment "the pain gradually descended to the right inguinal region, and persisted there. There was great tympanites, with tenderness on pressure, together with a feeling of a hard substance in the right iliac fossa."

On January 4, 1879, he called at my office, and I found him still suffering from a localized pain in the right inguinal region. "The hard substance" described by Dr. Wenning was very perceptible. He presented a haggard, anæmic appearance, and I placed him upon quinine and iron, and directed a fly-blisters to be placed over his "lump." His bowels

were kept open with simple laxatives. On this treatment he rapidly improved, and on January 22d he reported himself well.—every vestige of his lump having disappeared. I did not see him again until he called at my office Sunday afternoon, February 16, 1879, and asked for a prescription to control "pain in his stomach." He said he had been attacked with pain in the region of his umbilicus at four o'clock that morning, and had suffered more or less with it ever since. A friend had advised him to eat some garlic for it, and he had done so, but on his way to my office had vomited several times, and thought he had thrown it all off his stomach.

I directed him to take one eighth grain of morphia and five grains of bismuth every hour until relieved. I was summoned to his house that night at eleven o'clock, and found that he had obtained no relief whatever from his pain, but his vomiting had been controlled. His temperature was 98° F. and his pulse rate 74. I ordered him one fourth grain of morphia every hour when in pain.

February 17th. He slept most of the previous night, and was comparatively comfortable. Temperature normal and pulse 64. He complained of pain upon pressure in the region of the umbilicus, and percussion revealed a tympanitic condition in that locality. In answer to my questions, he said that he had eaten nothing unusual recently except a handful of raisins. He was regular in his bowels, and had had an evacuation from them on the morning of his attack which was somewhat costive in character. I ordered him three compound cathartic pills, to be followed with a copious enema of warm water. I saw him again at five p. m., and found that the enema had been discharged, but there was no passage from his bowels. He had vomited several times, and had constant, but not very intense pain. I directed another enema to be given, and if it did not operate by nine p. m. more morphia. At twelve o'clock that night I was sent for and informed that he was much worse. I directed the messenger to go for Dr. Gustaf Brühl, and request him to meet me at Mr. F.'s residence. We found him in great agony; bowels much distended and very painful, but severest pain about the umbilicus; tongue dry; urine scanty; temperature 100° F., pulse 85. We gave one fourth grain of morphia subcutaneously, and ordered five grains of calomel every three hours until fifteen grains had been taken. By the courtesy of Dr. Wenning, who lived near by, the morphia was again administered at four a. m. From this time Dr. Wenning joined us in the care of the case.

February 18th. Pulse 80, temperature 100° F., tongue dry and coated, pain severe, distention over whole abdomen, no passage. Rejects everything taken into the stomach. Continued subcutaneous use of morphia every four hours; also gave calomel in five-grain doses every three hours, and ordered copious enemata of warm water at five p. m. All of the above symptoms are intensified, and in addition hiccough and stercoraceous vomiting have set in, tongue dry and furred, urine suppressed, pulse 112, temperature 100° F. Continued the morphia injections and besides gave one twelfth grain with two grains of bismuth every two hours. We gave, beside, sulphuric ether and bicarbonate of soda in aq. laurocerasi.

February 19th. Much worse: eyes sunken, voice husky and weak, hippocratic aspect of face, surface

suffused with cold perspiration, urine suppressed. Hiccough and stercoraceous vomiting continue, with but brief intervals of rest. Pulse 120, temperature 102° F. Impending collapse was so apparent that the emphatic utterance of one of the physicians as we reached the consulting room, namely, "Our patient is a doomed man; he must die," was but the reflection of the thoughts of the others. Nevertheless, we determined to renew our efforts with more copious enemata with the addition of beef tea and brandy. Heretofore, the injections had been given by attendants, one of whom claimed to be skilled in their administration. [They were all rejected shortly after having been given.] We now decided to administer them ourselves, and in quantity sufficient to distend the bowels; hoping, thereby, to soften and dilute the feces and overcome the obstruction. We relied in our treatment upon the mechanical pressure of the water, the antispasmodic action of the warmth, and the nutrient and stimulant effects of the beef tea and brandy, in addition to the soothing and sustaining powers of opium. We passed a large elastic catheter its entire length into his bowels, and then slowly injected two quarts of warm water with four tablespoonfuls of beef tea and two of brandy. This quantity of water, beef tea, and brandy was injected at eleven a. m., two, five, eight, and eleven p. m., making in all ten quarts. This quantity he retained save about one quart, which was passed in the afternoon. He vomited after each enema, and the vomit was still feculent, and his hiccough continued at intervals. By five o'clock, p. m., a marked change for the better had taken place; pulse 116, full and strong, temperature 100° F. The face had a natural expression, and the skin was warm and moist.

February 20th. Pulse 100, temperature 98° F. Tongue moist; urine freely secreted; skin warm and moist; stomach somewhat irritable, but vomit no longer feculent; occasional hiccough; bowels distended and painful; no passage. He had slept most of the previous night, and was very hopeful and cheerful. Continued treatment, giving the enemata with beef tea and brandy at ten a. m., two, five, eight, and eleven p. m., ten quarts; of this he discharged at different times during the twenty-four hours about five quarts. At eight p. m. there was a feculent odor to some of the water discharged. There was also a marked improvement in all of his symptoms.

February 21st. Pulse 100, temperature, 98° F. Tongue clean, hiccough gone, urine free, vomit bilious, no passage; abdomen distended, with pain all over, but more acute in right inguinal region. We observed a circumscribed elevation a little to the right of the median line and just below the umbilicus, in which we thought we detected fluctuation on percussion. Continued treatment, giving the enemata at ten a. m., three and five p. m., three quarts in all. At half past three p. m. there was an unmistakable feculent discharge, the contents being hard, lumpy, and very offensive. This evening we allowed him some ice cream, which he relished and retained. This was the only article of food or drink which he had taken by the stomach for three days.

February 22d. Pulse 100, temperature 99° F. Does not feel as well. Eyes sunken, and general expression worn and haggard. Returned to large warm-water enemata with beef tea and brandy, giving them at eleven a. m., four and seven p. m., six

quarts. Before night he regained his lost ground. We allowed him some chicken tea and rice, which he retained and relished. During the day he had three feculent operations.

February 23d. Pulse 88, temperature 98° F. Tongue clean and moist; expression cheerful, spirits buoyant, bowels distended and tender. Had eight operations during the twenty-four hours; one of them was composed of hard, dry scybala, with very offensive feculent odor.

February 24th. Pulse 80, temperature 98° F. Eyes bright, countenance smiling, voice strong and cheery; no distention and no pain in bowels, except on pressure, and then only in right inguinal region, where a slight gurgling noise was observed on percussion, indicating, as we thought, chronic ulceration in the region of the appendix vermiformis, which, in our judgment, gave rise to the occlusion of his bowels.

The chief point of interest in this case was that we had a patient in a state of collapse, with dissolution imminent, from obstruction of the bowels, and we gave copious enemata of warm water, and the man lived. Now was the preservation of his life due to the warm water enemata? In our opinion it was. Did not the subcutaneous use of opium contribute to the preservation of his life? Yes, undoubtedly; although we say that with the free use of opium and without the warm-water enemata he would in all probability have died. The converse of this is also probably true. We have already indicated the theory upon which we based our use of the warm-water enemata, namely: (1.) The water acts mechanically by its volume in distending the intestines. (2.) By its warmth as an antispasmodic. (3.) As a solvent upon the impacted feces. (4.) As a vehicle for conveying nutrients, stimulants, and medicines into the system.

In this case our patient was at the point of death, and improved with the first copious injection of warm water, and continued to improve for three days under its free use. Then the injections were reduced from ten to three quarts, and in less than twenty-four hours he became worse, and upon the resumption of their copious use he immediately improved.

From the 19th to the 22d, inclusive, twenty-nine quarts of warm water were injected, and only ten quarts were discharged, before feculent operations occurred.

CONCLUSIONS.

Our observations and experience lead us to the following conclusions, namely:—

(1.) That the subcutaneous use of opium and copious enemata of warm water are the best treatment in most cases of intestinal obstruction.

(2.) That purgatives are not only useless, but injurious, as they only increase the already overexcited peristaltic action of the intestines.

(3.) That when the stomach is disturbed all nourishment and medication should be administered with the enemata, except opium, which is more efficacious as well as more prompt in its action when given subcutaneously.

I might stop here, but if your patience is not too severely taxed, it may be of interest for us to discuss very briefly the treatment recommended by modern authorities in obstruction of the bowels.

Opium. All late authorities are in accord as to the preeminent usefulness of this drug in all obstructions

of the bowels. Indeed, some insist that the exclusive use of opium is the only treatment necessary. Dr. Thomas Buzzard, who edited the excellent work of Dr. William Brinton on Intestinal Obstruction, publishes three cases, by way of editorial notes, in connection with that work, which he treated successfully with opium alone.

Dr. Hugh Owen Thomas, in the *Liverpool and Manchester Medical and Surgical Reports* for 1877, publishes a very exhaustive article, entitled, *On Past and Present Treatment of Intestinal Obstructions*, in which he takes strong grounds against the use of any and every form of medication but that of opium. He says "distention and pain are to be averted if possible, and when present diminished, if their complete removal is not possible. *The symptoms of constipation are to be ignored in treatment*, as the more prolonged the constipation the more fluid the evacuation when it does take place. . . . Where constipation had been well maintained by opium beyond the fourteenth day, the patient always passed liquid and pultaceous stools." He quotes Dr. Brinton in support of this, namely, "Nature herself is preparing within the obstructed bowels the best of all purgatives to accomplish whatever an aperient can do towards opening a passage." He is as unqualified in his denunciation of enemata as of purgatives. Concerning them he says, "Whether they be administered for the purpose of diagnosis, or supplying nourishment, or giving sedative medicines, or for mechanical purposes, even should they be but two or three ounces in bulk, they may again cause the recurrence of all the symptoms that the sedative medicine may have controlled. In the treatment of these affections they must be totally discarded in every form and for all purposes."

All authorities agree as to the inestimable value of opium in the treatment of all intestinal obstructions, but all are not agreed as to the wisdom of its exclusive use.

Purgatives. The authorities unite in opposing the use of purgatives. Concerning their use, Prof. Geo. H. B. Macleod¹ says, "When given early, in most instances purgatives only augment the already exaggerated peristalsis; and if administered late they have an exhausted and paralyzed bowel to deal with."

Sir Thomas Watson writes as follows: "Withhold purgatives in these cases, because they are not merely useless, but positively hurtful, — hurtful not only in the late but in the early stage of the obstructive process; not merely condemned by an experience which is sometimes equivocal, but contraindicated by whatever rational principles can be deduced from the physiology and pathology of the malady."

Enemata. The preponderance of authority is in favor of the use of enemata in conjunction with the opium treatment. Dr. Brinton says, "Enemata are another means of treatment of great importance. The water they introduce into the system is no contemptible aid to nutrition. And the substitution or admixture of milk or gruel confers on them a further contingent usefulness. But their chief value depends on the chance of their gradually distending the bowel at the obstruction, and releasing the impacted or intussuscepted part. The remedial effects of their warmth and moisture we need not discuss, but we may fairly presume its analogy to the known effects of external fomentations to inflamed parts." He is emphatic in

¹ British Medical and Surgical Journal, November 25, 1876.

the injunction that the administration of enemata should never be left to an ordinary nurse, but should be regarded as an important operation, only safe and efficient if undertaken by a person of competent skill.

Leichtenstern speaks approvingly of what he terms the "monster clyster" treatment in all forms of obstructions of the bowels, and says that by its aid we often reach diagnostic conclusions regarding the seat of obstruction. If the patient be brought fully under the influence of opium or chloroform, the ileo-cæcal sphincter can be relaxed so as to open the way for the injected water to reach the point of obstruction.

In connection with the "monster clyster" treatment, some of you will recall a paper on the subject of Intestinal Obstruction, by Dr. Robert Battey, published in the *Atlanta Medical Journal* in 1874, in which he strongly recommends very large enemata, as much as two and a half or even three gallons of water.

Mercury. The use of crude mercury, which was a favorite remedy in the past, is now very generally condemned. Brinton strongly urges its disuse, because he says it often does harm, embarrassing the bowel and increasing the distention and pressure, and predisposing to paralysis, inflammation, and gangrene.

Insufflation or inflation with air has been commended by writers on the subject from Hippocrates down to the present day, particularly in cases of intussusception. It acts in the same way as enemata of water by producing mechanical distention, but, according to Brinton, it is more sudden and violent and less manageable as a distensive agent than a liquid enema, which may easily be made to fill the whole large intestine without inflicting upon the patient any danger.

Gaseous distention from the action of an alkali upon an acid within the bowels is open to the objections just mentioned against insufflation of air.

Belladonna in small doses is inferior in its action to opium, and in large doses is more dangerous. Combined with opium, however, the most happy effects are often obtained in the arrest of pain and peristalsis of the bowels.

Calomel is objected to because it stimulates the peristaltic action of the bowel, when the first object should be to arrest the peristalsis.

Galvanism is of but little or no service except in cases of obstruction from simple fecal impaction.

SUMMARY OF IMPORTANT POINTS IN THE STANNARD CASE AS ESTABLISHED BY MEDICAL EVIDENCE.

BY C. T. PECKHAM, M. D.

THIS case excited an unusual degree of interest from the sensational character of the proceedings and the length of time — ninety-seven days — occupied by the State of Connecticut in prosecuting the defendant, the Rev. Mr. Hayden. The evidence was entirely circumstantial. The jury disagreed, standing eleven to one for the defendant.

As Professor Samuel Johnson testified that by chemical analysis he found 83.23 grains of arsenic in the stomach and liver of Mary E. Stannard there could be no doubt that she was poisoned, unless the poison was placed in the stomach after death. It is true that there were four exhumations, but the physi-

cians present say there was no opportunity for any one to place arsenic in the stomach. Furthermore, Drs. Jewett and White agreed that there was conclusive evidence of inflammation in Mary E. Stannard's stomach. Dr. William Hotchkiss proved by experiments on stomachs of people recently dead that arsenic in such stomachs produces no evidence of inflammation. Arsenic was found in the brain. According to Professor Thomas G. Wormley it would take arsenic thirty days to reach the brain by osmosis. The head was taken from the body within thirty days after death. It seems to have been clearly shown that arsenic in sufficient quantity to cause death was taken by Mary E. Stannard before her death.

The State claimed that Hayden bought arsenic in Middletown on the day of the homicide. The accused admitted the fact, and claimed that he put it in his barn. This arsenic, found in the place where Hayden said he put it, the State claimed was not the arsenic which Hayden purchased at Middletown on the day of the homicide, but was another quantity bought to replace that which he gave to Mary E. Stannard. It seemed important to prove that the arsenic in Mr. Hayden's barn was not like the arsenic kept for sale at the time of Mr. Hayden's purchase by Mr. Tyler, of Middletown, of whom Mr. Hayden admits that he bought arsenic on the day of the homicide.

To obtain this proof the State of Connecticut paid Professor Edward S. Dana's expenses to England to investigate the various processes by which arsenic is manufactured. As a result of his investigations he claimed that arsenic produced at different manufactories possessed different characteristics. If these different characteristics could be detected in any way, they could be detected by the microscope. Professor Dana said that he had examined arsenic obtained from many druggists, and that many samples were so dissimilar that if one hundred unmarked samples were placed before him he could instantly separate them into groups.

Connected with this case were four important samples, namely, from the barn, from Colgrove, from McKee, and from the stomach of the victim. The barn arsenic is that from Mr. Hayden's barn. The Colgrove sample was purchased of Mr. Tyler, druggist, who obtained his arsenic of McKee, of Middletown. Of the four above-mentioned samples Professor Dana said that one, the barn arsenic, was wholly unlike the other three. The Colgrove, stomach, and McKee specimens were so nearly alike that he believed they came from the same source. The differences between the arsenic from the barn and that from Colgrove may be thus tabulated:—

	Percentage of Crystals.	Size.	Surface.	Reflection.
Colgrove.	33½ to 50	.05 to .001 inch in diameter.	Uniformly rough.	Dull.
Barn.	50 to 75	.001 to .002 inch in diameter.	Uniformly smooth.	Brilliant.

The stomach arsenic differed from the McKee and Colgrove samples in only one respect. On the surfaces of the crystals of the former were parallel markings, meeting at the angle of union of the faces, like markings of the adjacent sides. Similar markings were produced on the McKee sample by placing some of the crystals in water. The testimonies of Professors Wormley and William H. Brewer agreed in the main with Professor Dana's. The product of crystallization, Professor Dana said, would be affected by

temperature and the rapidity of its change, by the density of the vapor and the amount of foreign matter in it, and by the presence or absence of a foreign surface to which particles might adhere to form crystals. In manufacturing arsenic the vapor passes through several chambers to be cooled and condensed. The product of one chamber often differs from that of another at the same sublimation. If the products of the different chambers were mixed, Professor Dana did not think the resulting product would vary from ninety-two per cent. of crystals to ninety per cent. of other objects. If ten samples came to him from the same source he could say they were similar; if from different sources he could say with perfect confidence that they were from different sources. He admitted that there was more difference between a sample of Tavistock arsenic sent him by Dr. Squibb and his sample from the Tavistock mill than between the barn and the Colgrove samples. The Garland arsenic, he said, contained more crystals than the Tavistock. Twenty or thirty minerals crystallize in the octahedral form. Sugar never so crystallizes.

The State claimed that Mary E. Stannard thought she was pregnant, and had convinced Hayden that she was. Medical evidence established the fact that she was menstruating at the time of her death. Dr. Jewett said that the small ovarian tumor, the size of a walnut, might produce the symptoms of pregnancy, especially if she were imprudent before their appearance. This evidence was wholly denied by Professor Stephen J. Hubbard, of Yale, who said that this tumor could not have produced the slightest symptoms of pregnancy, for there was no inflammation in or around the growth.

Dr. Treadwell did not find blood on the clothes worn by Hayden on the day of the homicide. He did find twenty corpuscles in the thumb groove of Hayden's pocket knife. These were $\frac{32}{32}$ of an inch in diameter on an average, and might have been human or dog's corpuscles. Hayden showed an old cicatrix on his finger, which he said resulted from a cut by the same blade on which the blood was found.

RECENT PROGRESS IN MATERIA MEDICA AND PHARMACY.¹

BY W. P. BOLLES, M. D.

Coto Bark (or Barks). — Messrs. Jobst and Hesse have contributed to *Liebig's Annalen* an elaborate article, which has been republished in part in the *Pharmaceutical Journal and Transactions*. According to these authors, there are two similar but distinct products imported under this name, the first of which they designate "genuine coto bark." It was obtained from Bolivia under the name of coto cinchona, although bearing no resemblance to cinchona.

As described by Hartz, it consists of irregular, flat, and slightly curved pieces about 0.6 m. long, 60 mm. broad, by 8 to 14 mm. thick. It is of a reddish cinnamon color, but somewhat darker on the inner side. As a rule it has the appearance of having had the outer layer intentionally removed. It has a pleasant cinnamon smell, but soon produces an irritating action upon the nostrils. The taste is pungent, but not bitter, expecto-

rant, nor astringent. It has a somewhat unequal texture, the outer portion forming a granular and tolerably evenly breaking mass, lying on a coarse fibrous and unevenly breaking cellular portion of which the inner part consists.

Shortly after the second kind made its appearance, said to have been collected from the shores of the river Mapiri, in Bolivia. It is in slightly larger pieces than the "genuine," having similar color and fracture. It had occasionally deep whitish furrows upon its surface. Its smell is less pungent, somewhat resembling nutmegs; its taste is milder. To distinguish this bark they named it "paracoto." Both kinds are sold indiscriminately in the market, under the name "coto bark." Their therapeutic qualities seem to be similar, although "paracoto" is the weaker of the two.

Genuine coto bark contains, as its most important ingredient, cotoin. This is obtained, in brief, by extraction with ether, separation by petroleum spirit, and subsequent purification by repeated crystallization from boiling water. It crystallizes both in prisms and plates; has a pale yellow color; is soluble in alcohol, chloroform, etc., somewhat so in boiling water, very slightly so in cold. It is easily dissolved by alkaline solutions, from which it may be precipitated by acids. It has a neutral reaction in aqueous solution and a bitter taste; its dust is sternutatory. Its formula appears to be $C_{22}H_{31}O_6$. Associated with the cotoin, and perhaps produced from it, is its anhydride, dicotoin, resembling the former in many respects.

In "paracoto" more numerous substances have been discovered: Paracotoin is obtained, together with several other crystalline substances, by extraction with ether and spontaneous crystallization. The mass is then dissolved in hot alcohol, and the paracotoin, separated by fractional crystallization, being first deposited. It is formed in beautiful pale yellow laminae, capable of fusion and sublimation; it is soluble in ether, chloroform, and boiling alcohol, and somewhat so in boiling water. Potassic and sodic hydrates dissolve it with decomposition, forming paracotonic acid, of which it seems to be the anhydride. It has no taste. Leucotoin is the chief constituent of paracoto; it is separated from the mother liquor of paracotoin by crystallization and resolution in glacial acetic acid, evaporation and subsequent crystallization from very dilute boiling alcohol. It is in the form of small white prisms, easily soluble in alcohol, ether, and chloroform, slightly so in boiling water, in which it melts; its solubility does not seem to be increased in alkaline solutions. Oxyleucotoin resembles leucotoin in its general properties; it is separated from crude paracotoin by dilute potash or soda which dissolve the latter and leave the oxyleucotoin behind. Dibenzolhydrocotoin crystallizes in striated white fusible prisms; is easily soluble in boiling alcohol and in chloroform, less so in ether and boiling water. Hydrocotoin has remained in the mother liquor, from which the other products have been separated, and piperonylic acid remains in the bark itself, after the above extraction by ether. In addition to these, "paracoto" furnishes a composite essential oil, to which its odor is due. As a rule, the commercial preparation termed cotoin consists of a mixture of crystalline products, such as could be obtained from paracoto bark, as described above, excepting the oil and acid. Coto bark is highly recommended for diarrheas. The most desirable preparations are cotoin and paracotoin, since the crude drug, or its tincture, acts unpleasantly upon the

¹ References: American Journal of Pharmacy, Pharmacist, New Remedies, Proceedings of the American Pharmaceutical Association, Year Book of Pharmacy, Pharmaceutical Journal and Transactions, etc.

stomach. Doses: cotoin, .01 to .05 gm., paracotoin, 0.1 to 0.2, every two or three hours; the other ingredients, oxylecotin, leucotin, and hydrocotoin, are much less active.

Cinchona Culture.—One of the most important enterprises connected with materia medica in the present generation has been the successful transplantation and cultivation of cinchona-trees in India, Java, and other places. The whole achievement, involving studies of climate, soil, elevation, species, to say nothing of the undertaking of carrying tender plants accustomed to high elevations over nearly the semi-circumference of the earth at the sea level, has been a triumph of what may be called horticultural engineering, and has been executed by very able hands. When the American Pharmaceutical Association met in this city, samples of the earliest exportations from the Indian plantations had just been received, and were on exhibition as curiosities. Since that time the Indian barks have constantly increased in quantity, and are now a regular item of British commerce. More than this, European intelligence has learned that the bark can be removed without destroying the tree, and successive crops be raised of constantly improving quality. Mr. David Howard, a nephew of the celebrated quinologist, J. C. Howard, who has been much interested in the subject, has written an interesting paper, of which the following is an abstract. The chief points of interest in the paper are the effects of the age of the tree and "renewing" upon the quality of the barks, and the comparative value of the outer and inner portions of the bark as bearing upon a proposed new mode of collecting without injury to the tree. The opportunity for the first study is given by the custom of sending barks from the government plantation at Dodabetta, with the date of the plantation from which each parcel was obtained, and also of separating the "natural," "mossed," and "renewed" samples. The specimens were from trees planted each year from 1863 to 1867. As the "natural bark" can be obtained from the lower stems but once, that from the older plantations coming under this head must be from the branches or from saplings and inferior trees, and for this reason it proved to be less valuable than the "natural" of the later plantations; but the "mossed" barks, or second crops, far from deteriorating, were best from the oldest, as Mr. Howard believes, from greater maturity. These specimens were from *C. officinalis*. Recent importations of *C. succinbra*, on the other hand, seem to show that the oldest trees have some of them passed their point of greatest percentage of alkaloid.

From a specimen received from Darjeeling of a bark accidentally renewed (the tree having been injured), and not covered or mossed at all, and which yielded 5.1 per cent. of alkaloids, he concludes that the importance of "mossing" depends upon its usefulness in protecting the tree, and not upon any effect in increasing the alkaloids.

An examination of the inner and outer portions of the bark of cinchona succinbra gave the following results:—

	Quinine.	Cinchonidine.	Cinchone.
Inner.	.5	1.2	1.4
Outer.	1.2	1.4	1.7

Thus not only is the total yield greater in the outer bark, but that of the quinine is greater in proportion. It is proposed by M. Moens to shave off this portion without cutting quite through the bark, and so do-

ing, practically, no injury to the growing tree, to enable it to produce a long succession of crops.

Cinchona Ledgeriana, a recently discovered species now cultivated in Java, has recently furnished bark of wonderful richness.

Araroba, Gon Powder.—Although this drug may be less important than it promised to be, still it is interesting to know that its botanical origin has been discovered and made known to the medical world by Dr. J. M. de Aquiar, of Bahia, in a monograph upon the subject. He has obtained flowers and leaves, which he has figured and carefully described, and believing it to be a new species has named it *Andira Araroba*. It is a large, straight-trunked tree, with a not very leafy spheroidal head and a thinish bark. It belongs in the great order Leguminosae, and has papilionaceous flowers and paripinnate leaves. The *Araroba* (that is, the drug) is found as a light-colored powder in lacunae in the wood more or less large according to the age of the tree, and is produced, as is supposed by the author, by oxidation of the abundant resin. It is collected throughout the year, the older trees being selected, cut, and split, and the powder scraped out of the cavities. The wood appears to be softened about these cavities. Lieberman and Siedler find that the chrysophanic acid does not exist in a free state in this drug, but as chrysarobin, which easily produces the other by oxidation. Chrysophanic acid is also found in other plants, as senna, docks, and rhubarb. An inferior variety of the latter has been suggested as a source of it.

Veratrum.—The veratrum have been the subject of a great deal of careful work both in this country and England; they contain a series of closely related alkaloids, separable with difficulty, and by no means yet well established. Messrs. Wright and Luff, who have spent much time upon them, as well as upon the aconites, have isolated no less than seven alkaloids, of which six, jervia, pseudojervia, rubijervia, veratralbia, veratria, ecardia, occur in our own *V. viride*. Mr. Bullock, of Philadelphia, who has paid much attention to this plant, substantially confirms their results; but obtains a much larger amount of the alkaloids, a result due, as he thinks, to separating them from the resin by saponifying the latter. The veratrum resin has always proved a great obstacle to the isolation of these bases. Despite these most careful researches, we are still in doubt as to the real cause of the recognized superiority of the American species over its so nearly related European congener album, which has caused it to replace the latter even in its own countries.

Ergot.—Ergot still gives pharmaceutical chemists work enough. Wenzell's ergotina and ecbolina were generally accepted as the active principles until Taurer, in 1878, isolated a crystallized alkaloid ergotinine (both the former were amorphous). Blumberg, from an extended examination of this drug, has come to the conclusion that the two alkaloids of Wenzell are the same. He also separated picrosclerotina, whose existence had been already indicated by Dragendorff, and found it to be very poisonous to frogs when fresh, but that it soon degenerates. He then experimented for Taurer's ergotinine after this chemist's method, but failed to obtain it; he afterwards did, however, separate some, and from experiments, both physiological and chemical, proved, as he believed, its identity. It, too, rapidly decomposed. Taurer, in a succeeding number, claims that Blumberg's "ergotina" can be only

a form of picrosclerotina, and claims that the former is not so unstable as the latter asserts. Sclerotic acid, another recently discovered substance, exists in ergot to the extent of four per cent., and is said to be very active. While thanking the gentlemen who are doing so much careful work upon this unstable drug, we think that physicians will do well to adhere pretty closely to a very fresh extract, or, better still, to the freshly powdered drug from the last crop.

Calabar Beans.—Occasional substitutions of the seeds of other leguminous plants for these have appeared in the market, but so different in appearance as to be easily distinguished. Recently, however, there have come among true calabar beans specimens which are longer, more cylindrical, and of a redder tint. These are now being examined by Mr. E. M. Holmes. Pods and leaves of the plant yielding them have been seen by this gentleman without discovering any essential difference between it and *Physostigma venenosum*, which yields the typical form; the flowers have not been obtained. From a rough test of the seeds he is led to believe that they are more active than the commoner variety. The name *Physostigma cylindrosperma* is offered for the plant.

Podophyllum had for many years the reputation of containing one or more alkaloids. Professor Mayer, in 1863, identified one of them as berberina. This seemed the more probable as this substance was known to be quite common in allied plants; but several observers since that time having failed to detect this or any other alkaloid in either the root or the resin, its absence has been for some time virtually conceded. Yet as it was known that some of its constituents were more abundant at one season than at another, it had been suggested that perhaps berberina was occasionally present. To settle this point, Mr. C. J. Biddle gathered the root at five different times from March to October, and after partially examining the specimens himself gave the "washings," or liquors in which the resins were precipitated and washed, to Professor Maisch for complete analysis as to alkaloids. Only the later samples gave even *prima facie* evidence of them; still Professor Maisch examined them all, and with the same result. There was not the slightest trace of the substances sought for, so that their absence at all times may now be taken as proved beyond doubt. It is not a matter of great importance, but it is a relief to have a long-disputed point settled.

Pomegranate-Root Bark.—Tauret, in 1878, isolated an active tannic acid alkaloid, which he named, in honor of Pelletier, pelletierina, an oleaginous, colorless, or slightly yellow, inflammable liquid. Its salts can be obtained crystalline, but are exceedingly hygroscopic. In continuing his examinations since that time he finds it to be associated with at least three other alkaloids: a left rotating one, found chiefly in the stem; a right rotating one, found chiefly in the root; and an (optically) inactive one. The first yields crystalline salts. Professor Falck objects to the name pelletierina as applied to any alkaloid from Punica, since there is a plant *Pelletiera verna*, with which the name will almost inevitably be confused.

—In the new Buffalo Homeopathic College it is announced officially that "during lectures, and amphitheatre clinics also, the female students are screened from the gentlemen, while they have the same advantages."

Hospital Practice and Clinical Memoranda.

A CASE OF LITHOLAPAXY.

BY E. F. SANGER, M. D., BANGOR,
Ex-President of the Maine Medical Association.

DURING the fall of 1879 I was called to Mr. B. N. T., aged sixty-four, with a catarrhal, asthmatic, and lymphatic diathesis. He had to give up business in May, 1877, and had been confined to his bed since January, 1879, with straining and constant desire to pass water every ten to thirty minutes, pain on change of position, and urine heavily loaded with pus and phosphates; pulse ranging from 90 to 100. Sound 22, French, detected a stone apparently at the base of the bladder, the impression being conveyed to the hand that the heel of the sound impinged on the stone.

He had lost sixty-five pounds of flesh. His age, condition, and the apparent magnitude of the stone augured ill for lithotomy or ordinary lithotripsy. Litholapaxy, or the rapid lithotripsy, seemed the only solution of my dilemma. By advice of Dr. Bigelow, I sent to New York for his evacuating apparatus and lithotrite.

Knowing Sir Henry Thompson's aversion to prolonged crushing, his want of confidence in the tolerance of the bladder, his opposition to evacuating tubes above 25 French, with some hesitation and delay I proceeded with the operation. Another discouraging feature was that the patient took ether poorly, the throat getting constantly clogged with mucus and the pulse running up to 120, and after three-fourths of an hour of etherization to 140 and 160. The above symptoms prevented us from testing the full tolerance of the bladder and a successful completion of the operation at a less number of sittings. It was therefore with some misgivings that I used the Bigelow lithotrite and the No. 29 French curved tube.

The operation proved full of difficulties. Forty minutes of continued search disclosed the stone back of or above the symphysis pubis, apparently fastened in a way that only the point of the sound or lithotrite could scrape over a fixed mass. I nipped away and evacuated thirty grains in the next twenty minutes. After this at short intervals there were two operations, the first lasting seventy minutes and evacuating ninety grains of stone; the second, one hundred and five minutes, with a product of one hundred and twenty grains. In both instances searching and crushing occupied two thirds of the time, and the handle of the lithotrite had to be carried back between the legs as far as it would go. At the last operation I succeeded in grasping a stone two inches in diameter, but not in detaching and breaking it up, as the lithotrite seemed to plow through it. As the patient had become very much exhausted, I evacuated rapidly and left some loose pieces in the bladder. I drew out one piece engaged in the eye of the tube, too big to come through the tube. The detritus occasioned high fever and cystitis, so that nothing more was done for three or four weeks. On one of these occasions I tried Ferguson's fenestrated lithotrite without engaging the stone, but several times seizing the mucous membrane, which was never done with the Bigelow instrument.

Between the third and fourth operations I met Dr. Bigelow in Boston, who expressed the belief that, the stone being large, and lying across the floor of the

bladder, the beak had passed under the centre of it. December 16th. I etherized the patient again, elevated the hips, and by forcibly depressing the handle of the lithotrite tilted it up, seized, crushed, and evacuated nine hundred and thirty grains of stone in seventy minutes. This time the lithotrite was introduced three times, occupying about half of the time. Very many pieces larger than peas were removed. Not daring to keep the patient any longer under ether, I left two or three pieces which I could hear click against the tube. December 22d. Crushed again, and evacuated in forty minutes sixty grains, one piece weighing twenty grains being extracted in the eye of the tube.

Thus in five and three quarters hours at five different operations twelve hundred grains were extracted, and at each time the patient suffered no detriment from the prolonged continuance of the instruments in the bladder, excepting the time when a considerable number of loose pieces were left unevacuated. I should have used the 31 French straight tube had not my greatest difficulty been in engaging the stone between the jaws of the instrument. The patient was on his feet in about ten days, and could hold water nearly all night. I have written a rather lengthy detail of the case because I consider it a most complete triumph of Bigelow's instruments under the most trying circumstances.

THREE CASES OF LITHOLAPAXY.

BY HAMPTON E. HILL, M. D., BIDDEFORD, MAINE.

CASE I. G. E., of Biddeford, aged twenty years, laborer. When I was called to see him he had been confined to the house about a year, with frequent micturition, followed by great pain, aggravated by exercise. Examination revealed a good-sized stone. Litholapaxy March 25, 1878; weight of stone, six hundred grains; composition, triple phosphate of lime and magnesia. Used Teevan's lithotrite; time two hours. The operation was followed by no inflammatory symptoms, and by rapid recovery. He has since been able to attend to his work as usual. A No. 27 evacuating canula was used in this case.

CASE II. J. M., of Saco, aged fifty-six, carpenter, had not been able to work for about three years; was considerably emaciated. Examination revealed a stricture in front of the bulb of the urethra admitting a No. 8 (French) bougie; after partially dilating the stricture the bladder was examined with a sound, and a stone found. Litholapaxy June 9, 1879. After giving the ether the stricture was dilated so as to admit the 27 (French) evacuating canula, and the stone was broken and removed. Weight, five hundred and twenty grains. Time occupied in the operation, one hour and thirty minutes. Composition of stone, triple phosphate of lime and magnesia. Bigelow's lithotrite was used in this operation, and proved to be much more rapid and thorough in its work than Teevan's, which was used in the first case. This patient had no inflammatory symptoms following the operation, and was allowed to leave his room in ten days.

CASE III. C. L. H., of Mercer, Somerset County, Maine, age twenty-five years, cabinet-maker. Had trouble with bladder for about four years. The last eight months of this time he was not able to work, and had frequent and severe attacks of hæmorrhage from the

bladder. Dr. John Robbins, Jr., of South Norridgewood, was called; examined bladder with sound, and found it contained a stone, but with the patient's condition did not consider the chances good for recovery if lithotomy were resorted to, and referred the case to Dr. H. H. Hill, of Augusta, Maine, by whose advice he wrote to me in regard to the case, and litholapaxy as a mode of relief. I saw the patient with Dr. Robbins, and performed litholapaxy September 16, 1879. No. 30 (French) evacuating canula was used, and Bigelow's lithotrite. Time occupied in operation, one hour and thirty minutes. Weight of stone that was saved, six hundred grains (some of the stone was accidentally thrown away, perhaps sixty grains). I stayed with the patient until the next day, when the pulse was 76; temperature normal. Dr. Robbins wrote me that two days after he had profuse hæmorrhage, and about five days later another attack, but recovered rapidly, and in about three weeks was able to be about comfortably, and finally, to return to his work. Composition of stone triple phosphate lime and magnesia.

Reports of Societies.

PROCEEDINGS OF THE CINCINNATI MEDICAL SOCIETY.

WILLIAM H. TAYLOR, M. D., PRESIDENT. WILLIAM JUDKINS, M. D., SECRETARY.

JANUARY 13th. DR. WILLIAM B. DAVIS read a paper on

INTESTINAL OBSTRUCTION,

which is published on page 193.

DR. BRECHL asked if any of the members had had experience with crude mercury. — DR. CARSON, when a student, saw his preceptor administer quicksilver without any beneficial results. The patient died. He had treated two cases of occlusion, with fecal vomiting, with opium in large doses, and both recovered. He thought well of warm-water enemata in early stages, but would give in addition full doses of opium. — DR. STANTON treated one case successfully during the late war with opium alone. He thought that great harm was often done in these cases by purgatives. — DR. WENNING. Case VI. of Dr. Davis was undoubtedly saved by the warm-water enemata. He considered it necessary for the physician to use the syringe himself, and throw the water high up by means of a large-size gum catheter. — DR. C. P. JUDKINS treated a lady for fecal impaction with large enemata of warm water. Impaction gave way, and the patient discharged immense quantities of strawberry seeds, and made a good recovery. He had thought that strawberries were laxative in their influence. — DR. DAVIS. Case V. was one of impaction from strawberry seeds. Dr. Carver, the attending physician, whose practice extends over a section of the country where strawberries are extensively cultivated for the market, informed him that he had treated six cases of impaction from strawberry seeds. — DR. COMEYERS said that he had met with four cases of intestinal obstruction during the past four years, in each of which the patients were apparently relieved by very large injections of tepid water, repeated as often as needed. At the same time opium and morphia were used, the latter hypodermically. Three of the cases were consultations; the fourth was his own patient, with regard to whom he made at the time

the following brief note: Morris B., aged thirty-three, an attorney, general health good, was taken with general bad feeling, accompanied with slight fever, on Friday evening, May 19, 1877. He thought it all due to improper food. I saw him next morning, 20th, and found him with some tenderness in right iliac fossa, and a temperature of 101.5° F. I ordered a mild purgative. At my evening visit found that the bowels had not been moved and the local pain was increased. I suspected typhilitis, and prescribed six leeches for the region of pain, and small, repeated doses of calomel and jalap. May 21st. On my call found that the medicine had not acted and the pain was not alleviated. Ordered castor-oil and turpentine diffused in a pint of water as an enema. No action of the bowels following, I concluded that I had to deal with an obstruction of the intestinal tract. I now gave one third of a grain of morphia hypodermically, and injected the bowel with as much tepid water as he could bear, — between two and three quarts. This was repeated twice, also the morphia, during the night. All distress of the patient had subsided under the use of the morphia. On the next morning (22d) I began the use of castor-oil, tablespoonful every forty-five minutes for three doses. There were some fecal discharges during the day, accompanied by gas. On the 23d I gave him another large injection, which was followed in due time by an abundant fecal evacuation. It was quite a week before he could resume his office duties. I think that the physician should always administer the injections. I have great confidence in the use of huge injections of tepid water. Of course there are obstructions in which they could bring no relief. — Dr. CANSON said: The subject of intestinal obstruction is always practical and interesting. Notwithstanding the variety of causes, the modern treatment of it is comparatively simple. In some previous remarks he had illustrated the treatment of cases by the use of opium or hypodermic injections. In the present discussion very little had been said about the surgical treatment, and yet it has been of late attracting a good deal of attention, as reference to hospital reports, society proceedings, etc., will show. I shall refer to two cases, the review of one of which and the history of the other as reported will serve to introduce the question of surgical interference. My own experience is too small to be of any interest, as I never saw the operation but once, and it was fatal. The case to which I referred as coming within my observation was a woman about forty years of age, whose general history of good health had never been disturbed much except by a number of confinements. Near five years ago there began the symptoms which, at several different periods up to the time of her death, had recurred with the same general features of fecal impaction and pain, with relief by opiates and laxatives. There was evidence, satisfactory because she was under intelligent observation all the time, that the tumor-like mass had never entirely disappeared. The fear of malignant growth had been present in the minds of her physicians after her later attacks, as the mass was large, irregular, and quite indurated, and yet the duration of the case argued strongly against the view. The last attack, during which she died, was one of severe pain, less of tumor enlargement, nausea, fecal vomiting, and distention, with no satisfactory action of the bowels after several cautious attempts with laxatives. The treatment was principally the opiate-and-enemata plan,

A post mortem showed no peritonitis, great distention of the small bowels above a point about five feet above the ileo-cæcal valve. At that point there was felt an obstructing mass lying on the left side of the abdomen, whereas all of the previous impactions were located in the region and direction of the ascending colon. On section through the bowel at the point of the obstructing mass (which allowed nothing to pass) there was removed a body about one and three quarters by two and one half inches in measurement, with the color and general external appearance of a very large gall-stone. What the more minute examination of its structure has since shown I do not know, as I have not seen her physician since. There were evidences that the concretion had passed by ulcerative action from the gall-bladder directly into the duodenum, as there were adhesions between the bowel and gall-bladder, and also a cicatrix on the mucous membrane of the duodenum, though nothing in her history could have suggested the probability of such a thing.

In the last (the twelfth) volume of the Clinical Society's Transactions is related a case parallel in several respects with this one, especially as to the cause of obstruction and the probable mode of entrance of the concretion into the bowel. Mr. Bryant concluded to operate: he found the concretion, a gall-stone that weighed two hundred and thirty-eight grains, and measured one and seven eighths by one and one eighth inches, and three and one quarter inches in circumference. His case was more unpromising than the one we relate, because of peritonitis. There was reason, however, to attribute our case to some cause several years in action, and it did not therefore come so clearly within Mr. Bryant's emphatic dictum, which he lays down in the following language: "I hold that in all cases of acute intestinal obstruction that resist medical treatment operative relief should be resorted to as soon as a reasonable diagnosis has been made, and that, as in a desperate case of strangulated external hernia, an exploratory operation should be performed in most cases. I believe that the physician or surgeon has no right to waste time whilst he is speculating as to the exact seat of the obstruction or precise cause by which it has been brought about, since there is no room to doubt that during this ruminating process the prospects of recovery are rapidly diminishing. Indeed, I believe a surgeon may as well delay in cutting the rope in a case of suicide by hanging whilst he is speculating as to the influences which have led the man to perpetrate the act as to delay operative interference in a case of acute intestinal obstruction with the hope that he will be able to make a scientific diagnosis of the case, or that something will turn up by which relief may be obtained." "I maintain that it is not required of the surgeon to *diagnose the precise cause of the obstruction so long as the diagnosis of its existence can be determined*; and do not think because such cases as these occasionally recover without operative treatment we should forget that a large majority die miserably, unrelieved. I plead, therefore, for the majority." Many of us have felt just such helplessness as Mr. Bryant here records in the presence of such cases, and I have felt that perhaps we have not given as much weight to such language as Mr. Bryant uses as the facts required. The application of his rule to our case would have given the patient a better chance than persistence in the course which we pursued. I repeat that the surgical treatment

of obstruction seems to be more prominent, and deserves consideration in this discussion. — DR. DAVIS. The difficulty of determining the cause and locality of the occlusion is a great stumbling-block in the way of surgical interference. An old writer has said that in intestinal obstruction we cannot accept any diagnosis not certified by a post-mortem examination. Brinton does not think gastrotony justifiable, while equally weighty authorities advise it under certain restrictions, believing that it gives the patient one more chance. The introduction of a fine trocar into the distended intestine gives great relief by allowing a discharge of the gas. This operation may be done repeatedly if the trocar is properly disinfected. Larger trocars have been thrust into the non-resonant parts of the abdomen for the removal of the liquid feces above the obstruction. — DR. N. P. DANDRIDGE. In the discussion of a subject like obstruction of the bowels there is always difficulty in making comprehensive and general statements, from the fact that the conditions under which obstruction exists are so entirely different in different cases. This difficulty is especially apparent in the discussion of any plan of treatment which shall be generally applicable where obstruction is the prominent symptom to be overcome. The variety of conditions under which these cases occur is well illustrated by Dr. Davis's paper. Examples of peritonitis, invagination, twist, and impaction were all presented in the six cases reported. The diagnosis in individual cases of the exact seat and cause of the trouble is notoriously a most difficult and often an impossible task. It is this difficulty in diagnosis of the essential condition present that makes it impossible to advocate with confidence any routine course as suitable to all cases. Each individual case must be considered for itself, and a correct diagnosis must precede a judicious treatment. Two general rules, however, seem to be applicable to all of these cases, — first, the full and free use of opium to allay pain and to secure complete rest to the bowels, and, secondly, the contraindication to the use of active purgatives by the mouth. These two factors in the treatment naturally supplement one another. As for the use of injections into the bowels, their effect must depend upon the situation and character of the obstruction. In general terms it may be stated that where the obstruction is above the ileo-cæcal valve injections are not likely to be directly efficient; not that the emptying the lower bowel may not prove beneficial, but in such conditions as impacted gall-stones, twists, invagination, or incarceration from old adhesions, relief or any effect whatever from injections must be regarded as fortuitous, and not to be relied upon. Even where the obstruction exists low down in the large intestines, injections may only aggravate the trouble. Of this I saw a notable example in the mortuary of the Cincinnati Hospital some time ago, in the case of a woman suffering from obstruction, where large injections of water had been thrown up the bowel and been retained. At the autopsy, a twist in the sigmoid flexure was found to exist, giving rise to a valve-like arrangement which permitted the injected fluid to pass up the bowel, but prevented its return. The sigmoid flexure was enormously distended with water, and filled a large part of the abdominal cavity.

In this connection I may mention two autopsies which I have recently seen. In one, a case of acute onset, which ran its course in a week, a section of the upper part of the ileum twenty inches long was found, of

a dark mahogany color, somewhat softened, and its vitality completely compromised. There was entire absence of peritonitis, no twists or bands, and absolutely nothing which would explain the manner in which the circulation had been cut off. The only explanation given was the probable existence of a twist completely compressing the vessels of the involved mesentery, which had become untwisted, possibly by some accidental movement, before death. In another case a loop of intestine had slipped under an old adhesion and become incarcerated. In neither of these cases would an injection have proved of the slightest value in overcoming the especial lesion present.

DR. DAVIS. Dr. Dandridge takes the position that enemata can be of no service except for emptying the lower bowel, when the occlusion is above the ileo-cæcal valve. Leichtenstern distinctly states that the ileo-cæcal valve can be so relaxed by large doses of opium or chloroform as to open the way for injected water to reach the point of occlusion, and he particularly mentions twist, knot, and invagination as conditions of obstruction where enemata will be most serviceable. Brinton, either directly or indirectly, expresses the same views.

DR. GOODE gave the particulars of a case to which he had been called in consultation in which the obstruction had existed for three days. There were constipation, fecal vomiting, and intense pain below the umbilicus. Opium treatment was resorted to, morphia being given hypodermically in doses of two thirds of a grain as often as the necessities of the case demanded. No point of induration or tumor could be discovered, on account of the extreme pain, tympanites, and the fact that the inflamed portion of the intestine was partly in the pelvic cavity.

On post-mortem examination he found invagination of four or five inches of the ileum. The peritoneum was much inflamed, and the invaginated portion of the intestine sphacelated. In this case surgical procedure might have relieved the invagination if resorted to early.

THE ANNUAL MEETING OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

The annual meeting of the New York State Medical Society was held in the Geological Hall at Albany, on the 3d, 4th, and 5th of February. There were more than two hundred members in attendance. The proceedings were interesting and profitable, and the session was altogether a very agreeable one. Among the resolutions passed was one by Dr. John C. Dalton, securing the appointment of a special committee to act at such time and in such manner upon the question of vivisection as in their own judgment they should see fit; and one by Dr. Abram Jacobi, to the effect that the president should appoint a committee of five members to cooperate with the Society for the Prevention of Cruelty to Children in measures looking to the physical and moral welfare of young children. The latter resolution was offered with special reference to the recent disclosures of mismanagement and cruelty at the Shepherd's Fold in New York, and the committee thus appointed was instructed to report at the next meeting of the society.

THE PRESIDENT'S ADDRESS.

The annual address was delivered by the president, Dr. H. D. Didama, of Syracuse, in the Assembly cham-

ber of the new Capitol, on Wednesday evening, February 4th, and was listened to by a large audience of ladies and gentlemen. Dr. Didama, after dwelling for some time upon the advance which had been made in the last few years in various departments of medicine and surgery, and especially in regard to ovariectomy, alluded to the vast work that yet remained to be done in discovering the methods of successfully combating many forms of disease that still baffled all our skill, and spoke of the good which might be accomplished by an efficient state board of health in instructing both the laity and the profession about ventilation, drainage, sewerage, and other points of hygiene; in teaching, and practically demonstrating as far as possible, that the zymotic diseases are preventable and ought to be altogether abolished; and in impressing upon the minds of the people the conviction that the continuance of these diseases implied not only ignorance, but criminal negligence. In treating of the discouragements and difficulties which lay in the way of the advancement of science, he touched upon the well-meant but ill-advised opposition to vivisection that had to be contended against, the general lack of physiological and sanitary knowledge among the public, and the insufficient and faulty training which students of medicine, as a rule, received. In concluding, however, he expressed confidence in the realization in the future of all the hopes of the enlightened physician of the present day; saying that, however anxious he might be that needful reforms should take place speedily, he was not discouraged at the slow progress which faithful truth made in permeating the masses of men; nor was he doubtful of that final triumph of sanitary, medical, and moral science, when "there shall be no more an infant of days, for the child shall die an hundred years old."

At the close of the address the annual banquet was held at the Delavan House, and among the toasts were the following: "The later advances in special medicine a natural development of the universality of scientific inquiry," responded to by Dr. D. B. St. John Roosa; "The medical profession in England. The names of its great teachers are high in the list of those who have advanced the science of healing," responded to by Dr. Lewis A. Sayre; "The autocracy of the protoplasm in connection with the spontaneity of generation," responded to by Dr. John C. Dalton; "The government of the State. May it know its duty to the health, wealth, and happiness of the people," responded to by Dr. William C. Wey, of Elmira; and "The younger members of the profession," responded to by the veteran, Dr. Frank H. Hamilton.

The annual

ELECTION OF OFFICERS

took place on the morning of the 5th, just before the final adjournment, and the following is a list of the principal ones chosen: president, Dr. Wm. H. Bailey, of Albany; vice-president, Dr. Abram Jacobi, of New York; secretary, Dr. William H. Smith, of Manlius; treasurer, Dr. Charles H. Porter, of Albany; censors, Drs. Gouley, Agnew, Ferguson, Barton, Cooper, Churchill, Walcott, Chamberlayne, Wyckoff, Rochester, and Lapp; permanent members from New York, Drs. Piffard, Weir, and H. Knapp; delegate to the Massachusetts State Medical Society, Dr. Albert Vanderveer, of Albany; honorary members, Dr. J. S. Billings, U. S. A., Dr. Joseph B. Brown, U. S. A., and

W. F. Teevan, F. R. C. S., London; delegates to the American Medical Association from New York, Drs. Roosa, Gouley, and Hulton.

Other business transacted during the session was the making of a change in the by-laws which increases the annual dues of permanent members from two to five dollars, and the appointment of a committee, with Dr. H. G. Piffard as its chairman, to investigate some proposed revised statutes in reference to the practice of medicine in the State. Dr. Diamond, of Cayuga, in presenting a number of names for inscription upon the roll of honor, which is designed to contain the names of physicians who have rendered some specially valuable service to the cause of medical science, recommended, in the form of a motion (which was carried), that the names of those who have made useful discoveries or inventions in surgery should be included.

Among the papers of practical interest was one by Dr. John P. Gray, superintendent of the New York State Lunatic Asylum, on

THE USE OF HYOSCYAMIA IN INSANITY.

Dr. Gray gave briefly the results of the experience at the above institution in the use of the drug. He stated that it had been the practice at the asylum, from time to time, to make a study of special remedies "to determine as far as possible their therapeutic value and their application to the conditions of the insane." Of the action of hyoscyamia he said: "In cases of acute mania and melancholia with frenzy, no remedy we have used has so efficiently and readily calmed the high nervous and unsequal excitement, and brought about a degree of tranquillity essential to acquiescence in nourishment and rest, as a means of restoration." It was also found of great value in controlling the cerebral excitement of certain cases where there was persistent refusal of food, as it made it "reasonably easy and entirely safe to introduce the stomach-tube and administer the necessary food."

Several cases were then reported in order to illustrate the uses of the drug, after which some general remarks were made concerning its effects upon the circulation and the cerebral nerve tissue. The writer says: "As a general rule in these cases, it is not necessary to continue the remedy for any length of time; indeed, it is quite sufficient to give it once or twice a day (or once during the day and once at night) for a few days, and then intermit its employment. One might say, to see a patient while moderately under its influence so much more comfortable, that it simply breaks up these habits of restlessness, tearing, etc. Perhaps this is sufficient explanation; but I am inclined to think that it produces an effect upon the cerebral nerve tissue of a beneficial character, quieting the irritable and excited brain quite as markedly as preparations of opium, in their influence on nerve tissue, will relieve pain. At all events, we have found it very useful as a medicine, and that, discriminately used, it aids in the comfort and restoration of the patient; while in no instance has it proved harmful. To be able to give even a reasonable brain quiet in conditions of frenzy is quite as comforting and aidful as to relieve the restlessness of a fever patient by a bath, and saves from just so much unnecessary wear and tear. I have found it beneficial in cases of hysteria and also in chorea."

The crystallized hyoscyamia has been used, and also

the crude fluid form; the former in doses varying from one eighth to one half a grain, and the latter in doses reaching a grain. In simple restlessness from cerebral irritability and in certain hysterical affections one sixtieth to one thirtieth of a grain of the crystallized drug was prescribed with much benefit. It has also been used in connection with morphia—in pill form—after the following formula:—

R Morphine bromidi	gr. iv.
Ext. nucis vom.	
Papierin	aa gr. viij.
Hyoscyamine (cryst.)	gr. iij.
Ft. pil. No. xxx.	

One of the most important papers was that presented by Dr. James R. Leaming, of New York, its subject being

ENDEMIC PLEURO-PNEUMONIA, AS SEEN IN NEW YORK DURING THE PAST TEN OR TWELVE YEARS.

This affection, the writer states, has had distinct and peculiar factors during the period mentioned, some of which were known, while others were unrecognized or obscure. For many years a form of fatal pleuro-pneumonia has prevailed in the cities of the Southern States, and there has been a gradual procession of this form Northward, which reached New York about the year 1868. Statistics are then given to show to what extent it has influenced the bills of mortality since that time. Many of the cases ran so rapidly towards a fatal termination that curative measures were useless, before the gravity of the case was comprehended. The disease had assumed a new phase, new factors having been added to its causation, which required diligent investigation in order that it might be successfully combated. Dr. Leaming then alludes to an epidemic of pleuro-pneumonia which had its origin in Canada during the war of 1812-15, and contends that, though it may not be possible to prove that endemic pleuro-pneumonia as it is known in New York is the legitimate successor of the contagious typhoid pneumonia of that period, there is certainly more than a probable connection between the two. When the fatal forms of pneumonia began to occur, ten or twelve years ago, he, in common with other physicians, was surprised at the failure of the simple treatment which had up to that time answered perfectly well in the disease, and became impressed with the fact that with the change of type there had also been changes in the pathological process. The cases were more "typhoid" or of depressed vitality, and the intrapleural complications more frequent and of grave import. Indeed, the increase of mortality was measured by these complications.

Hence, some method of treatment more efficient was necessary. The late Dr. George P. Cammann had taught that in cases of great and sudden congestion of the lungs—the very conditions which are now recognized as indications of interpleural complication and rapid plastic exudation—very large doses of calomel, used promptly, would control the disease and prevent a fatal termination. The inefficiency of the expectant method rendered a resort to the heroic a necessity, and it was attended with very encouraging results. Cases such as had proved fatal under the mild measures previously employed were saved by the prompt exhibition of sedative doses of calomel, which are less depressing to the system than smaller doses repeated. With the immense prejudice operating

against the use of the remedy, however, it requires the courage of experience to give the very large doses that are required,—twenty, thirty, forty, or even sixty grains.—and it is safer to give a few grains more than might barely suffice than to repeat the dose. After quoting Dr. Graves's authority for the free use of mercury in dangerous cases, the writer goes on to say that the best way of giving calomel is to put it on the tongue and leave it there. Its rapid effect, he says, shows that it is influential before entering into the circulation, for it frequently has a sensible effect in controlling the heart's action and in reducing the temperature directly, while its full beneficial effects may not be had in twenty-four hours. It also acts more efficiently than anodynes in securing quiet and sleep; and another result of its use in these large doses, as noted by Dr. Graves, is that when internal inflammation is rapidly overcome, temperature and pulse falling with subsidence of all the alarming conditions, we may confidently expect the reparative process to continue until all is cleared up, and not a vestige of the disease remains. The safety of the large dose in any case where it is indicated at all is absolute; consequently, the physician, arriving at the conclusion that the sedative dose must be given, should not fail in courage to complete the work, so necessary to be done, by any half-way measures. Dr. Leaming next gives the interesting history of an attack of typical endemic pleuro-pneumonia, such as is now met with in New York, which occurred in his own person, and in which the happy effects of large doses of calomel were admirably shown, the temperature becoming normal on the seventh day. At its conclusion he puts the question whether the result would have been the same if calomel had not been used, and goes on to say, "I think not, and for these reasons: In the first place, none of the competent persons who saw the patient believe he could have lived until the seventh day had the calomel not been given; and, secondly, experience shows that where there is a large amount of plastic exudation defervescence does not take place on the seventh day, but the fever continues indefinitely.

But this heroic treatment should not be resorted to in every case. Notwithstanding the fact that endemic pleuro-pneumonia is fatal in its tendencies, other cases occur at the same time which are of the mild type, and in which the tendency is to get well; so that in these mild treatment only should be used. The lighter forms of the disease are to be distinguished from the more serious, first, by the rational signs, and, second, by the physical signs. In the mild form the respiration is not greatly oppressed, and although the febrile conditions, pulse, temperature, etc., may denote much activity, yet from the fifth to the ninth day there is sudden and generally complete defervescence with or without treatment, and the convalescence is uninterrupted; while in the most serious form there is dyspnoea from the beginning, lividity of the countenance, restlessness, and seeking of the upright position. The pulse is frequent and feeble, the skin cool and moist, and the temperature may either run very high or be moderate. In many instances the patient dies before the fifth day, and in those cases which survive a week or more there is no natural period of defervescence. The differences in the physical signs are equally marked. In the mild form the pneumonic conditions, sputa, etc., are sometimes well pronounced for days

before the physical signs of crepitant râle and bronchial breathing appear; while the crepitant râle is distinct, and not mingled with sub-crepitant or larger râles until the râle *redux* commences. In the severe variety, on the other hand, the râles are generally abundant and mixed, and begin with the disease, while the movement of the lungs is notably restrained. There is always marked flatness on percussion, also; and all these differences of physical signs depend upon the intrapleural complications. In the fatal cases there is a large amount of plastic exudation, generally in both pleuræ, and frequently covering the greater part of both lungs. In the one form the pneumonitis is the principal lesion; in the other the intrapleural plastic exudation.

Dr. Leaming has long endeavored to show that there has been a misconception of the significance of râles as a physical sign; contending that they are not intrapulmonary or intrabronchial, as a rule, but intrapleural—the exceptions being in larger mucous râles, which are generally intermittent or gurgling, when formed within cavities or in dilated bronchi. The grave cases have no regular course, except that their tendency is to a fatal termination; the hyperplasia of the blood being their distinguishing characteristic. Exudation of plastic matter into the natural cavities through serous membrane may take place, or the patient's life, perhaps, be brought to a hurried end, by the formation of a heart clot. The fullness of the heart's action and quickening pulse, the dusky ashen hue, the cold, clammy skin, and the spasmodic respiration, all show that death is commencing at the heart. The writer has frequently demonstrated to his own satisfaction the immediate connection between these signs and symptoms of disease and the plastic pathology of the blood and its exudation into serous cavities, with formation into clots in the heart and great blood-vessels. But others, he says, have not been so completely convinced as to the direct interpretation of the physical signs as applied to intrapleural processes, on account, perhaps, of the time elapsing after the diagnosis had been made until its verification after death. In the month of August last, however, he had an opportunity of obtaining proof, which he believes the most skeptical must acknowledge to be convincing. Through the kindness of Dr. J. D. Hopkins, veterinary surgeon of the commission appointed by the United States government for the purpose of stamping out contagious pleuro-pneumonia among cattle, he was invited to be present at the destruction of cows condemned by the commission, in order to examine them upon death by auscultation and percussion, and make diagnoses, which were to be immediately tested by post-mortem examination. The details of these cases are of great interest, but cannot be given here for lack of space. In all of them Dr. Leaming says the proof was complete. The râles always indicated adhesions, and when there were no adhesions there were no râles. He concludes the paper as follows: "Accepting, then, the evidence of râles as proof of intrapleural plastic exudation, we are unable to treat these cases in a manner commensurate with their gravity, and at the initial stage, when success is best attainable. . . . If prompt and energetic measures are to be decided upon, no time should be lost in putting them in force, that heavy blows may be given at the beginning, not to be repeated when the patient's strength is well-nigh exhausted. Everything afterwards should be support and

building up, and mostly by assimilable food, of which milk is the type."

(To be concluded.)

THE WHITE MOUNTAIN MEDICAL SOCIETY.

The White Mountain Medical Society met at Wells River, Vt., Wednesday, January 28th, Vice-President Adams, of Island Pond, in the chair. The forenoon session was occupied by a discussion on diphtheria, Dr. Moody, of Franconia, giving a history of the fatal epidemic in his town. In the afternoon there was further discussion of diphtheria, examination of patients, report of cases by Dr. Brown, of Wells River, and the exhibition of a specimen of peculiar fracture of the neck of the femur with dislocation, by Dr. Mitchell, of Lancaster. The evening session, which was a very interesting one, was opened by an able paper upon Abscess of the Spleen, by Dr. Mitchell, which elicited remarks from Prof. C. P. Frost, Drs. C. H. Boynton, Adams, and others upon similar experiences.

The election of officers resulted in the choice of Dr. C. G. Adams, Island Pond, Vt., president; Dr. C. P. Frost, Hanover, N. H., vice-president; Dr. C. R. Gibson, Woodsville, N. H., secretary; with the usual number of directors, censors, and delegates to local and general medical societies.

Thursday morning the members met at nine o'clock, and after a profitable discussion of two hours, in which the treatment of fissure in ano, and its accompanying diathesis, and treatment of varicose ulcers of the leg were thoroughly and profitably discussed, the society adjourned to meet at Thayer's Hotel, Littleton, N. H., in July next.

Recent Literature.

Atlas of Histology. By E. KLEIN, M. D., F. R. S., and E. NOBLE SMITH, M. R. C. S. Part IX. Philadelphia: J. B. Lippincott & Co. London: Smith, Elder & Co. 1879.

This is a number of perhaps double the usual size. Some of the subjects are among those in which Dr. Klein is particularly interested, and to researches in which he is largely indebted for his well-deserved reputation. The thymus is taken first, and quickly disposed of. Then comes a long and very valuable chapter on the lymphatics. We have a good account alike of the lymphatic trunks and the finest lymph spaces. Special attention is given, as might be expected, to the lymphatics of serous membranes. Klein describes at length the arrangement of the lymphatics of the diaphragm, and makes some remarks on their physiology, which we hope the readers of the *JOURNAL* will thank us for quoting:—

"The current passing through the lymphatics of the diaphragm is, then, from the free peritoneal surface of the diaphragm, that is, the peritoneal cavity, through the stomata vera into the superficial or radiating straight lymphatic capillaries, hence into the deep or circular straight ones; hence the current may pass in two directions, namely (a), into the plexus of lymphatic vessels forming the anterior system, and (b) into that of the posterior system; through the efferent trunks of the former the current passes a long and circuitous way (along the sternum) into a lym-

phatic gland, whereas through the efferent trunks of the latter it reaches in a short and unimpeded manner directly the thoracic duct. . . . The respiratory action of the diaphragm is the principal moving cause of the circulation of the lymphatics of the latter (Ludwig and Schweigger-Seidel), thus: during inspiration the straight lymphatics (both the superficial and deep ones) become distended, owing to the descent of the central tendon, and consequently the greater separation of its bundles from one another, while at the same time the pleural lymphatics become compressed; in this distended state of the superficial straight lymphatic capillaries the above stomata necessarily are wide open, and there exists therefore a tendency on the part of the straight lymphatic capillaries to absorb plasma cells or other formed matter that happens to be present on the peritoneal surface of the diaphragm. But at the same time, owing to the compression of the pleural lymphatics, these will discharge their contents into the efferent trunks. During expiration the straight lymphatics become compressed, owing to the tendon bundles becoming again closer, the pleural lymphatics being at the same time distended, for during the ascent of the central tendon the area of its pleural surface becomes enlarged. Hence the effect of the movement of the diaphragm in inspiration is the reverse from that in expiration, since during the latter the straight lymphatic capillaries become compressed, and therefore discharge their contents; these are readily received by the pleural lymphatics distended during this period." A similar suction action occurs also in the intercostal pleura.

The authors take up next the digestive system. The chapter on the teeth is, we are glad to say, devoted largely to development. The salivary glands, the tongue, œsophagus, and stomach are then discussed. The description of the peptic glands in the last-named organ is clear concerning points often obscure, but we confess to some doubt whether the so-called peptic cells never reach the central canal of the tube. The pyloric glands are said to be identical in structure with Brunner's glands, and we are promised more concerning them later. It is definitely stated, however, that they are not mucous glands, as has generally been believed. T. D.

How to Work with the Microscope. By LIONEL S. BEALE, F. R. S. Fifth Edition. London: Harrison, Pall Mall. Philadelphia: Lindsay & Blakiston. 1880.

The fifth edition of this work is before us, revised, enlarged, and enriched with many additional illustrations. It is somewhat difficult to define the scope of the book, which is larger than the name would imply. It tells us not only how to work with the microscope, but contains much information concerning the instrument itself, the principles involved in the construction of lenses, etc. Beside this we are given a glance at the structure of very many objects belonging to the animal, vegetable, and mineral kingdoms. A great deal of space is devoted to the application of photography to the microscope. Beside the technical part there is more or less concerning biology, and some rather sharp attacks on the materialist. We were about to say that the book might be called an encyclopædia; but that would be saying too much. The researches of what we may call the modern continental school, represented

by Cohnheim, Stricker, Ranvier, Klein, and others, are almost utterly ignored. Indeed, the names of the three latter observers are not to be found in the index. It would be better to say that the work is an encyclopædia of the Beale school of microscopy. This is not the school that we now follow in medical colleges, but there is much that is good in it. Mr. Beale's views of bio-plasm and formed material are very generally accepted, or at least respected. He certainly has shown great skill in making preparations. Those of us who work on different principles cannot afford to turn a deaf ear to Mr. Beale's instruction concerning many points. The book is handsomely printed, and the illustrations are very fine. T. D.

Annals of the Anatomical and Surgical Society. Volume I., 1878-9. Brooklyn, New York, 1879.

This volume contains the proceedings of a body of medical gentlemen, living in Brooklyn, interested in anatomy, surgery, and pathology, who have formed a society and a school for the purpose of advancing the study of these branches. The school, we are glad to learn, is not at all an addition to medical colleges, already too numerous, but is intended especially for advanced studies in the sciences mentioned. The plan seems an excellent one, and we wish it success. We have not space to review the papers read at the meetings during the past year. Suffice it to say that as far as we have examined them they promise well for the future usefulness of the society.

Brain-Work and Overwork. By H. C. WOOD, M. D., Clinical Professor of Nervous Diseases, in the University of Pennsylvania, etc. Philadelphia: Lindsay, Blakiston & Co. 1880.

This is No. X. of a series of American Health Primers, written by different specialists, and published by the same firm. Its subject is first of all in importance, and has been judiciously and ably treated by Dr. Wood. The style is pleasing, and the method simple, but revealing a basis of sound scientific information. This knowledge is not obtruded but is reduced to a condition of practical efficiency. Many valuable maxims and warnings and guides to sound mental hygiene will be found scattered through the pages of this handy little volume. It should be for sale in every railroad train, to catch the business man in his hour of leisure, and enforce its useful precepts on a class in especial need of them.

Dr. Wood thinks it probable that nervous diseases are increasing. The general causes of nervous trouble he considers under the heads of exposure and dissipation. He treats of the effects of emotional and intellectual overwork; of the difference of labor power in the sexes, and of rest in labor, in recreation, and in sleep. Dr. Wood thinks the anemia theory of sleep improbable, and believes that sleep comes from exhausted nervous energy, the lessened flow of blood being the result and not the cause of sleep. T. W. F.

—A petition is circulating in New York against the anti-vivisection bill. It is presented to medical men only. With two or three exceptions all have signed it. Prof. John C. Dalton has been especially active in the matter.

Medical and Surgical Journal.

THURSDAY, FEBRUARY 26, 1880.

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EXAMINATIONS FOR COLOR-BLINDNESS AND DEFECTIVE SIGHT AMONG RAILROAD EMPLOYEES.

MORE than a year ago, at the request of Dr. B. Joy Jeffries, an order was introduced and passed in one branch of the legislature of Massachusetts, that the committee on railroads inquire whether any and (if any) what legislation is necessary in reference to the employment by railroad companies in certain responsible positions of persons affected with color-blindness. As the result of a public hearing, at which Dr. Jeffries appeared, the subject was referred to the board of railroad commissioners for consideration and report. The conclusions of the board appeared in their eleventh annual report, and are well known to our readers.

Last January, at the request of Dr. Jeffries, another order was passed in the lower house, similar to the first, but aimed at the employment of persons not having normal or the average visual power. The board of railroad commissioners did not recommend any legislation on the subject, on the ground that the interest of each corporation is strong enough to insure careful examination, and that its humanity would prevent a company from knowingly employing a person whose defective sight might at any time cause a fatal accident; the board find especial assurance of the wisdom of this position in the present general diffusion of information upon the subject. The commissioners further expressed the opinion that examinations for color-blindness may be properly made by persons not medical experts, and that such examinations will certainly be sufficient if doubtful cases are referred to experts. On this, as on some other points, Dr. Jeffries took issue with the commissioners, and we think very properly. His position is enforced by the strongly expressed testimony of Professors Donders and Holmgren, and by a letter from Dr. Hugo Magnus, which was published in our columns.

The question as now before the legislature may be said to have resolved itself broadly into this: Shall the examination of railroad employees for defects of vision be made compulsory by law; and if so shall these examinations be conducted by experts appointed by the State, or shall it be left to the self-interest and humanity of the railroad corporations to conduct them as may seem for their welfare? The subject is an important one, and should not be left to chance. To be convinced of this it is only necessary to remember that color-blindness exists among railroad employees in Europe to at least three per cent.,

to which must be added other equally serious defects of vision. We hope the humanity and self-interest of the railroad corporations would prove as efficient protectors as the commissioners anticipate. Their opinion on this point is of value. The conclusion, however, that examinations for color-blindness can be properly made by persons not medical experts is undoubtedly erroneous, and if applied to other defects of vision would be still more untenable. An educated man with a fair knowledge of physics could probably conduct an examination for color-blindness in such a way as to enable him to pick out from a number of men all the color-blind, but he would be very apt to include among them others not color-blind. Such a result would bring the system into discredit at the same time that it worked an injustice. When it came to other defects of vision than color-blindness, our examiner would find much greater difficulties. But if the matter is left to the discretion of the corporations the public cannot be at all sure that the examinations will always be conducted by educated men with a knowledge of physics. Cases could be cited in this country where mistakes have been made by ophthalmic surgeons, men who were without special training.

The experience already acquired on the subject, the testimony collected by Dr. Jeffries from abroad, and from such home authorities as the surgeon-general of the United States army, navy, and marine hospital service, all go to show the wisdom of legislation that there may be uniformity of tests, and of the appointment of experts that there may be reliable examinations. We believe the interests of the companies and of the public would both be furthered thereby.

In the long run a uniform examination by experts would be an economy, and as for the rights of the citizen being invaded by such legislation, it ought not to require a very sharp voter to be able to see that too high a price may be paid for even so sweet a thing as personal liberty.

JOHN NEILL, M. D.

PROF. JOHN NEILL, one of the most prominent physicians in Philadelphia, died on February 11, 1880, at his home, of chronic Bright's disease, from which he had been suffering for a long time. About a year ago he lost his sight from albuminuric retinitis and atrophy, but he had been an invalid for even a greater length of time. He was a man of great ability and rare culture, and was highly esteemed by the entire community.

Dr. Neill was graduated from the University of Pennsylvania in 1840. In 1845 he was made demonstrator of anatomy, and in 1874 he was appointed to fill the chair of clinical surgery at the university, but was obliged to resign on account of failing health in 1877. He had previously occupied the chair of surgery in the old Pennsylvania College. In 1861, Dr. Neill was appointed surgeon in charge of the military hospitals in Philadelphia, and organized the first eight general hospitals in this city. The following

year he was commissioned surgeon of volunteers, and in 1863 was appointed medical director of the forces from Pennsylvania, and the same year was breveted lieutenant-colonel for merit. He had also served at various times as surgeon to the Wills, Presbyterian, Pennsylvania, and Philadelphia (or Blockley) hospitals, and to the Deaf and Dumb Institution. He established the hospital at Dickinson College after the bombardment of Carlisle, and also the hospitals at Hagerstown. Dr. Neill was the first curator of the College of Physicians, and the founder of its museum. During the prevalence of cholera he made some beautiful preparations with minute injections, upon which was based the report on cholera, published in the *Transactions of the college*.

Dr. Neill contributed frequently to the medical press; articles from his pen are found in the *Medical Examiner*, the *American Journal of Medical Sciences*, and the *Transactions of the College of Physicians*. He had also written monographs on the arteries, veins, and the nerves, but is best known to students as one of the authors of Neill and Smith's Compendium.

Professor Neill possessed great natural ability and rare culture, and his attainments and attractive personal qualities gave him a high position both in society and in the ranks of the profession.

THE NEW YORK STATE BOARD OF CHARITIES.

THE thirteenth annual report of the New York State Board of Charities, which has just been submitted to the legislature at Albany, affords as conclusive evidence as any of its predecessors of the necessity for the existence of such a body, and of the admirable manner in which it is systematically and gradually correcting abuses that have long existed, and carrying out reforms that will eventually, it is hoped, bring about a complete revolution in the administration of public charities in the State.

The present report shows that during the past year extensive visitations have been made by the board both to the county poor-houses and all the state institutions. During the year ending November 30, 1878, the number of inmates in the county poor-house, was 22,131, and of individuals temporarily relieved 101,140, while in the year ending November 30, 1879, those figures were respectively 18,924 and 62,673; which shows a gratifying decrease. The expenditures for in-door support were \$592,874.33, and for temporary relief \$625,546.42; the average per capita expenditure for the year, above the income of the farms, being \$87.78. The average amount expended upon each person temporarily relieved was \$9.08; while the income from pauper labor amounted to only \$2.16 a head for the year.

The city almshouses belong to New York, Brooklyn, Newburgh, Kingston, Poughkeepsie, Utica, and Oswego, and are organized under special statutes. The number of inmates last year was 39,001, and the number temporarily relieved 17,179; making a total

of 56,180, as against 58,072 in the preceding year. The highest point of expenditure was reached in the county institutions in 1868, and in those of the cities in 1870. The increase of insane inmates from 1868 to 1879 was 2499 and this in spite of the fact that a large number were transferred from time to time to the state institutions for the care of this class.

The statistics thus summarized, in connection with others not given here, lead to these conclusions; first, that there has been a large increase in the pauper insane within twelve years, — much beyond the ratio of increase in the population; second, that there has been no increase in the volume of pauperism arising from other causes, but, on the contrary, a relative decline; and, third, that the latter result has been attained by the attention given to the subject by the board and by organized efforts in other quarters, securing better officials and more watchfulness and frugality. The investigations of the board induced the belief that much of the existing pauperism may be done away with by the adoption of appropriate measures, and among the agencies which it suggests for this purpose are the following: (1.) The poor-houses should be so planned as to enforce a complete separation of the sexes and a thorough classification of all inmates. (2.) Admissions should be guarded by the most stringent rules, so that the easy entrance which leads to dependence may be stopped. (3.) A thorough system of industries should be maintained in every poor-house, leading to better discipline, more happiness, and larger income. (4.) Provisions should be made for the prompt and effective treatment of all sick poor, which in many cases will save the patients from becoming permanent burdens upon society. (5.) This prompt treatment should be especially secured to the insane, since in that disease above all others the hope of recovery decreases more certainly as it progresses. (6.) The care and training of dependent children should be provided separately from that of adult paupers, and for this purpose orphan asylums should always be accessible, from which they can be placed directly in family homes. (7.) The administration of out-door relief should be rigorously guarded and prevented from becoming indiscriminate and continuous. (8.) The legal settlement of all applicants should be carefully examined, so as to place the responsibility of their support where it properly belongs.

There are 158 orphan asylums and homes for the friendless in the State, and the whole number of persons in their care last year was 36,331. The advantages of caring for dependent children in such institutions rather than in poor-houses are strongly urged by the board.

The hospitals in the State are then taken up. Beside the several general public hospitals, there are thirty-six general and twelve special hospitals under the control of corporate associations. The whole number of patients treated in them during 1879 was 18,625, and their efficiency is warmly commended. There has of late years been a large increase in the number of dispensaries, and the total is now forty-one.

On the 1st of October, 1879, there were 9015 insane in the various institutions of the State, as against 8688 at the same period of 1878, and 7921 in 1877. In 1871 the number was 5032, so that since then there has been an average annual increase of 9.89 per cent., while the increase of population has been only 1.67 per cent. Including those patients who are kept in families, the number of insane in the State at the beginning of the fiscal year was 10,597, or one to every 472 of the population. The accommodations for the chronic insane are now entirely inadequate, and the attention of the legislature is called to the urgent necessity for the enlargement of the state institutions.

The report closes with a vigorous protest against the practice of many cities and towns of different countries in Europe of sending to this country their blind, idiotic, crippled, epileptic, lunatic, and other infirm paupers, in order to avoid the burden of their support. The investigations that the board have made upon the subject have clearly established the fact of this practice, European countries finding it cheaper to deport these dependents than to maintain them at home. As they are incapable of providing for themselves, once landed here the burden of their support falls on the city and state authorities. The board has therefore directed the attention of Congress and the general government to this wrong, but in the mean while it proposes to send back immediately every such pauper that is brought to our shores.

In connection with the portion of the report devoted to the subject of the care of dependent children, it is interesting to note that a large meeting of the most influential residents of Westchester County, which lies just north of New York, has been held within the last few days at the rooms of the State Charities Aid Association in that city, for the purpose of deciding upon the best methods of providing for the pauper children of the county. At this meeting there was unanimously adopted an address to the superintendents of the poor of Westchester County, which states that, in view of the increase of pauper children in the county, and the increased expenditure which their maintenance as paupers necessitated, a number of ladies and gentlemen, citizens and taxpayers of the county, had agreed to form themselves into a committee for the purpose of seeking permanent homes for these children, thus relieving the county of their support, and for establishing a temporary home where they could be received until they were so placed. This temporary home was then organized on the spot, with an efficient board of managers, and half the sum required for the work was immediately subscribed by those present. This good example, it is to be hoped, will be emulated by the citizens of other counties; for however desirous superintendents of the poor may be to keep such children from contact with adult paupers, thus far they have failed to do so. At Randall's Island, where a nursery was established with the most honest intentions, it became at last so permeated with workhouse and almshouse influences that at the time it was investigated by the State Board of Charities,

of 74 women in charge of 1300 children, 67 were of intemperate habits, 23 were paupers, and 51 belonged to the criminal classes.

MEDICAL NOTES.

—"Spencer Wells," says the *British Medical Journal*, "has performed forty consecutive operations of ovariectomy without one death."

—At the University of Edinburgh in 1878, of 262 candidates at the first examination 25.9 per cent. were rejected; of 165 at the second the rejections amounted to 35.1 per cent; at the final examination 144 students appeared, and eighteen per cent. were rejected. This is considered a proof of the severity of the examinations.

—According to the *Maryland Medical Journal*, it is asserted that there are not less than two thousand cases of feticide in Maine annually, and that it is impossible to get an attorney to prosecute or a jury to convict an abortionist.

—*Guy's Hospital Gazette*, which was suppressed by its editors because of interference on the part of the lay treasurer of Guy's Hospital, has reappeared. The treasurer wished to act as a censor. To this the editors naturally would not submit. They now have their way.

—Jean Charles Chenn, the eminent physician and naturalist, and Chevalier, a distinguished French chemist, are dead.

—Lister, of London, and Deronbaix, of Brussels, have been elected foreign corresponding members of the Paris Académie de Médecine.

—Dumontpallier, of Paris, asserts that pain located at one point of the body yields to an injection of water, or merely a simple puncture, made at a corresponding point on the opposite side. This procedure he has practiced in neuralgias, in acute articular rheumatism, and in rheumatic or toxic neuralgia. So soon as irritation has been produced on the sound side, the patients have acknowledged a diminution, and often a complete cessation, of the pain on the affected side.

—Dr. William Goodell thinks laceration of the cervix uteri is frequently caused by premature rupture of the bag of waters. It is likewise produced by the forceps and, again, by attempts to push the upper lip of the os over the child's head. One sixth of Goodell's women patients have laceration of the cervix. He thinks this is due to too much interference.

—Dr. Smidowisch recommends apomorphine in croup and acute laryngitis. He has used it with success in four cases.

—Madame de Rémusat tells this story of Corvisart: "The emperor having, for the moment, given up the divorce, but always taken up with the desire for an heir, asked his wife if she would accept one that belonged to him only, and feign pregnancy so that everybody should be deceived. She was far from refusing herself to any of his fancies in this regard. Then Bonaparte sent for his physician-in-chief, Corvisart, in whom he had extensive and merited confidence, and

confided his project to him. 'If I succeed,' said he to him, 'in assuring myself of the birth of a boy who will be my own son, I wish that, as witness of the confinement of the empress, you will do everything necessary to give this ruse every appearance of reality.' Corvisart found that his honor was compromised by this proposition: he promised inviolable secrecy, but refused to lend himself to what was asked of him. It was only a long time afterwards, and since Bonaparte's second marriage, that he confided this anecdote, while attesting the legitimate birth of the King of Rome, upon which doubts entirely unjust have been thrown."

— Dr. Pnpi, in *La Spérimentale*, reports successful treatments of an erectile tumor by the repeated injection of a ten per cent. solution of chloral. The cure was effected in five days.

— In Chicago it is believed that one fourth of all the sick receive medicines and advice gratuitously through dispensaries.

— Chaillé says, "The history of the American state legislation upon the regulation of medical practice conclusively proves: (1.) Laws which debar homœopaths, eclectics, and other practitioners of any special or exclusive system of therapeutics from the practice of medicine cannot be enforced if enacted. (2.) No laws have yet established a satisfactory method to determine the qualifications necessary for a practitioner of medicine. (3.) No adequate measures have yet been devised to inflict the penalties of the law on its violators.

— Dr. Corilleau, of Paris, recommends a new remedy for diphtheria, namely, oxalic acid. He gives it thus: oxalic acid, a gramme and one half; syrup of orange, thirty grammes; infusion of green tea, one hundred and twenty grammes. Dessertspoonful every three hours. Corilleau lost but one of the eighteen cases in which he adopted this treatment.

— The *Journal de Médecine* announces the rather remarkable fact that in some French lead works it was observed that two of the many workmen drank a large quantity of milk every day, and were not affected by colic. The general use of milk was adopted throughout the works, and lead colic ceased to occur.

— There are six baronets in the medical profession in England: Gull, Paget, Jenner, Watson, Burroughs, and Thompson.

— Dr. Strauss says that a differential diagnosis of central from peripheral paralysis of the face may be made as readily by the use of jaborandi as by the constant current. In using the latter, if the disease be central, the muscles in the paralyzed locality contract; they fail to respond if the facial nerve be involved. When jaborandi is given, if the affection be central, sweating occurs on both sides of the face. If the nerve trunk be diseased, no sweating occurs on the paralyzed side.

— The *Chicago Medical Journal and Examiner* says that Messrs. Decaisne, of Paris, have made certain experiments upon the head of a decapitated criminal, which demonstrate that the popular ideas respecting the survival of consciousness after the act of execution are totally erroneous. The traditions which

teach that certain heads have exhibited such phenomena, as winking of eyelids, biting of lips, blushing, etc., belong evidently to the category of the ghost stories of the nursery. The Messrs. Decaisne, although experimenting upon the head immediately after the descent of the fatal axe, were unable to elicit the faintest evidence of vitality.

— Dr. Seguin reports the case of double dislocation of the kidneys in a woman, with voluntary control over these organs, the patient being able to cause the loosened kidneys to descend and present behind the anterior abdominal wall.

— Cohnheim favors the view that all tubercular processes are of infective origin. Schüppel believes them to be caused by bacteria, and therefore recommends anti-parasitic remedies.

— Winternitz says that injections of cold water into the rectum rapidly reduce the temperature of the stomach, and suggests that they may be useful in gastric disorders.

— The *North American Review* for March contains articles on the Third Term, Civil Service Reform, and our Political Dangers, which are worthy of attention.

— In his book on the pay hospitals of the world, Mr. Henry C. Bardett takes the Massachusetts General Hospital as the representative of the American system, partly, as he says, because it is one of the best known and best regulated hospitals in America, and partly on account of the great pains which the authorities, through their representative, Dr. J. H. Whittemore, have taken to supply a full account of the American system of hospital management.

PHILADELPHIA.

— The new State Hospital for the Insane (at Norristown) for the southeastern district of Pennsylvania is now nearly equipped for receiving patients. Fearing that political influence might place an incompetent man in charge as superintendent, the board of trustees were memorialized by a number of prominent members of the Philadelphia profession, urging the vital importance of selecting "a physician of thorough experience in the hospital treatment of mental disease, of high intellectual qualities, and above all unimpeachable reputation as a man of the purest moral character, commanding that confidence which should be reposed in those charged with such grave public responsibilities." At a recent meeting of the board, Dr. David D. Richardson was chosen to fill the position of superintendent, an appointment that thoroughly met the wishes of the profession, as Dr. Richardson has been in charge of the insane department of the Philadelphia Hospital for a number of years.

WASHINGTON.

— Recently, within a few weeks, the supreme court of the District of Columbia decided that the ordinances and regulations adopted by the former board of health and the present health officer of the district could not be enforced by fines and penalties, and were therefore null and void; in consequence, the health officer, through the commissioners, has made an appeal to Congress for their speedy legislation, in view

of the presence of small-pox and the necessity for the vigorous enforcement of sanitary laws.

MEDICO-LEGAL.

— In the supreme court of Illinois, in an action to recover the amount of a life insurance policy on the life of a man who died of delirium tremens, it was decided that "in the cross-examination of a medical expert it is competent to read to him from medical works a description of the disease of which he has testified the assured died, and then to ask him whether he agreed with the authors. Such a use of these books is not reading them in evidence to the jury."

— The Nebraska courts have decided that temporary insanity produced immediately by intoxication does not destroy responsibility where the accused, when sane and responsible, made himself voluntarily drunk.

— A surgeon appointed by the commissioner of pensions to examine applicants for pensions is not an officer of the United States. He is not appointed by a head of a department of the general government.

Miscellany.

THE MEDICAL CONGRESSES AT AMSTERDAM AND BADEN-BADEN.

MR. EDITOR. — Good fortune having brought me to Amsterdam and to Baden-Baden in time to attend the meetings of the International Medical Congresses, I thought a short description of the proceedings might interest some of your readers. The first congress took place in Amsterdam, and was made especially interesting by the presence of such men as Virchow, Lister, Donders, Rosenstein, and others whose names are well known on both sides of the Atlantic. The object of these meetings is to bring the medical men of all sections together, part of the time (usually the forenoons) being spent in discussing medical questions, the nature of which is announced beforehand, the remainder of the time being given up to friendly intercourse between the members, theatres, concerts, expeditions to various points of interest in the neighborhood, and other entertainments offered by leading inhabitants of the spot chosen for the congress. The meetings last usually one week.

In Amsterdam, the first evening was devoted to a reception, held in the large hall and gardens of the Zoological Society; a somewhat informal affair, to enable the members to meet and "break the ice," as it were, for the ensuing week. The next afternoon (Sunday) the opening address was made by Professor Donders, the president of the congress, extending a welcome to all, followed by the election of officers for the ensuing year and the division of the congress into its various sections, each section receiving its allotted room for the discussion of its special subject. In the evening, a large reception, tendered by the mayor on the part of the citizens of Amsterdam, was held in the city hall; for a marked feature of these congresses is that leading members of the laity take part in the public exercises, and are strenuous in their endeavors to make the week one of pleasure as well as of benefit to their medical visitors.

The following morning the regular business of the

congress began, papers being read and discussed in the various sections, the exercises lasting from three to four hours. These discussions took place every morning, with the exception of Wednesday, the whole of which was devoted to an expedition to the grand canals lately constructed by the government. On three afternoons public addresses were given in the general assembly hall by eminent medical men, the most interesting event being the ovation accorded to Lister on the afternoon of his public speech. Professor Donders, in a few words, introduced him to the audience, and as he stepped forward on the platform the hall rang with cheers and applause which lasted some minutes. His subject, as might naturally be supposed, was Antiseptic Surgery, and the modest, quiet force shown in his defense of his doctrines must have convinced every one there that it was no mere enthusiast who spoke, but a man who, entirely convinced of the correctness of his views through untiring labor on his own part, was ready to defend a method which, when conscientiously and correctly carried out, has been and can be of incalculable benefit to suffering humanity. At the close of his speech Donders paid him a graceful tribute, and again the hall resounded with prolonged cheers and applause.

I should have said that to become a member of the congress each one must give his name at the bureau of the congress and pay a sum of about four dollars, for which he receives a card admitting him to all the public performances given during the week and to all exercises held in the rooms of the congress. The evenings were always devoted to entertainments in the form of concerts in the halls or gardens and to performances in the theatre.

The following week the *Versammlung der Naturforscher und Aerzte* took place in Baden-Baden. The unusual beauty of the surrounding country and of the town itself, as well as the many names of celebrated men present, made this congress especially attractive. Langenbeck, Recklinghausen, Spencer Wells, Kussmaul, Friedreich, Ziemssen, and others made an array of names which alone would attract one if only to look at such an assemblage. The exercises took place in the magnificent rooms of the *Conversationshaus*, the gambling hall of former years, and were conducted on much the same principle as those in Amsterdam. I can conceive of no more delightful combination of "business and pleasure" than was offered in that week: the mornings and three or four afternoons devoted to listening to discussions on medical subjects by the medical lights of the world, the leisure time being divided between delightful walks on the surrounding hills, listening to the music on the *Curplatz* opposite the *Conversationshaus*, the gem of a theatre, and expeditions to Heidelberg, Strassbourg, and the Black Forest, all not far distant.

The marked features of these assemblages are, first, the interest shown throughout Germany, and Europe in fact, by the medical profession, an example which we should do better in our American Medical Association to emulate; second, the interest shown by the laity in the town or city chosen for the place of meeting; and, thirdly, the judicious division of the time between medical work and entire relaxation, thus making the congress doubly attractive and beneficial to all its members.

Of the advantage of such meetings to the advancement of medicine there can be no doubt; for apart from the benefit arising from the public discussions by prom-

inent medical men, sectional prejudices are more likely to be worn away, and a feeling of personal sympathy between the members established, hence giving each one a greater interest in the works of the others. Let us hope that the interest shown in our own American Medical Association will continue so to increase that it may some day be to us what the similar congresses are to the medical profession in Europe.

V. Y. B.

LEIPZIG, January 20, 1880.

THE PROPOSED MEDICAL ACT.

MR. EDITOR,—In the report of the Suffolk District Medical Society in your issue of February 19th, I find an abridgment of some remarks of mine so reported as to appear ridiculous. I did not simply state that the proposed law "was ridiculous and unwise," but after a somewhat extended argument I did reach what seemed to me a logical conclusion, that the law was both ridiculous and unwise. I did state that the law was opposed to the reasonings of Adam Smith and Herbert Spencer, and compared their authority with that of the individuals from whom Drs. Cushing and Wigglesworth exhibited numerous certificates of approval of the law.

One word in regard to Dr. Wigglesworth's answer that the "Social Science Association had not inaugurated this reform as philosophers, but as public-spirited citizens." No one will dispute his statement; but let me ask if, considering the legislative enactments of the Massachusetts legislature, it would not have been better if a greater number of laws had been proposed by "philosophers" and fewer by public-spirited citizens, who have crowded our statute-books with non-sensical statutes (dead and alive) until the lawyers cannot tell us the law. If Dr. Wigglesworth thinks that our profession will figure better in this company of public-spirited citizens than in that of philosophers, I can only deprecate his taste.

Respectfully yours,

D. HUNT.

THE CODE OF ETHICS.

MR. EDITOR,—Does the acceptance of a code of ethics by the council of the Massachusetts Medical Society make it binding upon the Fellows, unless it is accepted at the annual meeting of the Fellows?

From the account of the action of the council in the JOURNAL it is not clear, I think, whether the vote is to be discussed by the society next summer or not.

I cannot find in the prescribed duties of the councilors (By-Laws XVII., XVIII., XIX.): Digest of Acts of Commonwealth, relating to Massachusetts Medical Society, XVI., XVII., XVIII.) that the enactment of a code is included. Although the council may assume this power, it is certainly desirable that the style of legislation exhibited by the council in regard to the admission of women be not continued. The council decreed last autumn that women should be admitted to the Massachusetts Medical Society. This was accepted by the community, was quoted in the daily press and by President Eliot in his annual report. The council have since practically admitted that they had no legal right to enact such a decree,—a fact which should have been thought of before placing themselves and the society in a ridiculous position before the public.

If, hereafter, a Fellow be expelled from the society for non-observance of the code, can he not claim that it is doubtful whether the vote of the council in this matter binds the Fellows of the society unless the code is adopted by the society? A FELLOW.

THE ADMISSION OF WOMEN TO THE MASSACHUSETTS MEDICAL SOCIETY.

MR. EDITOR,—In your comments in the last number on the action taken by the last meeting of the councilors upon the woman question, you justly say "that the question stands at the present moment precisely as it did before any action was taken." It is interesting to recall the fact that in 1873, "before any action was taken," the councilors appointed a committee to obtain legal advice upon the very question now at issue, and that at the annual meeting, June 3, 1873, this committee presented to the councilors the written opinion of Messrs. Hoar and Putnam.

As the full text of this opinion has never been printed, so far as I know, its publication in your widely read columns would be useful at the present time. A copy is inclosed. Very truly yours,

G. E. FRANCIS.

WORCESTER, February 14, 1880.

BOSTON, March 11, 1873.

CHARLES E. BUCKINGHAM:—

DEAR SIR,—We have carefully examined the question raised by your communication of February 20th in relation to the application of Miss Susan Dimmock to the Massachusetts Medical Society, and we are of opinion:

(1.) That the society may, if it see fit, prescribe as a qualification for membership or license that the candidate shall be of the male sex.

(2.) That it has not yet done so, by its by-laws submitted to us (edition of 1861).

(3.) That in the absence of any such regulation by the society it rests with the examiners or censors to whom the application is made whether they will approve the licensing of a woman to practice, and that it is competent for them to reject an applicant on the ground of her sex, if in their judgment that is a disqualification for the practice of medicine or surgery.

(4.) That in the absence of any by-law of the society excluding women from examination, if any woman shall be licensed to practice by the proper officers of the society, she will thereupon be entitled to membership of the society. Very respectfully yours,

(Signed) E. R. HOAR.

(Signed) GEORGE PUTNAM, JR.

MR. EDITOR,—In your issue of February 12th, page 157, in reporting the discussion pending the referring of the question of admission of women to the general society for ratification, I think your reporter misapprehended one element in the discussion, namely the relation of *he* to the question of sex as applied to our charter and by-laws. In this discussion of February 4th, Dr. Millet suggested that it might be necessary to invoke legislative authority before women could be admitted. I then suggested that to the mind of a former council that question had been settled, namely, that of sex, which I understood Dr. Millet to refer to. Permit me here briefly to review this point. When the

question of the admission of women to the society was first agitated, it was urged that they were ineligible by reason of the spirit and language of our charter, which contemplated the association and incorporation only of men. Digest, Sections XI., XXVII., and XXVIII. were quoted to sustain this view, the pronoun *he* always being used in referring to person. On the other hand, it was contended that the scope of both charter and by-laws was ample to cover both sexes, and Digest XXIII. and By-Law I. were quoted in defense of that view. Finally, it was voted to refer the question of woman's eligibility by reason of sex to Judge Hoar, then senior counsel of the society, who decided her eligible. It was this decision to which I referred in speaking to the question February 4th.

J. R. BRONSON.

ATTLEBORO, February 17, 1880.

SCANZONI IN RHYME.

A SMALL 12mo of forty-two pages has recently (1879) been published in Bern and Leipzig, as written by "Campolongo," and entitled "Der Kleine Scanzoni. Repetitorium Gynækologium Hystero-poeticum." This gives in pleasing verse the lessons taught by Scanzoni on the diseases of women, and is not in ridicule, but conveys the sense of the lessons very agreeably. A few extracts will show the style quite well:—

SPECULA.

Für Seitenlage praktikabel
Ist Sims' einarm'ger Entenschnabel;
Und geht's an's Operiren scharf,
Man Simon's Speculum bedarf.
In England und Amerika
Gibt's täglich neue Specula;
Doch bleibt es stets die alte Leier:
Was complicirt, das ist auch theuer;
Auch denkt ein Practicus, ein echter:
Je complicirter, desto schlechter!

Und müsst Ihr schlitzen auch ein Hymen,
So denkt gelassen: non est crimen!
Nur übet Mass und Billigkeit,
Und treibt die Spannung nicht zu weit;
Der Heilkunst Segen wird zum Fluch;
Bedenkt man nicht den alten Spruch:
Was du nicht willst, das man dir thu,
Das füg' auch keinem Andern zu!

HYMEN.

Das Hymen ist 'ne Tugend, die
Sich leider lässt erheucheln nie,
Und die aus diesem Grund fürwahr
Sich finden lässt nur äusserst rar.
So Mancher suchte sie im Dunkeln
Und fand statt ihrer nur — *Karunkeln!*

The book closes with a significant wood-cut, having for a base the female pelvis, with a snake entwining itself through the obturator foramina; in the left foramen a sprig of roses, and in the right a bunch of nettles.

INTESTINAL ANTI-PERISTALSIS.

MR. EDITOR.—The recent statements and discussions which have appeared in print concerning the anti-peristaltic action of the intestines in carrying injected materials, enemata, beyond the ileo-cæcal valve even into the stomach makes of special interest certain statements in a little French work published

in Paris in 1878, and entitled *L'Instrument de Molière; Traduction du Traité de Clysteribus de Regnier de Graaf* (1668). In paper, type, and illustrations, this work is an edition of *luxu* of a translation, as its name implies, of the treatise on injections, or clysters, as the old term puts it, by that De Graaf whose name comes down to us in connection with the Graafian follicle. A handsome portrait of De Graaf forms the frontispiece, while interspersed through the work are little cupids, who furnish the head and tail pieces in a manner at once very Frenchy and suggestive of the matter contained within the text. The object of the work, which is prefaced by a full notice of the life and writings of De Graaf, and filled with copious and interesting notes, seems to be to introduce the use of a long and flexible tube, invented by the author as an aid in giving and receiving injections without exposure of person. But the part of most interest here is the assertion that a number of cases have demonstrated that, contrary to the nature of things, the valve of Bauhin (ileo-cæcal valve) is found relaxed during an anti-peristaltic action of the intestines, so that clysters pass out by the mouth, and that this fact is mentioned by Galien, Sennert, Paré, Bartholin, and many others, of whom some affirm that suppositories have been ejected in the same way. Sennert is quoted as giving a case of a young girl of twelve years, "souffrant de la passion iliaque," who could not only retain nothing by the rectum, but also vomited violently the clysters almost as soon as received. This state of things lasting for three days, a long suppository was introduced, and in the time which it took to recite a Pater Noster and an Ave Maria, to quote the quaint language used, it was rejected by the mouth; a second, retained by a thread, was vomited, the thread being broken; a third, attached by four stronger threads, took the same course; a fourth produced so violent a movement (of the intestine?) that the mother removed it in fear that it would follow the others. The girl was finally relieved through the use of very fat bouillon, which triumphed over the excitability of the organs.

W. L.

ANÆSTHESIA BY ETHYL BROMIDE.

MR. EDITOR.—The following case, in which the above named-drug was used, is of interest to the profession:—

The patient, under the care of Dr. C. J. Blake, at the Massachusetts Charitable Eye and Ear Infirmary, a ship's cook, aged thirty-five years, was suffering from chronic otitis media purulenta, right ear. Four weeks ago there was an acute exacerbation of the disease after exposure at sea. There was sleeplessness and loss of appetite. Considerable oedema and erythema below and behind the auricle. Great tenderness on pressure, with a sense of fluctuation over the mastoid process. Wilde's incision was advised.

The operation was done at 2.10 P. M. on February 4, 1880, by the house interne, assisted by the writer; patient reclining with head raised. Pulse 92.

About sixteen cubic centimetres (half a fluid ounce) of ethyl bromide were poured on a small folded towel, and held to the nose of the patient for two and a half minutes, the breathing continuing regular. At the end of this time anaesthesia with relaxation of the muscles was produced. The incision, two centimetres (three

quarters of an inch) in length, was then made vertically, about one and a half centimetres behind the auricle (over the mastoid process of the temporal bone) through the integument to the bone.

During the time that the incision was being made there was no movement of the patient.

Voluntary motion with an apparent restoration of consciousness succeeded, in two minutes, the making of the incision. In seven minutes after the first inhalation of the ethyl the patient talked rationally about the operation, and said that he felt the knife, as if it were the pressure of a finger drawn over the skin,

but that there was no pain. The window near by having been opened and cold, fresh air supplied, the patient soon became chilly and trembled, saying that he felt weak. The window was then closed, ammonia given by inhalation, and blankets were placed over the patient. He said at the end of fifteen minutes, the trembling having entirely ceased, that he felt easy and able to recline comfortably, which he had not done for many hours previous to the operation, on account of the extreme tenderness in the neck. There was no nausea.

E. D. SPEAR, JR.

Boston, February 12, 1880.

REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 14, 1880.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Deaths under Five Years.	Percentage of total Deaths from				
				The Principal "Zymotic" Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.
New York.....	1,085,000	532	203	18.23	18.05	8.68	2.07	.19
Philadelphia.....	901,380	321	102	14.33	9.03	4.67	1.87	2.80
Brooklyn.....	564,400	240	—	20.00	19.58	10.83	3.33	—
Chicago.....	—	186	87	32.80	13.44	18.82	3.23	2.15
St. Louis.....	—	124	39	16.94	15.32	5.65	1.61	1.61
Baltimore.....	393,796	150	58	18.00	12.00	6.67	7.33	2.00
Boston.....	365,000	159	50	13.21	13.84	8.80	—	1.89
Cincinnati.....	280,000	62	23	11.29	12.90	4.84	3.23	1.61
New Orleans.....	210,000	102	—	11.76	15.69	3.92	—	1.96
District of Columbia.....	170,900	90	31	13.33	18.89	3.33	—	1.11
Cleveland.....	160,000	69	39	31.88	5.80	8.70	17.41	4.36
Pittsburgh.....	—	67	30	31.34	16.42	10.45	1.49	11.94
Milwaukee.....	127,000	50	24	16.00	12.00	10.00	—	4.00
Providence.....	101,500	46	17	26.08	8.69	2.17	19.57	2.17
New Haven.....	60,000	26	10	23.08	11.54	—	11.54	7.69
Charleston.....	57,000	39	11	5.13	15.38	2.56	—	—
Nashville.....	17,000	15	3	6.67	6.67	—	—	—
Lowell.....	54,000	27	9	18.52	14.81	3.70	3.70	7.41
Worcester.....	53,000	18	4	16.67	16.67	5.56	—	—
Cambridge.....	50,400	18	6	—	16.67	—	—	—
Fall River.....	49,000	—	—	—	—	—	—	—
Lawrence.....	38,600	17	9	—	11.76	—	—	—
Lynn.....	34,000	19	9	31.58	5.26	26.32	—	—
Springfield.....	31,800	10	2	10.00	—	—	—	10.00
New Bedford.....	27,200	11	5	27.27	18.18	18.18	9.09	—
Salem.....	26,500	16	2	—	12.50	—	—	—
Somerville.....	23,500	5	2	40.00	40.00	—	20.00	—
Chelsea.....	21,900	7	2	42.86	—	28.57	—	14.29
Taunton.....	20,200	—	—	—	—	—	—	—
Holyoke.....	18,400	8	6	37.50	12.50	37.50	—	—
Gloucester.....	17,300	10	6	50.00	10.00	—	30.00	10.00
Newton.....	17,300	—	—	—	—	—	—	—
Haverhill.....	15,350	7	2	—	28.57	—	—	—
Newburyport.....	13,500	7	1	14.29	—	—	—	—
Fitchburg.....	12,600	4	1	—	25.00	—	—	—
Twenty-one Massachusetts towns.....	155,910	60	17	23.33	16.67	11.67	1.67	3.33

Two thousand five hundred and twenty-two deaths were reported; 810 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 470, consumption 396, lung diseases 366, diphtheria and croup 201, scarlet fever 75, typhoid fever 50, measles 44, whooping-cough 27, diarrhoeal diseases 26, malarial fevers 17, erysipelas 11, small-pox seven, cerebro-spinal meningitis six, typhus fever six. From measles, New York 21, Philadelphia six, Brooklyn and Chicago five, St. Louis and New Haven three, Lowell one. From whooping-cough, Pittsburgh five, New York three, Philadelphia, Brooklyn, New Orleans, and District of Columbia two, Chicago, St. Louis, Baltimore, Boston, Cleveland, New Haven, Charleston, Somerville, Gloucester, Marblehead, and Palmer one. From malarial fevers, New York eight, St. Louis and New Orleans three, Chicago two, Brooklyn one. From erysipelas, Brooklyn three, New York and Philadelphia two, St. Louis, Cincinnati, Nashville, and Newburyport one. From small-pox, Philadelphia three, District of Columbia and Worcester two. From cerebro-

spinal meningitis, Philadelphia two, New York, Chicago, Lynn, and Marblehead one. From typhus fever, Chicago four, Philadelphia and Baltimore one. One hundred and sixty-four cases of measles, 58 of diphtheria, nine of whooping-cough, and three of typhoid fever were reported in Brooklyn; diphtheria 48, scarlet fever six, in Boston; diphtheria 13 in Milwaukee; diphtheria seven, scarlet fever six, in New Bedford. Philadelphia, Washington, and Worcester continue to report deaths from small-pox; one case was reported in Cleveland. Systematic vaccination was begun in Worcester on the 15th inst.

The total number of deaths reported shows a considerable increase over the previous week; of deaths under five as large a decrease. Diarrhoeal diseases were less fatal, and to a less degree also scarlet fever and diphtheria. Lung diseases, consumption, typhoid fever, measles, and small-pox caused more deaths. In 37 cities and towns of Massachusetts, with an estimated population of 958,060 (population of the State about 1,690,000), the death-rate was 21.82 against 20.41 and 20.17 of the previous two weeks.

In 51 cities and towns of Belgium there were 140 deaths from acute lung diseases, consumption 81, diarrhoea 49, small pox 35, diphtheria and croup 10, fever nine, whooping-cough eight, measles three, scarlet fever two. Brussels death-rate 22.5; Antwerp 28.5; Ghent 30.4; 24 larger towns 33.7; 23 smaller towns 31.5. In the 20 chief Swiss towns acute lung diseases continued

widely prevalent and fatal, diphtheria next in order and increasing; diarrhoea and fever also prevailed. There was only one death from small-pox (Basle), and one from scarlet fever.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.				Relative Humidity.				Direction of Wind.			Velocity of Wind.					State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
Feb. 8	30.302	26	35	12	65	45	64	58	W	SW	SW	13	16	15	C	C	C				—	—
" 9	30.237	17	35	14	59	45	55	53	W	NW	N	14	21	15	C	C	C				—	—
" 10	30.274	19	31	-4	39	54	88	60	N	SE	SW	5	5	3	C	O	S				—	.01
" 11	30.383	30	40	22	87	45	67	66	W	S	S	1	5	3	F	C	C				—	—
" 12	29.798	45	52	27	81	79	85	82	S	SW	SW	12	18	13	R	O	F				—	.16
" 13	29.642	43	49	39	100	100	100	100	O	SE	E	0	3	1	R	G	G				—	.89
" 14	29.849	38	53	32	100	52	61	71	W	NW	N	9	17	19	G	C	O				—	.64
Week.	30.069	31	53	-4				70	Southwest.												25.55	1.70

¹ O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, snow; R, rain; T, threatening.

A NEW REMEDY IN THE TREATMENT OF DIABETES.

BY J. Y. DALE, M. D., LEMONT, PA.

I SHOULD like to bring to the notice of the profession a remedy which has been remarkably efficient in my hands in the treatment of diabetes. It was first brought to my notice in 1876 by a medical friend, who had used it with great success. It is the nitrate of uranium, given in doses of one or two grains three times a day. A year ago I treated a case in which this was the only medicine prescribed, and in connection with appropriate diet the quantity of urine was reduced from two and a half gallons per diem to a quart in less than a month, with a corresponding improvement in all the other symptoms.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM FEBRUARY 14, 1880, TO FEBRUARY 20, 1880.

HALL, J. D., captain and assistant surgeon. Relieved from duty in Department of Texas, and to report to commanding general, Department of Dakota, for assignment to duty. S. O. 53, A. G. O., February 13, 1880.

LIST OF CHANGES IN THE MEDICAL CORPS OF THE NAVY DURING THE WEEK ENDING FEBRUARY 21, 1880.

MEDICAL DIRECTOR E. SHIPPEN ordered as president of naval medical examining board to convene in Philadelphia March 1, 1880.

Surgeon T. N. PENROSE detached from Naval Hospital, Norfolk, and ordered as member of naval medical examining board.

Surgeon W. J. SIMON to the Naval Hospital, Norfolk, Va.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting will be held on Monday evening next, at eight o'clock, at the hall of the Library Association, 19 Boylston Place. Reader, Dr. J. J. Putnam. Subject, A Series of Cases Characterized by "Numbness of the Hands."

FREDERICK C. SHATTUCK, M. D., Secretary.

SUFFOLK DISTRICT MEDICAL SOCIETY. — A regular meeting will be held at the hall, No. 19 Boylston Place, on Saturday evening, February 28th, at seven and a half o'clock. A paper will be read by Dr. J. H. Warren on Cases of Hernia operated upon for Radical Cure by injecting the Internal Rings. Disputants, Dr. T. Waterman and Dr. E. H. Bradford. Dr. Hamilton Osgood will exhibit "a new sanitary trap." All members of the Massachusetts Medical Society are cordially invited to be present and take part in the proceedings.

T. M. ROTCH, M. D., Secretary.

GYNECOLOGICAL SOCIETY OF BOSTON. — The next regular meeting of the society will be held at seven o'clock, P. M., on the first Thursday of March. Paper by W. S. Brown, M. D. Profession invited.

HENRY M. FIELD, M. D., Secretary.

PROF. B. G. WILDER, of Ithaca, N. Y., desires to consult Swan's Illustrations of the Comparative Anatomy of the Nervous System, and will be thankful for information as to where a copy may be found.

BOOKS AND PAMPHLETS RECEIVED. — Priority in the Anæsthetic Use of the Bromide of Ethyl. By R. J. Levis, M. D. (Reprint.)

Fifty-Fourth Annual Report of the Massachusetts Charitable Eye and Ear Infirmary, for the Year 1879.

The Great Hysterio-Epileptic Attack and its Principal Varieties. By Alice M. Hart. (London Medical Record.)

Lord Macaulay, His Life and Writings. By Charles H. Jones. Appleton's New Handy-Volume Series. New York: D. Appleton & Co.

How to Learn Short-Hand. The Stenographic Instructor. By Arthur M. Baker. New York: S. R. Wells & Co. 1880.

The New Anæsthetic. The Bromide of Ethyl. By R. J. Levis, M. D. (Reprint.)

Fifth Report of the Salem Hospital. 1880.

The Hypodermic Injection of Morphia. Its History, Advantages, and Dangers. Based on the Experience of Three Hundred and Sixty Physicians. By H. H. Kane, M. D. New York: Charles L. Birmingham & Co. 1880.

Lessons in Laryngoscopy and Rhinoscopy. By Prosser James, M. D. Third Edition. Illustrated. Philadelphia: Lindsay and Blackiston. 1880. (N. R. Campbell & Co.)

Syllabus of a Course of Lectures on Physiology. By J. Burdon Sanderson, M. D., LL. D., F. R. S. Second Edition. Philadelphia: Lindsay and Blackiston. (N. R. Campbell & Co.)

Ovariotomy. Patient Sixty-Seven and a Half Years Old, etc. Recovery. By W. F. McNutt, M. D., L. R. C. P. Ed. (Reprint from Western Lancet, San Francisco.)

A Handbook of Hygiene and Sanitary Science. By George Wilson, A. M., M. D., F. C. S., etc., etc. Fourth Edition, enlarged and carefully revised. Philadelphia: Lindsay and Blackiston. 1880.

A Rare Case of Pericuniritis. By F. F. Dickman, M. D., of Fort Scott, Kansas. St. Louis. 1880.

PHILADELPHIA, January 1, 1880.

PRESLEY BLAKISTON, having purchased the general and imported stock of Messrs. Lindsay and Blackiston, together with the series of American Health Primers, will continue the publishing, importing, and retailing of medical and scientific works at his new book rooms, 1012 Walnut Street. Catalogues furnished upon application.

Lectures.

CLINICAL LECTURE.

BY HENRY J. BIGELOW, M. D.,
Professor of Surgery in Harvard University.

[Reported for the JOURNAL.]

LITHOLAPAXY.

GENTLEMEN. — Within ten days we have had two cases of rapid litholapaxy, one of which you saw. After both, the temperature rose from 98° to above 100° F. On the third day it fell to 99° F., and now, three days later, it is normal. This reaction is like that from the effect of a bougie, and the temperature like that of urethral fever. A patient readily recovers from the operation of litholapaxy if we remove from the bladder all the fragments of the stone. In fact, the new method has succeeded beyond expectation.

Small stones are easily ground up, especially if soft, and then come away of themselves. Serious consequences may follow if fragments are left in the bladder. In former times cases that did not admit of lithotripsy had to be cut; likewise those in which, from any reason, lithotripsy was hazardous. A recent number of the London *Lancet* reports a case in which Mr. Smith, of St. Bartholomew, removed four ounces of stone from the bladder of an elderly man, who left the hospital in a week. This is the largest quantity of debris ever removed by litholapaxy.

The operation, of course, is purely mechanical, and any reference to it is chiefly to its mechanics. The principles of litholapaxy and of complete evacuation are pretty well settled and accepted. It is now mainly a question of certain minor details of convenience in the apparatus. I am satisfied that one point which contributes as much as, if not more than, any other to rapid and complete evacuation is the power of regulating and of frequently varying the quantity of water in the bladder. You require just enough water to prevent the *thud* of the slack walls when they are drawn into the eye of the catheter. When you feel that the bladder must have a little more water to distend it. Too little water crowds the fragments together. When there is too much you may have to chase a single fragment a long time.

The arrangement of hose I show you here is the only one that allows the operator to diminish the quantity of water in the bladder without disturbing the apparatus. If one end of this hose—which is not much larger than a pipe-stem—be kept in a tumbler of water it does not in the least interfere with the convenience of the operator. But, on the other hand, it does enable him, by turning the cocks, to vary from one minute to another, if he please, the amount of water in the bladder. There can be no doubt of the advantage of being able to do so.

Another point relates to the size of the tubes. The smallest tube used in litholapaxy is larger than the largest tube that was used for evacuation in previous operations. But you will find that the largest tubes I use are sometimes not preferred by other surgeons. They are in the habit of using a No. 28 or 29 tube, and these often serve the purpose. The fact is this: a stone after evacuation is found to have been mostly reduced to powder and minute fragments. Large fragments are rather the exception. Now, the fine debris may be evacuated through a 28 or 29 tube, though perhaps not

quite so rapidly as if the tube had a calibre of 30 or 31. It then remains only to crush the larger fragments and repeat the process. I prefer a larger tube, when there is no objection to its introduction, because it not only evacuates the dust more rapidly, but at the same time allows me to remove the large fragments without having to crush them.

I am sure that in the end operators will all use a stand to support the weight of the bulb, because it is very inconvenient to hold it through a long operation. But there should be a device (as in the stand I show you here) for supporting the bulb at different heights, which can be varied during the progress of evacuation.

I also think surgeons will connect the bulb with the evacuating catheter by means of an elastic tube, so that one can be moved without the other. This to me is a *sine qua non*.

RUPTURE OF A TENDON.

You have seen this man in the ward. He came to the hospital with a rupture of the long tendon of the biceps muscle of the arm. It is a rare accident, and is well worth examination. The man fell upon his shoulder and disabled it. More than this he does not know. He has been unable to bend the arm freely, but is now recovering the use of it. There is a noticeable difference between the biceps muscles of the two arms. On the affected side, the outer belly, never long, has contracted into an almost spherical mass. You can see how this arm differs from the other by its curiously irregular outline. Flexion is accomplished chiefly by the brachialis anticus muscle. The biceps here shows one tendon running to the coracoid process, but there is a hollow where the outer belly should be. Just above this depression is a little tendinous mass, which seems to consist of the fibres remaining about the outer tendon. When the man entered he felt pain about the shoulder, and when he contracts the biceps there is very decided pain there now. There can be no doubt as to the character of the lesion. I have had a cast made of the arm. The case is rare. I never happened to see one before.

TUMORS UPON THE STERNUM.

Nine months ago a tumor appeared on the upper segment of this man's sternum. When he works he suffers pain. He is employed in a paper store, and his work is mostly lifting heavy bundles. He has never been sick. While taking down a package of paper from a shelf he struck the sternum. At night it felt a little sore. A tumor soon appeared, and has grown slowly. It is not tender, although he feels it when he first begins to work.

Here is a second case. This man is a stocking knitter, and of sedentary habits. In May or June last he first noticed an inflammatory swelling which extended over a part of the sternum. A second swelling came on later at the top of the bone.

In these two cases we have two exceptional and different tumors of the upper part of the sternum. The inflammatory growth is the more common of the two. Coming on about six months ago, it became tender, was opened, and has been discharging ever since. Within a few weeks the upper swelling appeared on the same patient. It fluctuates a little, but is still firm, and is indolent in progress. It is a case of caries of the sternum with abscess, occurring in a man of weak habit and somewhat run down. Its progress has been

so slow that the character of the lesion might still be doubtful but for the fact that we know that caries of the sternum usually goes on slowly, in this way, producing a diffused or firm swelling. Beyond the removal of the carious portion of the bone, I know nothing to do. It is a case difficult to treat to advantage. When the upper swelling opens both will continue to discharge for a long time.

In the other case we have a strong man and a different growth. The tumor is nine months old. Instead of being diffused it is circumscribed and abrupt. It is lobulated, non-fluctuating, hard in consistence, with a sharply defined base. It followed a blow. I think it is not an inflammatory tumor. It is a rarer form of growth, and simulates an enchondroma. It is about as large as a horse-chestnut. There seems to be a crater in the bone where it escaped from the diploe. As to a definite diagnosis, if the growth be inflammatory a few weeks will develop characteristic symptoms in that direction. If it be a neoplasm, other symptoms will declare themselves in an opposite direction. In a word, we cannot now make a positive diagnosis, and must wait. But if it be an enchondroma any operation would be merely palliative.

Original Articles.

CASE OF MULTIPLE MELANO-SARCOMA OF THE SKIN.

BY L. DUNCAN BURKLEY, A. M., M. D.,

Late Physician to the Skin Department, DeWitt Dispensary, New York; Attending Physician for Skin and Venereal Diseases at the Out-Patient Department, New York Hospital, etc.

MR. —, aged twenty-two years and nine months, first came under my care December 17, 1874, when the following history was obtained:—

He had always been healthy as a child with the exception of a few convulsions. His parents are Americans, living, and in perfect health; he resided within thirty miles of New York. Eight years ago he was operated on for a ranula, which had existed since infancy; the ranula still persists, and fills up and discharges from time to time. Six years ago, while watching a barrel in the process of being hooped, something struck him in the outer side of the right eyeball, inflicting a bruise on the sclerotic. No treatment was adopted, other than keeping the eye closed, and very little inflammation followed. Shortly after this a minute black speck appeared on the site of the bruise, which has steadily increased in size. This is now seen as a bluish-black tumor one fifth by one third inch in diameter, slightly elevated, and with dilated veins running to it. Two and a half years ago the first lesion appeared in the skin, just in front of the lobe of the right ear, which enlarged up to the size of half a walnut, and has again diminished in size, until now it is that of a large split pea, movable with the skin; this tumor has never been colored on the surface, but is of the natural hue of the skin. A year later, that is, a year and a half ago, he noticed a tumor on the left side of the chest, in front; this was discolored, bluish-black from the first, and has since disappeared, as have certain other tumors.

About nine or ten months ago one appeared beneath the left arm, which has flattened and remains, of a dark color. The next tumor was situated on the right temple, the size of a large walnut, which was removed

by Dr. George K. Smith, of Brooklyn, June 30, 1874; another small one had been previously removed, June 19th, from the cellular tissues just below the lower lid of the left eye. Dr. Sherwell, of Brooklyn, who saw the case and examined these specimens, reports that there was no discoloration of the skin over this latter tumor, nor any undue signs of vessels in the neighborhood, or any hyperemia. The wound bled pretty freely, but not more than natural. The tumor itself was friable in structure and almost black in color. Microscopically a great excess of pigment matter was found, and many large cells with two or even three nuclei, rendered much more distinct by acetic acid. The tumor removed June 30th had the same consistency and color, and presented the same microscopical appearances.

At this time the fundus of the eye was examined by Dr. Matthewson, of Brooklyn, without finding any morbid appearance or deposit, even in the right eye, originally affected by the first tumor of the sclerotic. The larynx and back of the tongue were examined by Dr. Sherwell and found normal.

During the last nine months the development of the tumors has been pretty rapid, new ones being discovered almost daily up to the present time, while others disappear occasionally. During the past few months the general surface of the skin has been very decidedly darkening, especially that of the face, which now presents much the appearance of that seen in Addison's disease.

The condition of the disease when first seen was thus recorded: The whole surface, from head to foot, is more or less covered with a development of subcutaneous tumors of various sizes and shapes, varying from that of a very small split pea, to an inch and even two inches in diameter. Most of the masses are circular, and occasionally a long one is observed, as on the right forearm, where there is one two inches long by three quarters of an inch wide. Some of the lumps appear to be made up of several tumors closely set together. Most of the tumors are distinctly raised above the skin, to various heights, some being round on top, others quite flat; even those of an inch or more in transverse diameter may be elevated only a quarter of an inch or so above the level, and be quite flat on top. These appear to be such as have reached their height of development and are undergoing absorption.

All of the tumors are decidedly hard and firm to the feel. Some of them are colored, of various shades, from a greenish-brown to a deep blue-black, but most of the tumors externally appear of the color of the skin. Over these latter the skin is quite freely movable, but over those of a dark color, which are really those undergoing atrophy and flattening, the skin is thick, hard, and united with the tumors.

It is impossible to give the exact number of the separate masses, so many smaller ones are deeply imbedded beneath the skin, and can be found only by palpation. When stripped the body appears to be very thickly sprinkled with them; last week his brother counted one hundred and fifty by the eye.

As previously remarked, some of the tumors are now disappearing. After having attained a certain size, or rather height, as apparently subcutaneous tumors, covered with skin of a normal color, they become first of a purplish color, which deepens until of a deep black. While this is going on the tumors seem to flatten, then absorption appears to take place, the surface sinking

and the color fading somewhat, until at present some of the older ones on the chest and abdomen are seen only as flat discolorations, of the level of the skin, presenting a hue much like that of a nitrate of silver stain. The statement is made by the patient and his father, who are both very intelligent persons, that all of these tumors which have undergone this change have previously bled spontaneously or from friction of the clothing. Some of the lumps showed signs of recent hæmorrhage, especially some situated on the legs near the knees; he states that some bleed every night, the sheets being always bloody in the morning. These changes in the tumors are more prone to occur in those on the chest and abdomen, where he is apt to press upon them in his occupation, which is that of an expressman delivering sewing machines.

A very curious condition develops in connection with some of the tumors, notably in those upon the chest and abdomen. During the process of absorption, when the mass has flattened considerably, there appears a ring or collar around the tumor, which is very distinctly marked in a number of places at the present time. This ring is about a quarter of an inch in width, and in some instances hard, slightly elevated, and of a bluish-black; in other places the ring appears simply as a colored band, not elevated, around the central pigmented spot, separated from it by a very narrow portion of healthy tissue. In some instances this ring is seen around tumors over which the integument is slightly if at all colored. The patient asserts that this circle is always formed around a tumor which has become discolored, and also that those which become discolored on the surface always bleed at some time.

The entire skin is of a darkish hue, though not so dark as the face, which has more the appearance of general nitrate of silver staining or of Addison's disease.

His general condition is good; he feels strong and well, with a good appetite. He has lately been gaining in flesh, and has improved in every way under Fowler's solution, which he has taken for five months or more. He has just begun to notice some choking sensations about the throat; of late, also, is restless in sleep.

On examination the liver was found to measure four inches perpendicularly, and to extend an inch and a half beyond the median line. No mesenteric enlargement was discernible on palpation; the skin of the abdomen was so thickly studded with tumors as to render exploration very difficult. The lungs appeared to be perfectly normal on physical examination.

The urine was first examined on June 19th, by Dr. Smith, of Brooklyn, at the time of the first operation. It was then of a brown color. On July 6th Dr. Sherwell reports it as dark colored, strongly acid, specific gravity 1022, with crystals of uric acid, stained of a distinct blue shade, which seemed to intensify on exposure to light.

At the time of the first visit to me the urine was found to be of a coffee-brown color, with a specific gravity of 1020, with urates quite abundant, and a moderate amount of oxalate of lime. Later on the color became at times of a very dark-brown color, occasionally very muddy from the urates. Sometimes it would appear of a much lighter color, as that of sherry wine, and would remain clear for some time. The sediment, which at times was quite abundant, was, besides the urates and oxalates, made up of irregular

pigment masses and particles, largely amorphous; many of them were apparently contained within epithelial cells, from the pelvis of the kidneys; many of them resembled the pigment colloids of Roberts. The quantity was tolerably free when first seen, but later it became much reduced; once only fourteen ounces were passed in the twenty-four hours. The largest quantity secreted in the same time, while under observation, was thirty-eight ounces.

The subsequent history of the case can be told in a few words. The patient rapidly lost in strength and flesh, and the tumors continued to develop anew, and also to undergo the process of absorption and disappearance before described, only the total mass of cutaneous tumors was steadily on the increase. Tumors reappeared in the site of those excised.

Six weeks after he was first seen he was in a greatly depressed state; swelling of the legs had appeared. These were bandaged, but soon his weakness prevented his coming to the office, and he entered Roosevelt Hospital.

On admission to the hospital, April 23, 1875, his pulse was very rapid, 144; temperature 101° Fahr. He complained of great dryness of the skin. The *rauhla* previously referred to was discharging freely; also an abscess in the right cheek, which discharged through the mouth. There were also open abscesses from ulcerated tumors in the vicinity of the right shoulder, on the inner side of the left fore-arm, and several on the right leg. These discharged pus and pigment of an almost solid consistency; there was also an almost constant oozing of blood. The breath was very offensive. Mental powers perfect.

He remained in the hospital about three weeks, and died there on May 16th. During this period the urine showed the same appearances as before noted; it was acid, specific gravity 1018, was dark colored, and contained a trace of albumen. He failed rapidly, becoming more and more bronzed, until at the time of death the general melanic state of the skin was very striking. The temperature rose to 101.75° Fahr. at the highest, remaining thereabout. During the last few nights of life he was delirious, as also at intervals during the day. For the forty-eight hours previous to death he was mildly delirious most of the time, passing his urine and feces unconsciously; the discharge from the bowels was very thin and of a dark-greenish color. He was very restless during this period, and seemed to be in great pain.

Autopsy by Dr. Delafield, May 17, 1875. The entire skin is of a dark color. On the surface of the body, just beneath and in the skin, are seen a great number of tumors from the size of a pea to that of a hen's egg, many of them of a dark purplish-black color. The dura mater is grayish, and on its inner surface coated with a thin layer of fibrin. The pia mater is normal, except for one small pigment nodule. The substance of the brain is not pigmented, and appears normal. On the right eye, in the sclerotic, close to the outer edge of the cornea, is a small black nodule the size of half a grape seed. The interior of the eye appears normal. The pharynx, trachea, and large bronchi are grayish. The lungs are not pigmented; the left lower lobe is oedematous and partly hepatized. The pericardium is distended with clear serum; heart normal. The peritoneal cavity contains purulent serum. The liver and spleen are pigmented, and black nodules are found in the liver. The mucous membrane

of the stomach and small intestines is congested and coated with mucus. The cervical, bronchial, and mesenteric glands are large and black.

RECENT PROGRESS IN ANATOMY.

BY THOMAS DWIGHT, M. D.

THE SCAPULAR INDEX.

THE precise value of this test in anthropology and comparative anatomy is still to be determined, but as it is likely to be discussed for some time a description

of it will not be out of place. The test was invented by Broca,¹ who applied it to various races of men and to an extensive series of animals. Flower and Garson² have used it also for the study of human races and the higher apes. The lines are drawn as follows: AB, representing the breadth of the bone, runs from the centre of the outer border of the glenoid fossa along

the base of the spine; CD connects the highest and lowest points; a third line unites A and D.³ The scapular index = $100 \times \frac{AB}{CD}$; the infraspinous index = $100 \times \frac{AB}{AD}$. Broca found from a study of twenty-three European and twenty-four negro skeletons that the scapular index in the former was 65.91 and the infraspinous 87.79; in the latter the scapular index was 68.16 and the infraspinous 93.88. Flower and Garson found the scapular index of two hundred European skeletons 65.20 and the infraspinous 89.40. Of the observations on lower animals we will mention merely those on the scapulae of gorillas and chimpanzees. It is worthy of note that the latter more closely resemble man, as the following table shows:—

BROCA.

Of 5 chimpanzees, sc. index 68.52; inf. ind. 130.23.

Of 10 gorillas, sc. index 70.38; inf. ind. 126.05.

FLOWER AND GARSON.

Of 21 chimpanzee scapulae, sc. index 69.9; inf. ind. 138.8.

Of 16 gorilla scapulae, sc. index 72.2; inf. ind. 132.5.

From this it appears that in man and the higher apes a long scapula indicates a higher type than a short one. The methods of progression and prehension in animals below the primates differ so much from those of man that the shape of the scapula is very different, and a comparison of the indices of little value.

MUSCLES OF THE LIPS.

In the Report on Anatomy, published in September, 1877, we mentioned some observations on these muscles by Professor Henke. The gist of his paper consisted in so grouping the muscles that they presented essentially a regular diagram for both sides of the upper and lower lips. The triangulares were described as passing into the diagonally opposite quarter of the lips. Thus the fibres of the right inferior triangular muscle could be traced into the left half of the upper lip.

¹ Bulletin de la Société d'Anthropologie de Paris, Tome I, Troisième Série, 1878.

² Journal of Anatomy and Physiology, October, 1879.

³ In the diagram the point A has been put too high. The lines do not cross at a right angle, as would appear to be the case.

Professor Aeby⁴ has recently added some interesting details to our knowledge of the subject. They are for the most part based on sections to be studied with a low magnifying power. The existence of a continuous circular muscle is denied. What we have known as the orbicularis oris is said to consist chiefly at least of the triangulares and the buccinator. The latter forms the body of what we must still call the orbicularis, and lies under the outer red portion of the lips. Flat sections show very beautifully a decussation of fibres from the two sides of the outer part of the orbicularis. Close to the free edge in the part just stated to be formed by the orbicularis this does not occur. A little further off the more superficial ones run into the skin in series of small bundles, crossing similar ones from the other side. At a greater distance no fibres continue in the lip, but all go to the skin. By far the greater number of these fibres cross the middle line. This arrangement is more clearly seen in the lower than in the upper lip. Aebly denies emphatically that the zygomaticus has any share in forming the orbicularis. It ends in the angle of the mouth. As it approaches this point it divides into two bundles. The smaller runs by the triangulares at their crossing point into the skin; the latter, if we understand Aebly correctly, pierces these muscles, and runs into the mucous membrane. Aebly discusses also some fibres running between the skin and the mucous membrane, first described by Klein as the compressor labii.

ANOMALIES IN THE NEGRO.

Professor Turner⁵ records numerous peculiarities of structure met with in the dissection of two negroes. Colored subjects are too common in American dissecting-rooms to attract attention, but it is to be regretted, in the interests of anthropology, that we have not improved our opportunities of searching for peculiarities of structure that might be characteristic of the race. We mention some of the anomalies described by Professor Turner solely on account of their intrinsic interest; there is no reason to consider them expressions of any law. In the first subject muscular anomalies were numerous, though few were very rare. The pectoralis minor, beside being inserted into the coracoid process, gave off a strong band that blended with the capsular ligament of the shoulder-joint. More remarkable was the right brachialis anticus, which arose by a superficial mass from the humerus below the deltoid, and by a deep one from the lower third of the anterior surface of the humerus. The two portions united to be inserted into the coronoid process, but from the deeper one a distinct slip proceeded to the tubercle of the radius. A muscular bundle from the pectineus joined the tendon of the adductor longus. The peroneus brevis, beside its usual insertion, had one to the tubercle on the outer surface of the os calcis. But few anomalies of the vascular system are mentioned, the most remarkable of which is a loop in the deep palmar arch, formed by the splitting of the radial. The most striking peculiarity in the body is described as follows: "From the internal aspect of the left ulna an osseocartilaginous process projected, from the summit of which a fibrous band passed down to the carpus in proximity to the pisiform bone. Under this band a branch of the anterior interosseous artery, which ran downwards along the inner surface of the shaft of the

⁴ Archiv für mikroskopische Anatomie, Band xvi. Heft 4.

⁵ Journal of Anatomy and Physiology, April, 1879, and January, 1880.

ulna, passed to anastomose with the carpal branch of the ulnar artery."

The second subject presented a very rare anomaly, namely, two thoracic ducts. They lay on either side of the descending aorta, each beginning with a perfect receptaculum chyli situated on the first lumbar vertebra. The right duct pursued the normal course to the root of the neck, where it was joined by the other. The termination of the common duct was, unfortunately, lost. The most striking muscular anomaly was a biceps with four heads. One extra head is far from rare, and Henle mentions a case of five heads; still, one of four is perhaps worthy of record. Beside the usual origins, there was one from the inner surface of the shaft close to the attachments of the coraco-brachialis and the brachialis anticus. The other head was smaller, and arose from the lesser tuberosity and the bottom of the bicipital groove. Turner has observed seven previous cases of four-headed biceps.

THE STRUCTURE OF THE SPERMATOZOON.¹

Mr. Heneage Gibbes publishes some very curious observations on the spermatozoa of several vertebrate animals, and promises to treat of human ones in another paper. He has found the following parts in the living spermatozoa of the salamander and triton, which from their large size are well fitted for study: first, a long head; second, an elliptical part connecting it with, third, the filiform body; fourth, a very fine, long thread, which is united to the body by, fifth, a homogeneous membrane. The thread and membrane are in constant motion during life, and apparently not easily understood. Mr. Gibbes finds that the head is of a different chemical nature from the other parts, for while they are stained by hæmatoxylin the head is not, or but very slightly. If aniline blue is then applied the head is affected by it. Mammalian spermatozoa are less satisfactory objects, but the author has found the filament in those of the horse, dog, bull, cat, rabbit, and guinea-pig. He has seen it better in the spermatozoa of the horse than in those of the other mammals. Mr. Gibbes draws the following conclusions:—

"(1.) That the head of the spermatozoa is inclosed in a sheath, which is a continuation of the membrane which surrounds the filament and connects it to the body, acting, in fact, the part of a mesentery.

"(2.) That the substance of the head is quite distinct in its composition from the elliptical structure, the filament, and the long body, and that it is readily acted upon by alkalis: these reagents have no effect, however, on the other part, excepting the membranous sheath.

"(3.) That this elliptical structure has its analogue in the mammalian spermatozoon: in the one case the head is drawn out as a long, pointed process; in the other it is of a globular form, and surrounds the elliptical structure.

"(4.) That the motive power lies, in a great measure, in the filament and the membrane attaching it to the body."

THE NATURE OF THE CELLS OF THE GASTRIC GLANDS.

Histologists are not quite agreed on some points of the arrangement of the cells of the peptic glands, but it is admitted that these glands contain cells of two kinds; those known as central or chief cells (Haupt-

zellen), bounding the cavity of the gland, closely resemble columnar or cubical epithelial elements; the others, peptic cells or parietal cells (Belegzellen), are more opaque, but have a more distinct nucleus. Some authorities have it that these cells bound the canal for a part of its length, and at the deepest part of the tube are situated outside of the former kind. Klein denies that they are ever inside. Dr. Ludwig Edinger² is inclined to believe, from a number of observations and experiments, that there is but one kind of cell, and that the difference of appearance depends on the degree of activity; that the central cells when full of ferment increase in size, and become what we call peptic cells. He bases his opinion on the following reasons, which certainly seem to have weight:—

"(1.) The occurrence of transitional forms between the central and the parietal cells.

"(2.) The analogy that such a change presents to the process known to occur in other glands during secretion.

"(3.) The fact that many animals secreting pepsine have only parietal cells.

"(4.) The appearance of the stomach after fasting, in which only central cells are found.

"(5.) The fact that many conscientious investigators have brought forward strong reasons in favor of the central cells as pepsine formers, and many others in favor of the parietal cells."

Reports of Societies.

THE ANNUAL MEETING OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK, HELD AT ALBANY FEBRUARY 3, 4, AND 5, 1880.³

LATERAL CURVATURE OF THE SPINE.

DR. SAYRE, instead of reading a paper, gave a practical demonstration of his treatment of lateral curvature of the spine, by means of self-suspension and the plaster jacket, in the case of a patient furnished him by Dr. Van Derveer, of Albany; and he took this opportunity of presenting to the profession the latest improvements which he has devised in the method. In any instance where the projection is very marked at any one point, as the angle of the ribs, when the jacket has been worn for some time he removes the portion of the latter covering the part, by cutting out a triangular-shaped piece, with the base above, from the top of the jacket. The patient then being self-suspended, the jacket is wet for a few inches on each side of the opening, and a fresh plaster bandage roller is passed around the body once at the lower end of the V-shaped opening: after which it is carried but two or three inches beyond the opening, when it is reversed and carried the same distance on the other side. This is repeated until the opening is completely covered; the assistant in the mean while holding the bandage in position and rubbing it well in with his hands. A great improvement in the shape of the patient can usually be effected by this procedure.

Dr. J. Marion Sims read a paper on

THOMAS KEITH AND OVARIOTOMY.

Dr. Keith's first ovariectomy, he said, was done in 1862. His first hundred cases show a success that far

² Archiv für Mikroskopische Anatomie, Band xvii., Heft 2.

³ Concluded from page 206.

¹ The Quarterly Journal of Microscopical Science, October, 1879.

surpasses that of all other operators. In his third hundred he cured ninety-seven per cent., seventy-three of these constituting one continued series without a single death. At one time it was supposed by many that his success was due principally to the use of the actual cautery in severing the pedicle. Dr. Sims, wishing to investigate this matter for his own satisfaction, went to Edinburgh in July, 1879, to see some of Dr. Keith's operations, and he took this occasion to detail the latter's method of operating. Keith began the use of Lister's antiseptic method in March, 1877, and ever since then he has carried out Listerism in its minutest details; believing that it protects the patient against infection, even when the surgeon or his assistants have been attending infectious diseases. He employs ether instead of chloroform as an anæsthetic, and he has the carbolic-spray apparatus placed to the left of the patient's head, at a distance of eight or nine feet from the seat of operation. He is very systematic, and does nothing for show. He cuts quickly down to the peritoneum, removes the tumor with celerity, and closes up the wound rapidly also, but is very deliberate in tying bleeding vessels and cleaning out the peritoneal cavity. In the beginning of his career in 1862 he learned the importance of tying all bleeding vessels, and of leaving no bloody serum in the cavity.

Dr. Sims saw him operate on two cases, both of which were very bad, as the patients were old and feeble, and the tumors multilocular and with strong adhesions to parietes, omentum, and intestines. His trocar is one half inch in diameter. In one case he tied the adherent omentum in twelve sections with catgut ligatures, and cut it loose from the tumor. He then separated the latter from the intestines, removed it, and applied catgut ligatures to all bleeding points, whether on intestine, mesentery, or parietes. He must have applied forty catgut ligatures in each case that Dr. Sims saw. The pedicle he encircled with Baker Brown's cautery clamp, when he screwed the latter up tightly and cut it off with the actual cautery at a brown heat. He then cleared out the peritoneal cavity, and spent a long time in searching for and tying oozing points wherever he could find them. This Dr. Sims considers the peculiarity in which he differs from all other operators, as he goes on hunting and tying bleeding points long after any one else would close up the wound and leave the oozing to be controlled by rest and pressure. When he is satisfied that the peritoneal cavity is clean and dry, and not till then, he proceeds to close the external wound. He uses Spencer Wells's method of suture for the upper and lower angles of the wound, each suture having a needle at either end; while the middle sutures are passed with an awl-shaped needle, six inches in length, with an eye at the point, according to the method of Peaslee. The sutures were passed perpendicularly through the abdominal walls from a quarter to a third of an inch from the edge of the incision, and embracing the peritoneum. After the sutures had been passed, their middle portions were pulled asunder, one half toward each angle of the wound, and the peritoneal cavity was again searched for bleeding points. In one instance some were found and ligated. The deep sutures were then drawn tight and tied, and intermediate horse-hair sutures were introduced. In one of the cases the wound was dressed with thymol gauze, in the other with carbolic. In one a glass drainage-tube, seven inches long and a third of an inch in diameter, with per-

forations around the lower end, was passed through the lower angle of the external incision down to the bottom of the Douglass cul-de-sac before the sutures were tied, while in the other no drainage-tube was introduced. In one the operation lasted one hour and three minutes, and in the other an hour and twenty minutes. In one the size of the tumor was not mentioned, but in the other it weighed fifty-six pounds, of which twenty-two were solid. Before introducing the drainage-tube, Dr. Keith passed it through a small hole burnt in the centre of a thin sheet of india rubber about two feet square; three or four carbolized sponges, squeezed dry, were placed over the end of the tube, and the india-rubber sheeting was then folded over the sponges. By this arrangement the oozing of the bloody serum from the peritoneal cavity is absorbed by the sponges, and thus never soils the person or clothing of the patient. The sponges are examined from time to time, and squeezed over a graduated measure, so that the quantity of fluid can be noted. If no fluid passes out the tube is soon removed; but otherwise it is allowed to remain till all fluid ceases to pass, or until the latter becomes of a serous character and small in quantity.

Spencer Wells, Keith, and their followers, Dr. Sims continued, do not saturate their patients with opium after operations; they simply order twenty drops of laudanum or its equivalent by the rectum, to be repeated as required. The patient takes nothing but ice and a little brandy for the next thirty-six or forty-eight hours. After this light nourishment, such as beef tea and milk, is given for two or three days, and then, if flatus passes freely from the rectum, a more nutritious diet is ordered, unless something should arise to contraindicate it.

Dr. Sims said that Keith had used the clamp in his early operations, but later had adopted the Baker Brown method of using the cautery. If the pedicle was very slender, however, he transfixed it with two small malleable iron wires, one of which was tied on each side, and then, cutting the pedicle and wire off close, he dropped it in the peritoneal cavity. Listerism, he said, has killed the clamp, and even Spencer Wells, its great apostle, no longer uses it, while his pupils, Bantock and Thornton, have never employed anything but the carbolized silk ligature to secure the pedicle since they were installed as his successors at the Samaritan Hospital, in December, 1877. Dr. Sims said that he thought it mattered but little what was done with the pedicle, as its management did not greatly influence the result, but he thought that the worst thing that could be done with it was to clamp it. Listerism apart, he considered that Keith's extraordinary success depended more upon the care that he gave to ligating bleeding points and thoroughly cleaning out the peritoneal cavity than to any other one thing.

In closing he spoke of Keith in the following words: "Doubtless many of you would like to know what manner of man is Thomas Keith, who to-day occupies such a conspicuous place in the eyes of the medical world. Thomas Keith is fifty-two years old, tall and slender, six feet high, and slightly stoop-shouldered. He wears a full brown beard, and his fine, large head is covered with a profusion of long, silky, golden-ashen hair, which hangs down behind, gently curling over his coat collar. His forehead is broad and prominent; his nose is long and straight, slightly

aquiline, beautifully symmetrical, and strongly indicative of character. He has large, deep blue eyes, full of benevolence and gentleness, and he has what is one of the most attractive gifts of nature, whether to man or woman, a sweet, musical voice. He is as modest as a woman, and of a character altogether lovely. He is quick in action, and walks rapidly, as if he were trying to catch up with his great head, which is always in advance of his slender body. . . . He has such power of concentration that his mind is always intent upon the object of its pursuit, and he hastens to accomplish it. His whole soul is wrapped up in his work, and after he has performed a difficult operation he eats and sleep but little until he knows that his patient is out of all danger. I only wonder how a man of such high-strung, delicate nervous organization could so long have borne up under the great and anxious work that he has done. I regret to say that his health is not good, and that he is often compelled to leave his hard work and the rigorous climate of Edinburgh and seek recreation in the more congenial climate of the south of France. Let us all hope that the life of this great and good man may long be spared to shed new lustre upon our profession, for which he has already done so much."

Dr. Alexander Hutchins, of Brooklyn, read a paper on

FORCED ALIMENTATION.

It was the popular opinion, he said, that food should not be taken when the desire for food does not exist; and it was the object of the paper to hint at certain clinical facts that proved the contrary of this opinion, and pointed to forced alimentation as a therapeutic agent. The amount of needful food varied with a large variety of conditions, and in any special case it would not be difficult to discover whether the needful amount was taken and appropriated. The question in therapeutics was, How is it possible to cause the needful amount to be taken and appropriated? The opposition, therefore, might be physical or moral. The stomach might loathe or it might reject food. The necessity not being known to the individual, there might be no effort to take food; and, the necessity being known, the will power might be too weak to enforce it. The point was that there is a large variety of disordered conditions, unaccompanied by organic disease, to a very great extent the result of defective nutrition, where the amount of food taken is small in quantity, improper as to character, irregular as to time,—matters of long standing; which chronic habit of insufficient feeding can be overcome by a properly selected dietary, systematically arranged and rigidly enforced, with the result of a speedy restoration to health and vigor, which result cannot ordinarily be effected without this forced alimentation, and this without the intervention of drugs.

If there was one position that the physician could occupy as the skilled and competent adviser, he went on to say, it certainly was in the exercise of his experienced authority in constructing the details of a dietary, and insisting on implicit and unquestioning obedience thereto. No general advice would avail, and if any success was to be anticipated from the treatment the medical attendant must patiently and with calm assurance give his patient the most precise and intimate directions. Authority and persuasion must go hand in hand, in order that the result aimed at

may be accomplished. Moreover, the recognition of this principle of forced feeding as a therapeutic measure was a valuable adjunct in resisting certain influences of heredity, since the inheritors of certain constitutional taints were notoriously light and fickle feeders. The "weak stomach" complained of was also an uneducated stomach, but with latent possibilities that a cultivated discretion might call into vigorous exercise. This digestion, not stimulated by drugs, but exercised by materials that possess the elements of nutrition, could enforce a nutrition by which the malign hereditary influences might be set aside, and the maturing years be coincident with maturing powers of resistance that would be unknown to the period of development if ill trained and ill nourished.

Aside from all considerations of appetite, notwithstanding any weakness of will power, or the multiplied obstacles of repulsion, loathing, or seeming impossibilities, the first point was to get food of some kind into the stomach, in such quantities as may be possible at stated intervals, as a stern duty, either in fulfillment of an intelligent appreciation of the necessity or in submissive obedience to inflexible orders. The operation was at first strictly mechanical, and the physician should disregard the sense of taste with the same indifference that he would exercise in the administration of medicine in an emergency. In the selection, food that required mastication was to be avoided, and that without special flavor, which can be swallowed by a single effort, chosen. As a second consideration, solids and semi-solids had the preference over liquid foods. These were not only better borne than liquids, but had the effect of arousing very rapidly the special functions of the stomach; and it was to be borne in mind that the effort was not to assist a weak digestion, but to habituate the stomach to the presence of food, and therewith to provoke its activity. If there was one direction to be followed on forced feeding that was essential above all others, it was that this feeding should be conducted at regular intervals (the frequency to be regulated by the quantity taken), stretching over a long period of each day. As a matter of clinical observation, it had been found that this feeding was best practiced eighteen hours out of the twenty-four. As a rule, also, it was to be commenced before the patient was out of bed in the morning,—the earlier the better. Insisting upon stated intervals, unvarying as the clock, was of paramount importance; and this admitted of no concession to a weakened will, while it encouraged a physical habit.

In the condition referred to the nutrition was suspended, and not degraded, and the stomach was not functionally disordered, but torpid. Hence, the nitrogenized foods were inappropriate in the early stages of forced feeding; the inactivity of the entire digestive apparatus rendering it in a condition unfit to digest and appropriate them. In general the coarser farinaceous foods fulfilled the indications of bulk and an excess of refuse material stimulating the alimentary canal and its adjuncts throughout its entire length. The quantity was to be small at the outset, and the free use of water was to be insisted on as a requisite to success in the method; the latter being of great service in promoting absorption, in encouraging the action of the kidneys, in softening the dejecta, and in setting free the action of all the emunctories. Of course, these forcible measures for subverting a dys-

crasia and substituting therefor a normal condition of animal life were to be synchronous with submission to all those conditions which are justly recognized as influencing free animal action, such as regular evacuations, abundant fresh air, judicious exercise, and cheerful occupation. There was no class of invalids to whom mere general advice was more worthless than that here described, and certainly none who made more persistent demands upon, and were more harassing to, their medical adviser. But if forced alimentation could, on the one hand, assist in the recovery from certain forms of chronic invalidism, and, on the other, avert the consequences and inroads of more distinctive disease, the suggestion of this therapeutic measure might perhaps lengthen the list of curable disorders.

Dr. F. R. Sturgis, of New York, read a paper on

SO-CALLED GALLOPING SYPHILIS.

In it the writer calls attention, under the name of galloping syphilis, to those cases of rapid and malignant disease where the deep and severe ulcerations occur a few months after the initial lesion, and where the early manifestations are either slight or else entirely absent. He assigns the continuous effects of alcoholic poisoning, old age, mental depression, bad hygiene, and scrofula as among the principal causes in determining the condition in syphilis. It is nearly always associated with cachexia.

He gave the history of two interesting cases from Charity Hospital on Blackwell's Island, where ulcerative syphilis came on in each instance two months after the appearance of the initial lesion; in the first case being preceded by an erythema, and in the second by none. The author then went on to speak of the treatment, insisting on the combined use of mercury and iodide of potassium, and pushing both remedies to the utmost limit that the patient will safely bear without the development of toxicological symptoms. In cases where iodide of potassium is not tolerated, he recommends the internal use of tincture of iodine. He also lays stress, in conclusion, upon the use of tonics and a nutritious diet in such cases.

A paper on

THE PHYSIOLOGY OF OPIUM POISONING,

by Dr. Nivison, of Burdett, was read by title. Notwithstanding the fact that opium is so extensively used, he expresses the conviction that there is still lacking in the profession an agreement of opinion in respect to its therapeutic value and its physiological action, as well as in regard to the physiological action of the various agencies used as antidotes for it. The following points concerning opium poisoning, he says, are tolerably well established.

I. Opium destroys life mainly by suspending respiration.

II. It ultimately paralyzes the heart and circulatory apparatus.

III. All parts of the organism suffer, but not to the extent of the direct destruction of life.

But nothing short of a physiological exposition of the phenomena of opium poisoning will indicate the best methods of counteracting them. In order to study the subject intelligently, the effects of small doses should first be noted, and the writer states that their first appreciable effect is to stimulate the gray matter of the brain and increase its blood supply. In

consequence, nerve force is rapidly generated, which in its distribution quickens every function. By this activity the brain is soon exhausted, and sleep follows. A larger dose produces cerebral congestion and partial suspension of function, and a still larger one paralyzes the cerebral vessels, and thus causes blood stasis and coma. The coma of opium, he goes on to say, is usually more profound than that of apoplexy, on account of the special affinity of the drug for the respiratory centres. But respiration is also endangered from the action of the poison on the peripheral extremities of the vagus in the lungs; so that carbonic acid fails to produce the normal respiratory excitation. There is, however, still another danger to respiration. Ordinarily, when the vagus is paralyzed or divided, the incident impression needful for reflex respiration may come from almost any nerves of general sensibility; but opium paralyzes these also, so that there is no channel through which the necessary excitation can reach the centre, and the function therefore ceases.

Opium in poisonous doses, he continues, produces decided effects also upon the spinal cord. The production of tetanic convulsions is infrequent, but erotic phenomena showing disturbance of the genito-spinal centre are not uncommon. The contraction of the pupil is probably largely due to paralysis of the cilio-spinal centre in the upper portion of the cord; while the vaso-motor paralysis is principally due to the action of the poison on the vaso-motor centres in the cord. The influence of opium poisoning on the innervation of the heart is next considered, and the conclusion is reached that if the dose is large enough all the sources of the heart's nervous supply are ultimately paralyzed, although the heart continues to beat for a time after respiration ceases. The limits of the paper forbid the examination of the effects of the poison on the inherent contractility of the two classes of muscular fibres; though this, he says, constitutes an important factor in the suspension of respiration and the heart's action. For the same reason the effects of the poison on the glandular system are passed by, though they sustain an intimate relation to the elimination of the former.

Some agencies which physiologically antagonize the poisonous effects of opium are then noticed. Many diseases undoubtedly sustain this relation, so that when patients are suffering from them doses of opium which would ordinarily be poisonous can be taken with impunity. Among these may be classed nearly all those in which cerebral anæmia enters as a factor, and in these diseases, the writer says, opium brings to the brain just the amount of blood needful for the performance of its functions. In this connection the sustaining effect of the drug and the large doses borne in post-partum hæmorrhage are referred to. In other diseases, however, in which there is supposed to be cerebral hyperæmia, there is equal tolerance of opium. Cerebro-spinal meningitis is cited as an example of this, and a case is related in which very large doses were taken for many successive days; it being, in fact, the only remedy that seemed to have any control over the disease. Either the disease or the opium alone, he says, would have killed the patient — child — by causing congestion of the cerebral vessels; but acting simultaneously they neutralized each other, apparently, and thus an equilibrium of circulation and innervation was secured. This is believed

to be an illustration of direct antagonism. Again, many painful affections, such as dysentery, peritonitis, cancer, the passage of biliary and renal calculi, colic, strangulated hernia, etc., neutralize the lethal effects of opium, and in these it is thought that the pain produces the needed excitation to supply the afferent impression to the respiratory centres, and thus counteracts the paralyzing effects of opium on respiration. Electricity, cold, and flagellation operate in the same way, and if kept up by continued excitation maintain the respiratory function. Some cerebral diseases, attended with mental derangement, also counteract what would be fatal doses of opium in the normal state of the organism, and two illustrative cases are related.

The influence of certain drugs which antagonize lethal doses of opium is next noticed. Belladonna is the most prominent of these, and it is considered that the two poisons make a counter-impression on the nerve centres, and thus antagonize each other. Opium paralyzes respiration, belladonna stimulates it; opium paralyzes the heart, belladonna keeps it in action; opium dilates the cerebral vessels, belladonna causes them to contract. When opium paralyzes the stomach and emetics will not operate, belladonna will often excite the proper nerve influence and cause them to act. The antagonizing effects of the cinchona alkaloids are then spoken of. They maintain the integrity of the inter-cranial circulation, and thus tend to counteract the effects of opium on the respiration. A case is given in which a child was poisoned with laudanum. Other remedies were used for two hours very industriously, without effect; but soon after the administration of quinine, the symptoms improved, the respiration becoming more frequent, and convalescence soon followed. In conclusion, the writer says that the antidotes to opium poisoning are physiological, not chemical, and consist mainly of such means as make counter-impressions on the nervous system, and especially on the respiratory centres.

Dr. St. John Roosa read a paper on

THE EVIL CONSEQUENCES OF A NEGLECTED COLD IN THE HEAD,

in which the following views were expressed as to the importance of this subject. A large proportion of the cases of incurable deafness and of chronic conjunctival and lachrymal disease were due to frequent attacks of coryza. Children of feeble constitution were particularly subject to this affliction. They were not treated at all during its progress, even the physician, if called in, sometimes thinking it a matter of no account; yet frequent attacks always led to thickening of the mucous membrane, with all its evil results. Children could not be hardened, and they should be taught the dangerous consequences of improper exposure. Each physician should be the medical guide of the families that he attends, and not be likened to a fire-extinguisher, to be sent for when the flames have broken out. The autobiography of many young persons suffering from chronic ophthalmic, aural, or pharyngeal disease would show that they had been improperly nourished, and hence were subject to frequent attacks of cold in the head, which finally resulted in a condition which the specialist was obliged to consider incurable. The local means for the relief of coryza were ample, namely, confinement to well-warmed rooms,

and the use of diaphoretics, tonics, local douches, baths, narcotics, etc. The general means consisted in a care of the general health, with forced alimentation, if necessary. The whole medical profession was now awakened to the necessity of general hygienic care. Memphis, if properly sewered, would not probably again suffer from yellow fever; but there were dangers to the public health as great as those from such epidemics, in the neglect of individual hygiene.

Dr. John C. Peters presented the abstract of a paper on

THE PREVENTION OF CERTAIN ZYMOTIC DISEASES,

especially scarlet fever, with incidental allusions to the counter-action of measles, whooping-cough, and diphtheria. Scarlet fever, he claimed, was a very old disease, for Robertson correctly said that a large portion of the plague of Athens, B. C. 431, was nothing more nor less than a severe outbreak of malignant scarlet fever. This, with other diseases that were prevalent, was immensely intensified by the great filth and overcrowding in the city, and the fact that numberless unburied dead were left lying in the streets, and in and about the fountains, to which the patients had crawled during life. The same occurred in the siege of Thebes, in the first century of the Christian era, and Caspar Morris had well said that no one could furnish a more accurate description in the same number of words than Seneca did in speaking of this epidemic in one of his tragedies. Evagrius described an epidemic of scarlet fever, with sore throat, in Rome, A. D. 540. Then all traces of it were lost during the Dark Ages, up to the invention of printing, when it reappeared in medical literature during the great Spanish epidemics of 1500. The filth of the Spanish cities in those times exceeded all belief, and up to 1760, just one hundred and twenty years ago, there was no such thing as a privy in all Madrid; it being customary to throw all the ordure out of the windows into the streets and alleys at night, from which it was removed by scavengers the next day. Washing the whole body with urine (and drinking some of it, also) was regarded as a specific against pestilential disease; the individual who thus defiled himself little thinking that urine, containing renal and vesical epithelium, was one of the most certain propagators of scarlatina and other similar affections.

After speaking of the history of scarlet fever in England, Dr. Peters went on to describe the best means of preventing the spread of the disease as it now occurs in the United States. The scarlet-fever patient, he said, should of course be isolated in an upper room of the house. The treatment should be commenced, if possible, with a warm bath, to which good vinegar has been added, as this is one of the best of the domestic disinfectants; and the hair especially should be thoroughly washed, for which purpose tar or carbolic soap might be used. The nurse should wear clean calico dresses, which could be easily washed, disinfected, or destroyed, and it was often advisable for her to take a preliminary bath also. Carpets, curtains, and upholstered chairs or sofas should be removed from the sick-room, and disinfectants, such as carbolic acid or iodoform, should be placed in every vessel or utensil in the apartment. A solution of sulphate of zinc or table salt, with or without a little chloride of lime, might also be sprinkled over the floor or brushed into the cracks between

the boards. Inunction with carbolized vaseline or other adipose substance should be carried out several times a day over the whole person of the patient, and especially the hairy scalp. In this way the bed and body clothing were disinfected, and the exhalations as well as the dead epithelium from the body were rendered innocuous. It was better to use old, clean rags, instead of pocket handkerchiefs, in the sick-room, and to burn them at once; but if the latter were insisted on, they should never be placed under pillows or in the nurse's pockets, but always put in a glazed bowl in which a little chloride of lime had been sprinkled. All the dishes and table implements used by the patient or nurse should first be steeped in a strong solution of common salt or cleansed in vinegar, and then thoroughly washed. Any bed or body clothing which might be removed should at once be placed in a tub containing a strong solution of salt or chloride of zinc, and then thrown down by the nurse into the yard, where they should undergo a second soaking before being washed.

When the patient was convalescent several tepid baths, with thorough soaping and lathering of the entire body from head to foot, should be insisted on, and a small amount of carbolized vaseline should be used, at least on the hair, as a kind of disinfectant pomade. Special pains should be taken to disinfect the urine, as well as the discharges from the stomach and bowels, from the first, as there was every reason to believe that it is highly infectious, and especially if it is albuminous, and so capable of rapid decomposition. The above precautions, with very little modification, might be applied to cases of measles, varioloid, and small-pox. In diphtheria and whooping-cough every particle of discharge from the nose, throat, and air-tubes should be disinfected, and it was also quite as necessary to disinfect the urine as the vomits or feces. When this hygienic treatment was properly carried out, it was rare to have a second case in the house, and a thing almost unheard of to have any of these infectious diseases conveyed to neighbors or the public in general. It was further recommended to burn a little sulphur, or to generate chlorine gas with the aid of manganese, from time to time in the cellar, basement, or lower hall, so that the whole house might be disinfected from below upward.

Dr. C. S. F. Gay read a paper on

REFRACTURE FOR THE CORRECTION OF DEFORMITY FROM THE MAL-UNION OF BONE.

In the outset he called attention to the importance of two factors entering into the subject which he thought had not been properly appreciated by surgeons: (1) the innocuous nature of refracture, and (2) the certainty and rapidity of the reparative process in a ruptured callus. Having answered in detail the four following objections urged against refracture, (1) that the muscles, which have become contracted and accustomed to their new relations, will not permit of extension and greater length of limb, even though tenotomy be performed; (2) that it would be followed by non-union; (3) that when trial is made to attempt to refracture a bone the latter will give way at some other point than at the callus; and (4) that the force necessary to rupture a callus is apt to inflict injury upon the muscles and excite inflammatory action, he went on to speak of the time beyond which it would be imprudent to attempt refracture, and expressed his

agreement with the opinion of Shay that "the only limit of time is the power to break the callus." He then gave the report of two cases; one of refracture of the tibia and fibula, at the junction of the middle and lower thirds, twelve months from the date of fracture, with correction of deformity; and the other of refracture of the shaft of the femur, at the junction of the upper and middle thirds, five and a half months after fracture, with entire relief of deformity. In conclusion, the writer stated that we ought to expect more notable relief of deformity to follow refracture of the neck of the femur than of any other portion of this bone, and that he believed that many of those individuals seen on every hand in the streets, whom we are accustomed to style cripples, suffer from preventable and curable deformity.

Among the other papers presented at the session were the following: The Relation between Imperfect Action of the Ocular Muscles and Functional Nervous Disorders, by Dr. George F. Stearns, of Albany; Rectal Alimentation, by Dr. Potter, of Batavia; Extracting a Splinter of Wood from the Cornea, by Dr. L. Webster, of New York; The Removal of Foreign Bodies from the Eye (with four cases), by Dr. C. S. Bull, of New York; Caries of the Ankle-Joint, by V. P. Gilney, of New York; Cystorrhagia, by Dr. J. W. S. Gouley, of New York; Perityphlitis, by Dr. C. W. Wey, of Elmira; Typhlitis and Perityphlitis, by Dr. A. H. Van Derveer, of Albany; The Management of Eczema, by Dr. L. D. Bulkley, of New York; A New Way of Treating Deformities of the Nose, by Dr. R. F. Weir, of New York; Vivisection, by Dr. John C. Dalton, of New York; Colles's Fracture, by Dr. E. H. Moore, of Rochester; Sub-Periosteal Resection of the Humerus, by Dr. George F. Shrady, of New York; Mercurials in Congestion and Sub-Acute Inflammation of the Stomach and Duodenum, by Dr. E. N. Chapman, of Brooklyn; Vascular Nævus, by Dr. G. H. Fox, of New York; and The Lunacy Question, by Dr. A. McL. Hamilton, of New York.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.¹

T. M. ROTCH, M. D., SECRETARY.

NEUROTOMY.

Dr. WILLIAMS referred to the paper on Neurotomy of the Optic and Ciliary Nerves, read by him at a recent meeting. He had to-day seen a case on which he operated two weeks since, where the symptoms of ciliary irritation had been at once relieved. He had also seen, since the reading of his paper, four of the cases therein referred to, operated on at different times since September last. All of these continued free from any bad symptoms in the eye where the enervation had been done, and the other eye had recovered from the threatening of sympathetic inflammation which existed at the time of the operation.

The *Annales d'Oculistique* for November and December, 1879, contains an article by Dr. Warlomont, of Brussels, giving an interesting history of this enervation (by simultaneous section of the optic and ciliary nerves), first done by Boucheron, of Paris, in 1876, and the following year by Schoeler, at Berlin, and referring to thirty-six cases in which the operation had up to that time been performed by European oculists.

¹ Continued from page 180.

OVARIAN CYSTS.

DR. JOHN HOMANS showed specimens of ovarian tumors from patients operated upon during the past week. The first was a sarcomatous tumor of the ovary, the size of an infant's kidney, from a case of double ovariectomy in a woman fifty-one years old. The patient was first seen by Dr. Homans in November, 1879. Her case was thought to be one of ascites, but the diagnosis was not positively determined. Tapping was done at the first visit, in consultation with Dr. Morison, of Quincy, and twenty-two pounds of clear ascitic fluid removed. Considerable abdominal pain and soreness followed the tapping, but after a few days the patient improved much in health and strength. In January, 1880, she had refilled considerably, and Dr. Homans suggested an exploratory incision to be done antiseptically. He explained to the patient that this was simply a freer mode of tapping, and if there were an ovarian cyst it could be removed, and if not the fluid could be much more completely and thoroughly removed from the abdominal cavity by careful sponging than by simply letting what would run off through a trocar. Dr. Homans felt encouraged to do this for another reason: in a somewhat similar case he had removed ascitic fluid by an abdominal incision, and by baling out with sponges, and the fluid had never re-accumulated after the patient's recovery, though she had a sarcomatous tumor involving both ovaries and the uterus, which was not meddled with, as it seemed impossible to remove it with safety. The patient had had her breast removed for cancer seven years before, but there had been no recurrence, and she seemed in a fair state of health, though considerably emaciated. The operation was done antiseptically at Carney Hospital on February 4th. Twenty pounds of ascitic fluid and both ovaries, enlarged by sarcomatous growth, were removed. Some of the glands in the anterior sacral region and portions of the pelvic peritoneum were more or less studded with similar growths. The patient is making an excellent recovery, and it is to be hoped that the fluid will not reaccumulate.

The second specimen was a multilocular cyst of the right ovary without adhesions, removed the day before from a patient thirty-eight years old. The tumor and its contents weighed twenty-five pounds. The patient is doing excellently.

CLUB FOOT AND HAND.

DR. E. H. BRADFORD exhibited casts of a rather unusual deformity, a club hand and foot in the same patient, a child. They were said to be congenital, but had all the characteristics of the acquired form. The child since the operation, which was the ordinary tenotomy for club-foot, was able to use the fingers, but on raising the metacarpus the fingers doubled upon themselves. The result, which was shown by the casts to be a very good one, was accomplished after four weeks, the treatment after the tenotomy being simply the plaster-of-Paris bandage.

HERNIOTOMY.

DR. C. B. PORTER exhibited a patient on whom he had performed the operation of herniotomy. The patient had entered the hospital six hours after the symptoms of strangulation had begun; vomiting was frequent, and after aspiration efforts at taxis under ether had failed. The constriction was at the internal ring

and the hernia was of the congenital variety. There was atrophy of the testicle on that side.

The operation was performed with Lister's antiseptic precautions. The temperature went above 99.6° F. The dressing was changed only three times, and was omitted on the twelfth day, the patient sitting up on the nineteenth day. There was at no time any discharge of pus.

After the intestine was returned, an operation for the radical cure was performed by a new method. A piece of the sac two and a half by three inches long was divided from its attachment, except at the upper part near the ring, where a pedicle one and a half inches wide was left to afford nourishment. This piece was then folded again and again upon itself and sewed into the ring by carbolized catgut sutures.

Up to this time, eleven weeks after the operation, there has been no tendency of the hernia to return, and there is no impulse to be felt in the ring on coughing.

PROLAPSED FUNIS.

DR. GARLAND exhibited an apparatus devised by his father, Dr. G. W. Garland, of Lawrence, for replacing a prolapsed funis. The instrument consists of a long pair of thin duck-bill forceps, which are curved like the blade of ordinary obstetric forceps. Supposing a funis to prolapse, Dr. Garland does not grasp the part itself in his forceps, because by so doing he would stop the circulation of the child and be apt to injure the tender membranes. To obviate these troubles he folds a small piece of cotton cloth, about two inches long by one inch wide, around the funis, and then seizes the ends of the cloth in the forceps. The funis is thus hung loosely in the fold of the cloth and must go wherever the latter does. The thinness and curve of the forceps allow of their ready passage around the head, and the funis may thus be carried as high as desirable. In removing the forceps the bit of cloth will of course remain *in situ*, to be discharged later when the funis is delivered.

FEBRUARY 28, 1880. DR. JAMES C. WHITE, permanent chairman, presided.

TYPHOID FEVER.

DR. CHARLES F. FOLSON read a paper entitled Suggestions as to the Causes of Typhoid Fever, in which he said:—

During the latter part of last summer my attention was called to several cases of typhoid fever in one house, so sudden in their appearance that poisoning had been suspected to be the real nature of the disease, although the attending physician was quite sure of his diagnosis of enteric fever.

Mr. — was quite ill with severe diarrhoea in August, but the true nature of his illness was not made out until September 7th, when he took to his bed and sent for his physician. His dejections, several a day, for three weeks, had been cast into the privy-vault adjoining his house. In the next two weeks there were three rain-storms, although the season, generally speaking, was a dry one. Between September 30th and October 12th, every individual who drank the water from the family well, comprising the wife and seven children of the sick man, became ill with typhoid fever.

The well was one hundred feet distant from the privy, about sixteen feet deep, not containing a large supply of water, and situated in a gravelly subsoil cov-

ered with light loam. The privy-vault, not tight, was emptied once a year. Great suddenness of an outbreak of disease naturally suggests fault with the food or water. The food and milk were found above suspicion. The well-water would have been considered by most persons at a safe distance from sources of contamination. Throughout the summer it was perfectly clean and free from any unusual taste. Upon chemical examination it was found to contain in parts per million: ammonia, 0.01; albuminoid ammonia, 0.13; total solids, 233.00; chlorine, 33.00; nitrates, 0; considerable blackening on ignition. Chemically speaking, the water was as good as that often supplied by Lake Cochituate and Fresh Pond, and far superior to the Mystic, at times. The trifling amount of ammonia and absence of nitrates suggested the thought that the excessive amount of albuminoid ammonia might be due to vegetable organic matter, and the amount of chlorine was no greater than is often found in wells so near the salt water as this one happened to be. In order to be sure upon this point, I took some water from the same drainage area, five hundred feet distant, and found it, upon examination, to contain the same amount of ammonia with the same absence of nitrates as the first specimen. The albuminoid ammonia, however, was only 0.7 instead of 0.13, as above, the chlorine 24.0 instead of 33.0, and the total solids 153 instead of 203. This comparison of the suspected well with the normal water seems to me the only satisfactory one where there is doubt, and in this case made the probability of infection of the well from the privy almost a certainty.

I then had the privy-vault emptied, and two bushels of salt thrown in, with a large quantity of water. Subsequent examinations every three days, from October 26th to December 3d, showed a steady increase in the amount of chlorine found in the well up to forty-four parts per million on November 5th, and then a steady decline to twenty-nine parts, or four parts less than were found in the very first examination of the suspected well, and only five parts more than in the normal water of the district.

Such crucial tests as this have so often been applied that there can be no longer a doubt that the discharges from typhoid-fever patients contain a specific poison in some form, which, in the vast number of cases, produces the same disease in the persons taking the so-called germ into their systems under circumstances favorable to its development. A large number of cases might be cited to show that this peculiar specific poison is conveyed also in air and gases, notably sewer-gas and in the air exhaled from soil in which the dejections from typhoid-fever patients have been deposited, possibly from any organic matter decomposing under certain conditions.

Professor Frankland, of London, has shown that lithium placed in sewage and flowing through sewers, where the current is continuous and the liquid not agitated or stirred up, cannot be detected by spectroscopic examination in the sewer-gas. If, however, the sewage is splashed up the lithium is readily detected by the same method, and any process which drives sewer-gas into houses also carries the lithium with it. The same fact is of course true of the specific particles which produce typhoid fever or other diseases.

The air in the soil, too, even very many feet deep, is subject to constant variations of pressure, etc., and is always changing. The amount of carbonic acid formed by decomposition going on in the earth and driven into

the air, together with other results of putrefaction and decay, is at the warm seasons of the year enormous. This chemical and physical change goes on most rapidly in those portions of the soil which are alternately wet and dry from changes in the level of the soil-water, and by many leading authorities is considered an essential factor in the production of enteric fever.

It has been clearly shown that this specific poison from the discharges of persons sick with typhoid fever, when kept away from exposure to the air, maintains its potency to produce the parent disease for some time, and that it may be conveyed long distances in water or milk. How far it multiplies and under what circumstances, outside of the human body, of course we have no means yet of positively stating. It is destructible readily upon free exposure to pure air, as was markedly shown, for instance, in the recent great epidemic at Croydon, England. Fourteen hundred cases occurred in that city, distributed chiefly by sewer-gas, and a great portion of the dejections from them passed into the sewers without disinfection. The sewage from these sewers was spread over an irrigation farm, to the emanations from which large numbers of laborers and tenants near by were exposed. The water of the surface wells in that vicinity, really the purified sewer-contents, constituted the almost sole supply for domestic purposes for a large number of people, and in no case was the fever propagated in that part of Croydon. I have quoted in the reports of the State Board of Health the only two cases, so far as I know, which the English Rivers Pollution Commission have been able to find as a basis for their opinion of the extreme indestructibility of the so-called germ of typhoid fever. These two cases are an outbreak of typhoid fever in a prison of Dublin, Ireland, alleged by Dr. Mapother to have been due to drinking the water of the river Liffey, after it had flowed twenty-five miles from a barrack, where it was polluted with the dejections of soldiers having the disease, and the epidemic in a village of Switzerland, where the excrement of a single man sick with typhoid passed into a brook, flowed a mile through a hill of gravel, and then was supposed to have polluted a large well so as to have infected several hundred people. It is but fair to say that evidence collected subsequent to the reports of these cases throws very great doubts upon the alleged causes of the fever, that there were other local means of spreading the disease, and that I am now inclined not to regard them as fully authenticated, inasmuch as repeated investigations have not brought to light corroborative evidence of their soundness, and have led me rather to the opposite opinion.

The specific poison of typhoid fever is readily destroyed by measures which utterly fail to kill many of the bacteria spores found in the air, for instance, boiling, and, in my judgment, although perhaps that point is not so well determined, by exposure to certain concentrated gases, like sulphurous acid and other efficient disinfectants.

The personal contagion of typhoid fever is admitted when patients are crowded together. I have seen repeated cases which have convinced me of that fact, but I will detain you only a moment on this point to quote Mr. Simon, who says, "Typhus and typhoid fevers, which amid overcrowding and non-ventilation and refuse odors and foul water supply would be the most spreading of pestilences, will, in thoroughly clean atmospheres and with thoroughly clean water supply, be

so restricted in their infectiveness that typhoid will scarcely be recognized as contagious, nor even typhus extend beyond limits which admit of being narrowly defined." Virchow also supports this position.

In the Croydon epidemic, just referred to, the presence of sewer-gas was detected in several sleeping-rooms where typhoid occurred by the noise it made in escaping through small holes in the pipes, and it could not be noticed at any time in them by the sense of smell. Admitting the existence of a specific poison which may be so entirely eliminated from its filthy surroundings as not to lead to even a suspicion of its filth origin in the human intestine and its discharge with human excrement, the question remains, Is filth alone ever, under any circumstances or by any modifications, capable of producing typhoid fever independently of any matter derived from a previous case of the disease? At the start we must acknowledge that in discussing this problem there is an *x*, an unknown factor, of which we know as little as we know of the so-called "germ" of any disease,—that is, we do not even yet know certainly that it exists. If we ignore this unknown factor, it must be admitted that the negative evidence enormously preponderates over the positive facts which tend to show that filth, independently of a specific poison, produces typhoid fever. Since I commenced investigating this question I have been amazed at the immense amounts of urine and excrement—oxidized, incompletely oxidized, and as they come from the bladder and intestines—that are consumed in drinking water and inhaled at the rate of nine thousand litres of contaminated air a day, and this for years, by young, old, and middle-aged persons, without any disease resulting that may be attributed to filth. I do not mean to deny the danger of filth. Especially filth decomposing without the free access of air constitutes, in my mind, one of the most important secondary factors of disease,—one, too, which may become so essential a factor in some diseases as to absolutely be the one without which, in an aggravated form, the disease cannot exist, as, for example, in cholera, plague, and yellow fever. I do not think, though, that a risk, however great, should be declared a certainty, nor that the influence of filth in causing disease should be overstated, although not seldom an isolated filth-sodden well or cess-pool, without any traceable connection with a case of typhoid fever, seems to be the essential cause of that disease in persons exposed to their influence. Typhoid fever is by no means a disease of the filthiest towns or of the filthiest parts of towns. Where it seems to originate in filth, the filth is often, at least, so lost sight of that it can be recognized only by an expert. It is found in the typical New England village, where people take especial pains to keep their houses clean, to empty their privy-vaults twice a year, to put their wells at what is commonly thought to be a safe distance from sources of pollution. The well-water, on chemical examination, shows a trace simply of impurity, or only justifies the assertion that there is a suspicion of its pollution; the emanations from the soil, if dangerous, are not attended with any warning stinks, but there is a certain contamination of the earth with excrement, and a very possible admixture of a trifling amount of fecal matter in the well. One case of typhoid fever appears without a previous case having been known before in the vicinity; then another a quarter of a mile distant; then another; and then, as in the case of Saugus, reported in the ninth

Report of the State Board of Health, seventeen cases appear in a population of one thousand people. The cases are widely separated, they are all mild, none prove fatal, and there is rarely more than one in a single house. There does not appear a chance for a community of cause, after the strictest investigation, for the single cases, or for the small groups of cases occasionally appearing together. They are scattered both over a large territory and over a considerable space of time, mostly in August and September, and they very seldom cause death, except when a patient thought pretty comfortable suddenly dies of intestinal hemorrhage.

Attended with this mild fever, there are cases where the temperature remains high for only a few days and the illness lasts hardly over a week. In moderately malarious regions, as Virchow observes, it is not infrequently true that it is extremely difficult to make a correct diagnosis of the more obscure and protracted of them, and to say definitely whether the illness is typhoid fever or pure malarial fever. Very many such are observed, especially in the river-valleys and near natural or artificial ponds, notably where large areas of their exposed beds serve to exhale into the atmosphere the products of vegetable decomposition. I have looked up a number of cases in various parts of the State, and am convinced that nearly all at least are pure or modified typhoid, so far as my observations have gone. Physicians within whose experience they come more or less every year are still at variance as to their character, that is, whether they belong to true typhoid or not; and there is the same difference of opinion whether their origin is in the very small quantities of filth proper with which they are associated, or whether they are due to vegetable decay chiefly.

In such cases as those just quoted, there seems to be abundant evidence from our country towns that filth under peculiar and unknown modifications, plus the unknown factor, is sufficient, without the so-called specific germ from a previous case, to cause typhoid. The appearance in the typhoid of many mild attacks of fever of short duration suggests the suspicion that all are cases of filth-poisoning, of greater or less degree of intensity, or that the filth in the various individuals has more or less of the unknown modification necessary to produce enteric fever, or is met by a greater or less predisposition to the disease. Naturally it is not possible to obtain such evidence in cities.

I often hear it stated that such and such a thing cannot be the cause of a certain series of cases of typhoid fever, because others more exposed did not contract the disease; and this query suggests an important factor in the causation of the fever which is often overlooked, namely, the predisposition of certain individuals or classes, the most potent causes of which are the underfeeding, want of cleanness, lack of pure air, water, etc., incident to poverty. Of 1087 cases of typhoid fever recently investigated in Berlin, the results of which were published by Dr. Skrzeczka, the ratio of the sick per 1000 inhabitants increased from 0.83 in the basement to .84 on the ground floor, .96 and .95 in the first and second stories, 1.1 in the third story, and 1.4 in the fourth and fifth stories. In a recent number of the *Berliner städtisches Jahrbuch* similar statistics are given for the 939 deaths from typhoid fever reported in the year 1875, excluding those where the story of the house was not stated in the death returns; the figures are as follows: 0.89, 0.91, 0.95, 0.90, 1.03, 1.71. These calculations, in both cases,

were based on the census of 1874, and the last figure given, 1.74, as the rate per 1000 on the fourth and higher stories, is probably a little too high. But still, the figures are very striking.

All of course had the same water supply. Those living at the top of the building had to carry the water for domestic purposes the farthest, and had the least facilities for cleanliness. They were, too, the poorest, because the highest rooms were the cheapest. The remaining probable causes of the fever were certainly no worse for them than for the others, and on the more prevalent German theory, that the ground is the chief source of the cause of typhoid fever, they were the best off, and yet they had the greatest percentage of enteric fever.

A telluric influence, something in the chemico-physical history of the earth, which we do not yet understand, apparently governs the relative prevalence of this as well as other diseases in different years and at different periods of time. In the minds of many careful observers, this constitutes the chief factor, with perhaps antinatal decay of vegetable matter.

Typhoid fever is diminished by the introduction of pure water supplies, and the cases which still occur where pure water is introduced have a lower rate of mortality than previously. Efficient sewerage also has so very favorable an influence on its prevalence as to practically banish the disease, if coincident with pure water supplies, and in cities in first-rate sanitary condition typhoid fever becomes a disease of the apparently cleaner, but less well-drained, outlying districts. Defective sewerage, on the contrary, so tends to favor the spread of typhoid that we may always predict a progressive relative increase in its prevalence up to a certain point from the time that the sewers first become foul until they are made clean and self-flushing. This fact is so fully recognized in some European cities that the local sewers are provided with means for flushing and are flushed with clean water whenever there is an undue amount of typhoid. Enteric fever does not depend upon density of population, but it is prone to attack persons of deficient health from any cause, and the ill-fed. So far as my observations go, it is essentially a filth disease, in that its origin is always in decomposing organic matter, generally in what is filthiest of filth, human excrement.

It does not prevail most, however, in the filthiest towns, nor in the filthiest parts of towns, nor in the most stinking localities, nor necessarily in those years when stinks are most abundant or filth most accumulated, and in the sense of being an index of the degrees of filthiness of places, except where all the other conditions are exactly alike, unknown factors and all, it is very far from being a typical filth disease.

Commonly speaking enteric fever prevails more widely, other factors being equal, where excrement, decomposing without free access of air, contaminates water supplies or the air of dwellings or near them; and as those conditions obtain more in the country than in the cities, it is in the rural districts that it is most prevalent, but that law is by no means a constant one. So far as Massachusetts is concerned, impure water is the much more common source of infection; and in sewerage parts of our cities sewer-gas appears to me its almost only local cause, for the water supplies are usually excellent, and there are few vaults or cess-pools. Using the census of 1875 as the base for comparison, — not an accurate method for absolute rates,

but sufficient for our purpose, — it seems that for the ten years ending in 1878 typhoid fever had a decennial rate per 1000 in Hampden, the lowest of the Connecticut Valley counties, of 11.58; in Dukes and Nantucket of 11.14; while the other two Connecticut Valley counties of Franklin and Hampshire come next as 10.41 and 10.24; then Berkshire and Barnstable, the extreme western portions and the Cape, 8.80 and 8.21; Worcester, or the central part, 7.52; Bristol and Plymouth, situated next to the Cape, 6.59 and 6.53; Essex, 6.23; Middlesex, 5.79, has one half the extreme rate of Hampden, the greatest; Suffolk, 5.62; and finally Norfolk, 5.48.

There has been a steady decline in the disease during the ten years for the State at large, except that in 1872 and 1873 there was an increased prevalence. Suffolk County, however, does not show so great a decrease as the rest of the State; the total deaths in Massachusetts from that cause in 1869 being 1205, and 679 in 1878. If Suffolk County Boston, Chelsea, Revere, and Winthrop be compared with the rest of the State, it appears, therefore, that its typhoid fever record is an unfavorable one.

Taking Boston alone, it seems that the deaths from typhoid fever in the last ten years have been respectively, beginning with 1869, 138, 168, 176, 229, 243, 231, 200, 148, 157, 129, with an increase in population from about 260,000 to not far from 360,000. It is unfortunate that there are no statistics on record by which it is possible to ascertain the exact degree of prevalence in the various localities. It appears, however, that Dorchester, West Roxbury, and Brighton have comparatively little of the disease, and that it is most prevalent in East Boston, the North End, South Boston, the Church Street district, and large portions of the territory lying between the South Bay and the basin formed by Stony Brook and Muddy Brook. Boston contains nearly twenty-two per cent. of the population of Massachusetts. In 1869 the deaths from typhoid fever in Boston were 11.45 per cent. of the mortality from that cause for the whole State. In the succeeding nine years, respectively, 12.60, 15.77, 13.45, 17.32, 20.14, 18.88, 16.80, 19.29, 17.67. The average of the first five of these figures is 14.12, of the last five, 18.55; showing a difference of 4.43. While Boston contains nearly twenty-two per cent. of the population of the State, its proportion of the deaths from typhoid fever in the last five years has ranged from 16.80 per cent. to 20.14 per cent., the difference being very much less than is commonly supposed in its favor.

Although the typhoid rate in Boston is declining, it has not declined so much in the last ten years as in the State at large; enteric fever does prevail most in the sewerage portions of the city rather than in the rural parts; Norfolk County, with no sewerage towns, has a lower typhoid rate than Boston; the chief factor in originating typhoid fever, or in transporting it, or both, according to the theory which each one may hold upon that subject, is, in Boston, sewer-gas, and there are measures by which its prevalence may be diminished.

First, it is very much to be regretted that there is no thorough and scientific analysis of the death returns of the city.

Secondly, by the present construction and management of our sewers they are elongated cess-pools of a very dangerous kind, inasmuch as they serve to con-

nect with filthy districts houses which by themselves might be easily kept clean. The new intercepting sewer will remedy many of the evils incident to our present sewerage, but by no means all. Many sewers will need to be built anew, others to be reconstructed. This important work needs for its supervision and control the highest attainable skill and experience, and should be united with the intercepting sewerage system under the direction of the city engineer.

Whatever theory may be held with regard to the causation of typhoid fever, it must be admitted that its origin is so often in sewer-gas that we should protect our dwellings efficiently against any risk from it. The precautions to be observed are illustrated in the diagrams which I will now show [of water-closets and a system of house drainage].

DR. A. H. NICHOLS said that the question of the spontaneous origin of typhoid fever in the inhalation or ingestion of decomposing organic matter was rendered difficult of solution by the circumstance that there exist maladies induced by the absorption of a variety of recognizable noxious agents other than typhoid poison, in which the local lesions and the general symptoms bear a close resemblance to those of typhoid. Such manifestations occurring in a large city where typhoid is usually endemic cannot always be distinguished from those of typhoid fever. An instance of this form of error is afforded in the extensive epidemic which was termed typhoid fever, contracted at the musical festival in Zurich, in May, 1878, and said to have been produced by the consumption of putrid meat. Where, however, these ambiguous cases are observed in isolated localities where infectious diseases of any description are of the rarest occurrence, superior advantages are of course afforded for determining their specific character. Some such combination of conditions is met with at Rye Beach, New Hampshire, where in summer a large population of visitors is crowded into old farm-houses, originally constructed for the accommodation of single families, and where the arrangement of privies, sewerage, water supply, etc., is often such as to defy all sanitary rules. A large proportion of the wells are here exposed to the danger of contamination from organic matter proceeding from adjacent dung-hills, surface privies, and sink-spouts. In this region there prevails during the latter half of each year, when the water in the wells is at its lowest point, and the contaminating agent most abundant, a disease termed by the inhabitants fall fever, and by the local practitioners typhoid, but observed exclusively, so far as has yet been ascertained, in houses exposed to the insanitary conditions above described. The chief symptoms—the general course of the temperature and pulse, diarrhoea, meteorism, gurgling in the course of the colon, delirium, somnolency, etc.,—are almost identical with those of a typical case of typhoid. The invariable absence, however, of those more significant and pathognomonic signs, namely, the enlargement of the spleen and the characteristic roseola, coupled with the fact that the disease has almost uniformly a favorable termination, renders it extremely probable that we have here to do with instances of filth poisoning in which the local enteritis and intestinal glandular lesions as well as the clinical symptoms are not differentiated from those occurring in genuine typhoid. It is another significant circumstance in these cases that the severity of the symptoms is often found to be directly proportionate to the quantity of water consumed, and

that cattle, particularly horses, manifest a decided and similar susceptibility to its effects.

Caution should therefore be exercised in the abandonment of existing ideas as to the aetiology of the so-called zymotic diseases, and in the substitution of the theory of their *de novo* origin in filth, especially when this theory is supported solely by a class of cases of so doubtful a character as those here referred to.

DR. G. B. SHATTUCK said that in some of the Southern and Western States the "common continued fever" of the country presented most of the symptoms which we associate with typhoid fever, but in a much milder form. The absence of rose spots, however, and of marked splenic enlargement is common. The intestinal lesions found in fatal cases prove the disease to be typhoid fever. The same is supposed to be true of the mountain or typho-malarial fever of the Rocky Mountains. A paper by Dr. Hope in the Transactions of the Tennessee State Medical Society for 1878 and reports by Surgeon Woodward and Assistant Surgeon Hoff were quoted.¹

A case reported recently in Germany was quoted as tending to show that the typhoid poison might preserve its activity for so long a period as two years. Dr. Shattuck thought that country practitioners were more disposed to accept the *de novo* origin of the disease than their city brethren, owing to their being able to approximate more nearly to a certain exclusion of importation, but that the use of the term *de novo* was attended often with much vagueness, and that many of those employing the expression would accept neither the theory of spontaneous generation nor that of mere filth origin. In support of Dr. Folsom's view, that filth alone was not sufficient to cause the disease, Dr. Shattuck mentioned the extraordinarily filthy condition of many villages and towns in China, where typhoid fever is rare.

In answer to a question Dr. Shattuck said that the veal eaten at the festival in the province of Zurich was known to have come from a very sick calf, and that typhoid fever has been observed in calves.

MR. E. C. CLARKE, the engineer in charge of improved sewerage, said that he was sometimes asked by physicians, and very often by non-professional gentlemen, whether we shall do any good by this new sewer; and that he had answered that in certain localities, where the sewerage now causes the most nuisance, great good would be done. By next January the new pumping engine will be ready, and can be used with great benefit if the sewage is allowed to be discharged into Dorchester Bay for two years, until the arrangement for disposing of it at Moon Island are perfected, which will not, however, be before January, 1882. But even when this new system is completed we shall still have typhoid fever, for a large portion of the trouble comes from the individual houses being badly drained. Many of the street sewers are also in bad condition, so that although the intercepting sewer will do some good, and is the first step to be taken towards improving the health of the city, still we shall not have a good system of drainage until the house drains and street sewers are thoroughly renovated.—DR. WHITE asked if the reconstruction of the city sewers rested in the hands of the same board as that of the intercepting sewer.—DR. FOLSOM said that it did not.—DR. C. P. PUTNAM asked if the rain water would not flush and wash out the sewers, when they are once clean, now that the conductors

¹ American Journal of the Medical Sciences, January, 1880.

open directly into the drains. — MR. CLARKE said that many of the sewers were so defective that this would not be sufficient to keep them clean. Some of the old sewers were merely barrels fastened together; again, a four-foot sewer was at times found opening into an eighteen-inch pipe. He also spoke of the difficulty of getting at the sewers to see in what condition they were, citing as an instance a twelve-inch sewer, ten feet beneath the surface, running for a quarter of a mile without a man-hole to indicate where it was. — DR. LYMAN inquired if there was any record of the situation of the sewers. — MR. CLARKE said, only in those cases where the pipes had been laid during the last five or six years. — DR. G. B. SHATTUCK asked Dr. Folsom if he thought the inhabitants of Boston would be more likely to profit by the new system of sewers if the supervision of the entire system were put in charge of the city engineer. — DR. FOLSOM answered that he thought they would. — DR. WADSWORTH spoke of the stench caused by sewer-gas coming from the water conductors of a house where the conductors opened directly under the attic windows, and were connected with the sewer without any trap. — DR. C. D. HOMANS asked if this was not usually so. — DR. FOLSOM answered that it was in a large number of houses, but that it was possible to trap the conductors properly. — DR. J. C. WARREN spoke of the danger which may arise from the surface drainage of the surrounding houses, and instanced the analysis of water found in the fresh-air box of his house, reported by Professor Wood to be almost as bad as that from Mill River. — DR. WHITE asked for the reports of cases of typhoid fever occurring in Boston which had not been imported. — DR. BRADFORD mentioned a case in Park Square, and DR. C. P. PUTNAM a case in Newbury Street. — DR. ROWE spoke of the case of a nurse at the City Hospital who died of typhoid fever after taking care of a typhoid case, where she had not thoroughly carried out the precautions ordered for disinfecting the bed-pan. — DR. PORTER spoke of the case of a boy thirteen years of age who passed through an attack of typhoid fever of a mild form, and said that no assignable cause could be found after the most thorough investigation, excepting the possibility of his having been infected while excavating a tunnel on the new land; none of his playmates, however, had suffered in this way. — In answer to a question as to whether the men who worked in the sewers were made sick by it, MR. CLARKE said that he had not heard of any cases of typhoid, but that nausea and headache were of quite frequent occurrence. — DR. STEEDMAN spoke of some cases which came into the City Hospital at the time that the big sewer on Albany Street was being built. The men who had been working in the sewer showed symptoms which at first simulated typhoid fever, but did not run the typical course of typhoid; in that year, however, only two or three undoubted cases of typhoid came into the hospital, the cases seeming to be peculiarly mild throughout the year. — DR. FOLSOM said that it has been observed in Paris and London that it is not usually the workmen, who are continually in the sewers, who contract typhoid fever, but the inspectors, who are only occasionally exposed in this way. In answer to a question, Dr. Folsom said that by a law passed in 1877 all city boards of health in this State are authorized to make and enforce regulations with regard to house drainage. Some of the local boards are now moving in this matter.

Recent Literature.

A Dictionary of the German Terms used in Medicine.

By GEORGE R. CUTTER, M. D., Surgeon of the New York Eye and Ear Infirmary, etc. New York: G. P. Putnam's Sons. 1879.

This small volume of 300 pages is a key to the technical terms used in German medical literature, many of which are not to be found in the German dictionaries. As such it will prove of the greatest use to translators and readers whose memories are at a loss for the precise synonyms, and we are sure that this result of twenty years' perusal of the German writings, on the part of Dr. Cutter, cannot fail to be appreciated by the profession, especially, perhaps, by those of the younger members who intend to pass a few months or years at the German universities.

Syllabus of a Course of Lectures on Physiology.

By PROFESSOR J. BURDON SANDERSON, M. D., LL. D., F. R. S. Philadelphia: Lindsay and Blakiston. 1880.

This little book of 143 pages contains a very complete and suggestive summary of Professor Sanderson's lectures. It must serve as a valuable note-book to the students who listen to the author's lectures, or are obliged to pass examination upon the same. Naturally the book does not treat of any point at length, and therefore, taken alone, could not be very instructive to a student. On the other hand, if a person were obliged to study physiology without the aid of a teacher, the book would be of great value, because its facts are grouped in such a logical manner that they cannot fail to assist the student in digesting the knowledge which he may obtain from general reading.

Professor Sanderson has also introduced a series of practical experiments upon food and upon the liquids of the body, which any one can try for himself. Finally, the book closes with a number of class demonstrations, which will undoubtedly prove useful to those who have occasion to lecture on the subjects thus illustrated.

The Riviera. Sketches of the Health Resorts on the North Mediterranean Coast of France and Italy, from Hyères to Spezia; with chapters on the General Meteorology of the District, its Medical Aspect and Value, etc.

By EDWARD I. SPARKS, M. A., B. M. Oxon., etc. London: J. and A. Churchill. 1879.

The author of this valuable book has spent many winters on the North Mediterranean coast, and therefore speaks with authority. The work originated in a series of papers, published in the *Medical Times and Gazette* in 1876 and 1877. These have been rewritten and enlarged and many new chapters added. Meteorological tables founded on the most recent and accurate observations attainable have been introduced, and the topographical descriptions, etc., have been corrected up to the present time. The book bears evidence throughout of having been written by one who was anxious to record the truth, rather than by one who was making a special plea for his favorite health resort. We heartily recommend it to all who are seeking information in regard to mild winter climates.

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MEDICAL CHARITIES AND THE PROFESSION.

THE injury done to many members of the medical profession by indiscriminate medical charity has been recognized for years, and the medical press has again and again called attention to the flagrant abuses that have grown up in this connection. Of late years, owing to the stress of circumstances, many families, having been forced to reduce their expenses, and the doctor's bill being onerous, and proverbially the last one to be paid, have naturally availed themselves of the generous offers of the various dispensaries, and sought relief where they had free medical advice and "medicine in their own phials." Owing to stress of hard times, physicians, too, like other people, have experienced a great diminution in their incomes, and in seeking to repair this falling off by extra diligence they have found themselves competing with the dispensaries, which offer to attend patients for nothing, and furnish medicine besides. That this is a fair statement of the case can be attested by any physician in active practice near a large dispensary. A young physician recently said that after trying to practice in a certain neighborhood for a year he was obliged to give it up, because everybody, including his landlord and his family, went or sent to the dispensary when they fell sick. Patients attend who are better dressed than the physician whose charity they are abusing; men who own property come and claim a right to free hospital treatment. Many cases in illustration have been communicated by Dr. Sturgis, of New York, in communications to the *Medical Record* and to the Academy of Medicine. A committee of the Philadelphia County Medical Society also has had this subject under consideration (as already reported in the JOURNAL), and has collected a large number of instances of the abuse of medical charities.

Hitherto this evil has been suffered to continue, on account of the feeling that the medical profession had no machinery under their control to enable them to deal with it in a satisfactory way. On the one hand, they saw young men, graduated from college before completing their medical education, eagerly offering their services without remuneration, in order to gain experience or to qualify themselves as instructors; on the other hand, rich but inconsiderate philanthropists, desiring to hasten the millennium by making medical relief free to all who need it, — both praiseworthy objects in themselves, but a combination most unfortunate for less favored physicians who expect to earn their living by practicing in the same community.

The extent of this evil will be appreciated only after a study of the statistics of these rapidly multiplying institutions. It is stated that in London nearly one third of the community obtains free medical relief. The same has been true of Boston. In Philadelphia, with a population of a little over eight hundred thousand, there were treated at the various dispensaries during the year 1879 over one hundred and twenty thousand persons (cases, not visits), after corrections and deductions had been made for overlapping and repeating. From the labors of the Committee of the Philadelphia County Medical Society on Hygiene and Relations of the Profession to the Public, it has been demonstrated that a large number of these applicants could have paid for their advice, as many of them were in the possession of ample means. Forty such cases were reported specifically with their residences and incomes at a recent meeting, when it was decided that some regulation of the dispensary service was imperatively demanded. A public conference between the Philadelphia County Medical Society and the Society for Organizing Charity was therefore held, at which there was a full attendance. Professor Gross was elected chairman, the secretaries being Drs. Charles T. Hunter and F. Woodbury. The chairman made a pointed address, demonstrating the existence of a great evil both to the medical profession and to the public. Dr. H. Lenox Hodge, representing the Society for Organizing Charity, offered its assistance, and made the following recommendations: —

"First, that all applications for relief shall be made in the first instance at the offices of the medical charities. Second, that applicants with families in receipt of nine dollars a week or more, unmarried persons receiving six dollars or more, persons living out at service, are able to employ a physician, and should be refused treatment; and that applicants should be so advised through the cards of the medical charities, as well as by notices placed on the doors of the service rooms. Third, that applicants who may be admitted to treatment shall be required to pay for their medicine, or to deposit ten cents at each visit in a box provided for the purpose, unless exempted through procurement of a certificate of the ward superintendent of the Society for Organizing Charity, on which the words 'unable to pay' shall be noted. This condition should also be placed on the cards and on the notices on the doors of the service rooms."

These recommendations were approved, with the exception of that requiring a specified sum to be paid at each visit.

Dr. F. R. Sturgis, of New York, was present by invitation, and gave a detailed account of the successful working of a similar method of systematic inquiry in the New York dispensary.

Dr. Benjamin Lee presented the following resolutions, embodying the recommendations of the special committee of the County Medical Society, and they were unanimously adopted: —

"Resolved, That efforts should be made to prevent the pauperizing and encraving influences of undue

and indiscriminate medical relief; that care should be taken that the funds contributed by the benevolent to our hospitals and dispensaries be bestowed only upon the poor; that the committee be called 'The Committee on Coöperation of the Medical Charities with the Ward Associations of the Society for Organizing Charity'; that the committee be composed of the medical and surgical staffs of the various hospitals and dispensaries, or representatives from each; that this committee shall call an annual meeting of the profession, at which they shall make a report of what they have accomplished."

We have often called attention to the lax manner in which the medical charities of Boston are administered. Some such attempts as those mentioned above have been made to correct abuses, without great results, however. Reform in this direction would appear to lie within the scope of the new organization of the "Associated Charities," coöperating with the hospitals and dispensaries, to whose further consideration we commend this important subject.

DR. ROBERT WHITE, JR.

ASSISTANT-SURGEON ROBERT WHITE, of the United States Marine Hospital Service, died a few days ago, at his station on Bedloe's Island, at the age of thirty-two. He graduated in medicine at Harvard University in 1867, and after practicing for some years with his father in Boston he went abroad to pursue his studies. He was long at Edinburgh, under Professors Simpson and Lister, and at that time contributed a valuable article to the JOURNAL giving a minute account of Lister's antiseptic method, then in its infancy. Upon his return he entered the United States Marine Hospital Service, where his abilities were soon recognized by his superior officers, and he was detailed by the late Surgeon-General Woodworth to investigate the cause of the yellow-fever epidemic of 1878. He went South, into the heart of the epidemic, in accordance with his instructions, and his researches formed the basis of reports to the Public Health Association, of which Dr. White was a prominent and active member. A letter on Shot-Gun Quarantines, which was published in the JOURNAL while its author was stationed in the South, created much interest, and many readers will miss his occasional contributions to our pages.

He was detailed to go to Alaska on the recent cruise of the revenue cutter Rush, and made a valuable scientific report on his return, which we have already noticed.

Dr. White's fondness for science and energy in the discharge of his duties may have led him to overtax his physical strength, but he accomplished a great deal in a short life, and the branch of the public service to which he was attached has sustained a serious loss.

MEDICAL NOTES.

— Passed Assistant-Surgeon John W. Ross has been promoted eight numbers in his present grade, for extraordinary heroism in risking his life at Holly Springs and Memphis during the yellow-fever epidemic of 1878.

NEW YORK.

— The executive committee which had in charge the contributions in aid of the city hospitals on Hospital Saturday and Sunday, December 28th and 29th, have reported that the total amount collected was \$25,811.60. This includes over \$11,000 of church collections and other offerings sent directly to the treasurers of the different hospitals. Of the balance \$1025 was taken for expenses, \$3454.55 consisted of designated gifts, and was sent to the institutions named by the donors, and \$10,000 of undesignated funds was distributed as follows:—

Mount Sinai Hospital	\$2500.
Presbyterian Hospital	\$500.
German Hospital	\$1000.
New York Eye and Ear Infirmary	\$500.
House of Rest for Consumptives	\$1250.
Home for Incurable	\$1000.
New York Infirmary for Women and Children	\$500.
Orthopedic Hospital	\$750.
St. Mary's Free Hospital for Children	\$250.
The Woman's Hospital	\$500.
New York Ophthalmic Hospital	\$500.
Manhattan Eye and Ear Hospital	\$500.
Hahnemann Hospital	\$250.

In addition to the above results the committee announce that the managers of the Woman's Hospital availed themselves of the opportunity, through various generous contributions, of clearing off a debt of \$20,000 on their buildings. The managers of the New York Hospital coöperated in establishing this general collection, but did not wish to avail themselves this year of any share of the contributions. The managers of St. Luke's Hospital, by whom the collection was suggested, and who for some years have depended on an annual collection from the Episcopal churches for a part of their current expenses, were so generously remembered in designated gifts that they waived all claim upon the undesignated funds. The general committee which had charge of the collections has now been organized on a permanent basis, with the title of "The Hospital Saturday and Sunday Association of New York City."

— The inspection committee of the board of consulting physicians and surgeons to the insane asylums on Blackwell's and Ward's Islands for the months of November, December, January, and February, consisting of M. A. Pallen, W. V. White, and A. McL. Hamilton, have handed in their report, which was unanimously approved by their associates, to the Commissioners of Charities and Correction. At the Ward's Island asylum they state that the condition of affairs is perfectly satisfactory in every way except in regard to the want of accommodation for the large number of patients which the medical superintendent is at present bound to receive. The management was found to be excellent, and upon every side were evidences of good system and the fidelity of the over-

— An assistant medical examiner for Suffolk County is soon to be appointed by Governor Long, the bill providing for such an appointment having been passed by the legislature.

worked medical officers. The patients were well distributed, and as many of the chronic ones as were able were employed in various useful labors. At this institution, as well as that on Blackwell's Island, they continue, are now to be found all the modern improvements in the treatment of nervous and mental disease. The pathological work is done by medical gentlemen who rank high as scientists, and the vast material at their command is utilized to the best purpose.

—Dr. Nagle, deputy registrar of vital statistics, reports that there were one hundred and seventeen suicides in the city during the year 1879. Of these, forty persons shot themselves, sixteen hanged themselves, five jumped from windows, seventeen cut their throats, four drowned themselves, one strangled himself, twelve took Paris green, four opium, one prussic acid, three carbolic acid, one chloroform, four morphia, three arsenic, one illuminating gas, two cyanide of potassium, two oxalic acid, and one rat poison. Fifty of the above individuals were natives of Germany, twenty-nine of the United States, eleven of Ireland, and six of France.

CHICAGO.

—The annual commencements have begun. On the 24th of February that of Rush College occurred. The class graduating numbered one hundred and forty-four. Prof. H. M. Lyman in his address took the ground that, as the work of the student in the medical college was to learn well the elementary facts and principles of medical sciences, and to learn how to study medicine, while the acquisition of the art of being a good physician and of applying these principles to the real problems of life must be chiefly accomplished in the great work of practice and experience outside of the college, therefore three years is as much time as can be profitably spent in college study. The faculty of the college gave a complimentary banquet in the evening to the alumni and special guests to the number of three hundred.

The State Board of Health and the Quacks.—The law under which the board gets a part of its authority—that known as the medical practice act—empowers it to deprive a practitioner of his license to practice for illegal or unprofessional conduct. By virtue of this authority, the board has recently rescinded the license of several of the most notorious quacks in this city. They are men who have been most offensive, not only to the profession, but to all the better part of the general public, in their charlatanism. The board, in this work, is entitled to and has the approval and support of the community. Several other quacks have been called before the board, and are likely to have their licenses revoked. Whether the action of the board will put an end to the practice of these men remains to be seen. The attorney-general has just rendered an opinion that prosecutions for violation of the act—and practicing in the face of a revocation of license is a violation of the act contemplated—are in the nature of criminal proceedings, and must be made and conducted by the State's attorney. This will make the prosecutions very irregular and

unequal in different counties of the State. In counties where the duties of the State's attorney are large, and where the authorities are niggardly in providing him assistants, prosecutions for violation of the medical practice act will be the last prosecutions to be made. It looks very much as though the opinion of the attorney-general, while perhaps very good law, would prove to be in the interest of the quacks. While the board are doing a good work in endeavoring to protect the people from imposition from one class of men, they are licensing, on examination, young junior medical students, who have studied a few months in medical colleges, but who are nowhere eligible to the degree of doctor of medicine, at a rate that causes some men to suspect that they are not doing the public such an astonishing sum total of good, after all.

ST. LOUIS.

—February 10th the St. Louis Academy of Science gave a microscopical soirée, at which a number of very fine instruments were exhibited. In all there were thirty-five microscopes, including five binocular microscopes. Ross, Nacet, Zentmeier, Gundlach, and Hartnack were represented. Among the exhibits were crystallized salicin, shown by polarized light, ferns, crystallized gold, quite a large collection of histological specimens, the circulation in a tadpole, the circulation in a curarized siren, and several living trichinae on a warm stage and in active motion. This was the first attempt at anything of this kind made here, and met with unexpected success. Most of the exhibitors were physicians.

—The College of Physicians and Surgeons gave a banquet on the 11th instant to its board of directors. Dr. Louis Bauer made an address, in which he spoke quite highly of our present health commissioner, Mr. Charles W. Francis. This College of Physicians and Surgeons is not to be confounded with the institution of a similar name founded here in 1869.

—Dr. Charles E. Briggs exhibited to the St. Louis Medical Society quite a rare and a very beautiful specimen in the shape of a menstruating virgin uterus. The patient was a young girl about nineteen years old; for some three months she had not menstruated, but at the time when she should have menstruated had had hæmoptysis. A few days before death her menses reappeared, and the day following, after dancing violently, she was seized with hæmorrhage from the lungs and with dyspnoea. In about twelve hours she died, apparently from gradual filling up of the lungs with blood.

At the post mortem, the uterus was found to be strongly anteflexed; otherwise normal. The left ovary presented a ruptured Graafian vesicle, with a diameter of a little less than half an inch. The mucous membrane of the uterus was hypertrophied and reddened, the hypertrophy stopping very abruptly at about the internal os. The specimen led to quite an animated debate as to whether the uterine mucous membrane is destroyed at each menstruation or not, Dr. Maughs believing that it is, Dr. Engelmann and Dr. Bernays believing that it is not.

Miscellany.

SEA-SIDE ETHICS.

MR. EDITOR.—If practices like the following prevail to any great extent, as we are assured they do, it is quite time, in the absence of a Code rule, to give such "unintentional sinners" a hint that they are at least transgressing the Golden Rule.

Mr. A., merchant, and his family have been patients of a suburban physician more than twenty-five years. Mr. A. was making a visit of a few days at the sea-side when he was seized one night with severe cramp in the right hypochondriac region. He had had such attacks before, which had obliged him to call up his physician in the night to inject morphine subcutaneously, as a last resort. This had usually relieved him, so that he returned to his business the next day or the day after.

On the above mentioned occasion he sent for a Boston physician, who passed his summers near by—for pleasure and profit. The whole history was told; and that Mr. A. intended to return home in a day or two. The physician injected morphine, as had been done on other occasions, and relieved the patient. He called the next day. The second day he volunteered a call, and, saying that he "had been thinking out the case," gave the patient, in writing, his opinions, with recipes and detailed directions for future management. He also requested a letter from Mr. A. in a week after his return home. Mr. A. wrote the letter as requested, in which he stated that he had had another attack before the week was out, and had been obliged to send for his regular attendant.

The directions and the recipes given to the patient before he left the sea-side, together with what was attempted by the casual attendant after the former had reached home and came under the care of his family physician, are as follows, in the language of the doctor himself:—

DIRECTIONS.—"On rising stand in warm water, and sponge body rapidly with water that has been standing in the room twelve hours. Rub dry quickly with thick and soft towels. Wear woolen under-clothing; flannel band round waist; thick shoes; change shoes and stockings on reaching home. Drink one half tumbler of apollinaris twenty minutes before breakfast. Milk and soda water for breakfast, two thirds milk and one third soda water; dry toast, buttered as you eat it, or stale bread and butter; soft boiled egg; a tenderloin steak, or a chop; cold mutton, or poultry; avoid tea and coffee, all hot or fresh bread; lunch at ten o'clock on milk; dine at one o'clock on roast mutton, beef, chickens, lamb,—or chop or steak,—boiled turkey, chicken, partridge, stale bread; one or two glasses of claret; or one of dry sherry, or cider. *Potatoes*, if eaten, to be served mashed and eaten with dish gravy. Vegetables to be used very sparingly. Supper 5.30,—a light meal,—milk and soda water for drink; dry toast and butter or a light farinaceous pudding. *Bedtime*, ten o'clock; cup of beef-tea and toasted cracker, or tumbler of milk; avoid sugar and sweets, pastry, fruit, champagne, and beer, minced and hashed meat, or meat cooked a second time; avoid fatigue, night-air, and dampness. Take quinine one powder in teaspoonful of fresh lemon juice, add table-spoonful of water three times daily. Take bismuth subnitrat, sodæ bicarbonat, acidû hydrocyan. dil., much-

lag. acaciæ, aquæ ad vi. Sig. Table-spoonful ten minutes before breakfast and dinner."

July 4, 1878.

DEAR SIR,—I have read your detailed account with much interest and think we are justified in our treatment. You certainly have done well notwithstanding your severe attack on Monday, July 1st, which was possibly induced by your double dose of Hunyadi Janos, overstimulating the intestines and your easily irritated nerves of digestion. The extremely hot weather has been unfavorable for a healthy and strong digestion. Your attack on Monday came on soon after eating, showing, at any rate, the attempt at digestion preceded and waked up the neuralgia. Your constipation was undoubtedly caused by the quinine, which checks an over secretion from the intestines. I should like to have you give up the present treatment, which appears to be too constipating, and use the following. This ought to relieve the neuralgia, and assist also in digestion: Bismuthi subnitri., lacto-peptine, fl. chart No. 12. Sig. One, in a wafer, ten minutes before breakfast, dinner, and supper.

... Continue the morphine when needed, but not otherwise. Please continue your present regimen and let me hear again from you after one week of present treatment.

Sincerely yours.

July 24, 1878.

MY DEAR MR.—: I am very glad to hear of your continued improvement: certainly your past week has shown a decided gain. In your favor of the 23d you speak of waking with pain Saturday morning [July 20th]. Do you remember anything done or eaten on Friday afternoon or evening that could have induced it? It certainly was a neuralgic attack. Neuralgia is cured by giving the nerves rest. When the nerves of the stomach are implicated we give them rest by food easily digested and taken in small quantities, frequently, and by avoiding exposure and fatigue, causing exhaustion. The prime cause of neuralgia in the digestive tract is a mal-assimilation of food, causing irritation of the mucous membrane and glands of the stomach and intestines. To assist digestion and relieve irritation I prescribe the powders of bismuth and lacto-peptine; to act as a tonic, the tincture of nux vomica and acid. *I want you to continue* them, for I feel that they suit your case and we should err if we stop treatment too soon. I have written at length on this matter, but you will see that the cure of neuralgia depends on the removal of the disturbing cause. I am sure you will be willing to persevere, and shall be glad to hear from you again in a week.

I remain yours truly.

August 7, 1878.

MY DEAR SIR,—I am very glad to hear of your continued well doing; I wish to advise a continuance of the course by which you have been improved. I should like to have you take each medicine *now twice* daily, namely: the powders before breakfast and your mid-day meal. The liquid after breakfast and supper. Of course you will use the same care about diet and fatigue as heretofore. In a week from now I hope we may again decrease the dose and finally omit it entirely. I shall be happy to hear again from you in a week.

Yours very truly.

The foregoing correspondence ended about the time of the letter dated August 7, 1878, the patient adher-

ing all the while to his usual attendant, and always sending for him whenever similarly attacked.

The portion of the correspondence now copied fell into the hands of Mr. A.'s family physician, January 18, 1880. It reveals the most extraordinary conduct on the part of a prominent physician, brought up among, and for many years mingling with, the most eminent and honorable members of the profession. When first called in he knew, he could not avoid knowing, that the patient was about to return at once to his regular attendant. He knew also that the patient did so return, and had an attack a few days after, for which he was treated by this regular attendant. Yet, July 4th, after he knew all this, he writes, directing a change in the treatment he himself had so recently urged, and asks the patient, then at home and under the care of his regular physician, to take this new course of treatment, and to report "after one week." He, this seaside doctor, knew, he could not avoid knowing, that all this was grossest irregularity on his part. He knew, he could not avoid knowing, that if he had anything to say about the case it was his duty, first and last, to correspond with the medical attendant, and not with the patient.

Mr. A. may have thought it discourteous not to gratify a physician who had manifested such zeal in an attempt to promote his future well-being; but Mr. A. had never wavered in his loyalty to his regular attendant, under whose guidance he then was and has continued to be up to the present time; an attendant, by the way, who, through frequent opportunities, might be supposed to know as much as a stranger of the exciting cause of the patient's attacks; and who had never failed in proper diligence or in suggesting preventive measures.

A patient does not always quickly understand why a casual attendant, on so short an acquaintance, becomes so "much interested" (letter of July 4th) in a case. He naturally is not unwilling to listen to specious promises of certain "cure" so disinterestedly held out to him. Sooner or later, however, often too late for redress, an unexpectedly large bill for professional services generally puts a new phase on the affair. The present instance is thought to be no exception to a general rule.

POISONING BY OIL OF TANSY.

MR. EDITOR, — Allow me, through your valuable journal, to call the attention of the profession to some of the poisonous properties of the *Tanacetum vulgare*, or common garden tansy. This perennial herbaceous plant is indigenous in Europe, from whence it was brought to this country, and is now found growing all through the Northern States and Canadas, in gardens and by the roadsides. Both the oil and the plant have considerable reputation in domestic practice as emmenagogues, and also as a means of procuring abortion. The oil has a greenish-yellow color, is lighter than water, and deposits, when undisturbed, camphor. It has the peculiar aromatic and pungent odor of the plant, which once recognized will never be forgotten, and is one of the most dangerous and fatal of our vegetable poisons. The following cases will illustrate my subject: —

CASE I. September 23, 1879, I was hastily summoned to attend an unmarried lady of twenty-nine

years, in previous good health, who, the messenger stated, had suddenly been taken ill, and in a few moments "turned completely black." On my arrival, I found the patient lying upon a sofa, surrounded by her excited friends, who were rubbing her with mustard and other stimulants. Her face, neck, and chest were livid; hands and fingers, especially under the nails, were of a still darker hue. The eyes were partly opened, pupils widely and symmetrically dilated. There was general restlessness, moaning, and after a little time incoherency. Pulse 120 per minute; respiration, 35 per minute and defective. The surface of the body was moist and cool. There was nausea, and I was quite sure I detected the odor of oil of tansy. Her friends, however, were positive in their denial that anything but ordinary food had been taken.

Although she was in a semi-conscious condition, I administered mustard and ipecacuanha abundantly for twenty or thirty minutes, when she vomited copiously, and immediately the house was filled with the odor of tansy. After the emesis the patient became quiet, but the heart's action remained very feeble. I directed general warmth and enemata of whisky in milk, and administered carbonate of ammonia freely. Respiration improved, the heart's action increased in vigor, consciousness gradually returned, and convalescence was established on the following day. I subsequently gathered the following history: At eleven o'clock A. M. she drank about fifteen drops oil of tansy in water. At twelve M. ate a full meal of meat, eggs, bread, etc. At two o'clock she drank about a teaspoonful of oil of tansy in water. Fifteen minutes afterwards she threw herself upon the sofa, saying that she felt "very queer;" then suddenly sprang into the sitting position, uttered a wild cry, and became generally convulsed. Immediately, respiration was apparently suspended, followed instantly by complete and general cyanosis.

The patient would give no explanation of this strange act. The catamenia appeared on the following day, though not due for four or five days.

CASE II. I find the following case reported by Dr. W. W. Ely, of Rochester, N. Y. He was called to a respectable young lady, a school-teacher, who had taken what she supposed was essence of tansy, to promote the catamenial discharge. She took one teaspoonful of the medicine, which proved to be oil of tansy. She first complained of dizziness, and became insensible in about ten minutes. A succession of convulsions ensued, laborious respiration, irregular pulse, and death in one hour and a quarter after taking the poison.

CASE III. The following is an abstract of a case reported by Dr. John C. Dalton, of Boston: A fine, healthy-looking unmarried woman, a seamstress, ate a hearty dinner at five o'clock P. M., seemed happy and cheerful, went to her room at half past nine P. M. About eleven o'clock a scream was heard. On entering her room, she was found on the floor, beside the bed, in violent convulsions. She was totally unconscious; cheeks flushed, and of a bright red color; eyes were open, and very brilliant, pupils widely dilated, symmetrical, and fixed; skin not remarkable for moisture; respiration hurried, labored, stertorous, and obstructed by an abundance of frothy mucus. The breath had a strong odor of tansy. Pulse full, forcible, 128 per minute. At tolerably regular intervals there were

strong spasms, during which the head was thrown back, the arms were raised, and rigidly extended, with contracted fingers. Immediately after a convulsion the countenance was pallid and livid from suspended respiration. As the patient could not be made to swallow, ipecacuanha was thrown up the rectum without effect. She was also bled. Convulsions continued, but were less violent; pulse grew more feeble, and suddenly ceased, immediately after a convulsion. Death in three and a quarter hours after first known symptoms.

Autopsy ten hours after death. Countenance natural, rigor mortis well marked. There was no effusion, congestion, or unnatural appearance anywhere about the encephalon. Heart and appendages normal, and filled with fluid black blood. Interior of heart exhaled a distinct odor of tansy. The same was true of the muscles of the chest. No alteration of pleura; lungs, rather shrunken, crepitated everywhere, were not at all engorged. Nothing remarkable about the air-passages. The peritoneal cavity exhaled a strong odor of tansy, otherwise normal. Stomach contained about twelve ounces of partially digested food mixed with an abundance of small, brownish-yellow, glistening oil globules, exhalant an excessive odor of tansy. The uterus contained a well-formed fetus of about four months, not having been in the least disturbed. Facts led to the conclusion that eleven drachms of oil of tansy had been taken.

CASE IV. I find the following in the *Canada Medical Journal*: A young woman took a teaspoonful of oil of tansy to induce miscarriage. There was coma, dilated pupils, and finally recovery, without action on the uterus.

CASE V. Dr. Pereira quotes a case from the *Medical Magazine*, November 24, 1834, in which frequent and violent clonic spasms were experienced, with much disturbance of respiration. The action of the heart grew weaker, until death took place from its entire suspension. An autopsy showed no signs of inflammation of stomach or bowels. The amount of oil of tansy taken was four drachms.

CASE VI. Dr. Hildreth reports a case of rapid death from a much smaller quantity, with similar symptoms, the poison having been taken to procure abortion.

CASE VII. In the *Medical Times and Gazette*, Dr. Pendleton relates the case of a woman, aged twenty-one, who took a strong decoction of the leaves of tansy to procure abortion. She became incoherent, with contracted pupils; there was afterward coma, followed by paralysis of the voluntary muscles, without spasm or convulsion, and death in twenty-four hours, without action on the uterus.

CASE VIII. Dr. Charles H. Rice, of Fitchburg, has kindly furnished the history of the following case: In January, 1876, he was called to attend a woman three months advanced in pregnancy, who stated that she had taken a strong infusion of tansy daily for one week to produce abortion, without effect. She then used a very strong decoction of the herb (a half pound to a pint, by estimate) as a vaginal injection. In a few hours there was vaginal discharge, first watery, then bloody, accompanied with pain in loins and uterine contraction. Twelve hours subsequently she had a violent chill, at which time the doctor arrived. He immediately administered a hypodermic injection of morphine, and ordered sulphate of quinine, grs. ii., every two hours.

The following morning a digital examination discovered a fetus and membranes escaping from the os. There was also metritis and general inflammation of all the immediate soft parts, with nausea, vomiting, diarrhoea, ischuria, and increased temperature. In a few days a general peritonitis supervened. After a dangerous illness of three months, the patient finally recovered.

From the cases cited above, it appears that neither the herb nor oil of tansy has any specific action upon the uterus, although a strong decoction of the herb, under some circumstances, may act powerfully as a local irritant, as well as a poison, to the nervous centres. It further appears that no antidote of the poison has thus far been discovered, and the proper treatment seems to be to remove the noxious element from the stomach in the safest and most expeditious manner possible. In the case under my care, I should have used a hypodermic injection of apo. morphia, had it been conveniently at hand. Stimulants appear to be essential, in order to continue the action of the heart through the period of depression.

GEORGE JEWETT, M. D.

FITCHBURG, February 12, 1880.

MR. BRYANT AND ANTISEPTIC SURGERY.

MR. EDITOR.—In a recent number of your very excellent journal your London correspondent, in reporting what passed at the debate on antiseptic surgery of December 3d, described my observations as "savage," whereas much of what I said was very complimentary to the distinguished advocate of antiseptic surgery, and I claimed to be an antiseptic surgeon as much as Mr. Lister.

It is true I criticised briefly a paper in which *all* Mr. Lister's joint cases were tabulated, and I expressed surprise that the material upon which the very dogmatic assertions relating to the treatment of joint affections had been based was so limited, but I am not aware that I said one word to justify the use of such a term as your correspondent has used.

The whole debate is, however, about to be published, and you will be able to read for yourself what passed, and to judge fairly. Believe me faithfully yours,

THOMAS BRYANT.

LONDON, February 10, 1880.

THE TREATMENT OF ASTHMA.

MR. EDITOR.—In Dr. F. I. Knight's review of Berkart on Asthma, he incidentally alludes to the results of my treatment of asthma with large doses of iodide of potassium. In connection with the above I desire to state that the drug in doses of five or ten grains seldom gave relief, but large doses continued for a long period gave entire relief in the majority of cases. Some patients, however, were unable to take the iodide of potassium even in small doses; in such cases I used as a substitute hydriodic acid, and, as Dr. Knight says, "with surprisingly satisfactory results." The form I have oftenest used is the syrup of hydriodic acid, and that prepared by Robert Gardner, of New York, I consider the best; it is agreeable to the taste, and not very likely to be affected by exposure to light and air. It should be given as follows: be-

gin with small doses, twenty or thirty drops well diluted with water, and taken about half an hour to an hour before meals; if taken after meals it may disturb the stomach, set up fermentation, and cause colic, acid stomach, and pain in the head; increase the dose gradually, and a tablespoonful dose should not be exceeded. In cases of chronic bronchial catarrh,

and in fact in all cases where iodide is indicated, I have found the syrup of hydriodic acid of great value.

Later in the season I propose to send to the JOURNAL a report of a large number of cases of asthma treated on the above plan, and with very gratifying results.

I am very truly yours,

J. P. OLIVER.

REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 21, 1880.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Deaths under Five Years.	Percentage of total Deaths from				
				The Principal "Zymotic" Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.
New York.....	1,085,000	519	209	18.88	20.42	5.59	1.93	1.16
Philadelphia.....	901,380	308	119	12.34	—	2.92	2.60	2.27
Brooklyn.....	564,400	209	72	18.66	17.22	8.61	.96	.48
Chicago.....	—	171	89	35.09	8.77	14.04	6.43	—
St. Louis.....	—	130	51	10.77	21.54	2.31	—	.77
Baltimore.....	393,796	136	58	17.65	11.76	7.35	5.15	2.45
Boston.....	365,000	147	67	16.33	18.37	14.28	—	1.36
Cincinnati.....	280,000	78	27	14.10	15.38	1.28	3.84	2.56
New Orleans.....	210,000	88	24	17.05	15.91	2.27	—	1.14
District of Columbia.....	170,000	91	33	7.69	16.48	2.20	2.20	—
Buffalo.....	—	49	15	30.61	10.20	6.12	6.12	10.20
Cleveland.....	160,000	59	25	33.90	8.47	8.47	15.25	1.69
Pittsburgh.....	145,000	67	29	32.84	11.94	8.96	1.49	8.96
Milwaukee.....	127,000	37	19	10.81	8.11	8.11	—	—
Providence.....	101,500	46	13	30.43	19.57	6.52	21.74	—
New Haven.....	60,000	30	13	13.33	23.33	6.67	—	—
Charleston.....	57,000	20	7	15.00	10.00	—	—	10.00
Nashville.....	17,000	18	7	38.89	5.56	5.56	—	11.11
Lowell.....	54,000	17	6	17.65	17.65	5.88	—	5.88
Worcester.....	53,000	22	7	27.27	22.73	—	—	4.55
Cambridge.....	50,400	15	6	—	60.00	—	—	—
Fall River.....	49,000	29	—	20.69	3.45	—	13.79	3.45
Lawrence.....	38,600	14	5	—	28.57	—	—	—
Lynn.....	34,000	17	5	17.65	17.65	11.76	—	5.88
Springfield.....	31,800	7	1	—	—	—	—	—
New Bedford.....	27,200	10	4	10.00	10.00	—	10.00	—
Salem.....	26,500	9	3	22.22	22.22	11.11	—	—
Somerville.....	23,500	5	1	—	40.00	—	—	—
Chelsea.....	21,000	8	2	25.00	50.00	—	12.50	—
Taunton.....	20,200	4	2	25.00	—	25.00	—	—
Holyoke.....	18,400	13	8	30.77	23.08	—	15.38	—
Gloucester.....	17,300	12	—	16.67	41.67	—	16.67	—
Newton.....	17,300	7	2	57.14	14.29	28.57	—	—
Haverhill.....	15,350	7	3	14.29	42.86	14.29	—	—
Newburyport.....	13,500	5	1	20.00	—	50.00	—	—
Fitchburg.....	12,600	4	1	—	25.00	—	—	—
Seventeen Massachusetts towns.....	132,210	40	10	17.50	7.50	12.50	—	2.50

Two thousand four hundred and forty-eight deaths were reported; 944 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 447, consumption 369, lung diseases 359, diphtheria and croup 155, scarlet fever 76, typhoid fever 44, measles 44, whooping-cough 32, diarrheal diseases 33, erysipelas 23, malarial fevers 27, cerebro-spinal meningitis 19, small-pox eight, typhus fever one. From *measles*, New York 20, Chicago seven, Brooklyn six, Philadelphia five, St. Louis and New Haven two, Buffalo and Charleston one. From *whooping-cough*, Pittsburgh eight, New York seven, Buffalo and Cleveland three, Brooklyn, St. Louis, and New Orleans two, Baltimore, Boston, Cincinnati, Milwaukee, and Chelsea one. From *erysipelas*, New York five, Brooklyn four, Philadelphia and Worcester three, St. Louis two, Chicago, New Orleans, Pittsburgh, Providence, Nashville, and Northampton one. From *malarial fevers*, New York nine, New Orleans six, Brooklyn four, St. Louis three, Baltimore two, Chicago, District of Columbia, and Cleveland one. From *cerebro-spinal meningitis*, Chicago nine, Cincinnati, Holyoke, and Newton two, Philadelphia, Brooklyn, Baltimore, and Fall River one. From *small-pox*, Philadelphia five, Worcester two, District of Columbia one. From *typhus fever*, Baltimore one. One hundred and thirty-nine cases of measles, 45 of diphtheria, 20 of scarlet fever, two of whooping-cough, and two of typhoid fever were reported

in Brooklyn; diphtheria 30, scarlet fever six, in Boston; diphtheria ten, scarlet fever four, in Milwaukee; scarlet fever 43, diphtheria 19, measles two, typhoid fever one, in Providence; scarlet fever 12, diphtheria four, in New Bedford. The death-rate of whites in District of Columbia was 20.98, of colored 41.8. No more cases of small-pox have been reported in Cleveland; it has appeared (during the past week) in two new localities in Worcester.

The total number of deaths reported is about four per cent. less than for the previous week; of deaths under five nearly sixteen per cent. more. There was a very marked diminution from diphtheria, with an increase from cerebro-spinal meningitis and malarial fevers. In 36 cities and towns of Massachusetts, with an estimated population of 1,010,860 (population of the State about 1,650,000), the death-rate was 20.22 against 22.09 and 20.41 of the previous two weeks, with an increase from lung diseases, scarlet fever, erysipelas, and cerebro-spinal meningitis.

For the week ending January 31st, in the 20 chief Swiss towns, lung diseases were very prevalent and fatal, small-pox causing deaths in Geneva and Lucerne. In Belgium, small-pox caused 38 deaths in ten towns; croup was very prevalent, the other zymotic diseases not having been widely prevalent; lung diseases were widespread and very fatal. In Germany there was a diminution in the general death-rate of cities reported 1.5 per 1000. The infectious diseases remained without change or

with less mortality. Lung diseases also were less fatal. Typhus fever and small-pox prevailed in St. Petersburg and Paris. Small-pox had broken out in several parts of Poland. In 143 German cities and towns, with an estimated population of 7,605,712, the death-rate was 25.7 against 27.2 and 26.2 of the previous two weeks. Three thousand seven hundred and sixty-two deaths were reported; 1725 under five; consumption 544; acute diseases of the respiratory organs 462, diarrhœal diseases 169, diphtheria and croup 136, typhoid fever 59, scarlet fever 53, whooping-cough 56, measles and *röteln* 39, puerperal fever 26, small-pox and typhus fever none. The death-rates ranged from 13.5 in Karlsruhe to 41.4 in Altona; Königsberg 34.6; Dantzic 26.6; Breslau 25.4; Munich 24.0; Dresden 21.5; Cassel 16.9; Berlin 24.9; Leipzig 27.6; Hamburg 29.4; Hanover 21.0; Bremen 17.5; Cologne 25.0; Frankfort 17.5. In the same week, Vienna 27.0; Paris 34.1.

For the week ending February 7th, in the 20 cities of England, with an estimated population of 7,499,468, the death-rate was 37.0. Five thousand three hundred and twelve deaths were reported. Lung diseases reached the enormous figure of 1557, largely due to the combined effect of very unusual cold and fog; whooping-cough 317, scarlet fever 120, measles 102, fever 43, diarrhœa 29, diphtheria 13, small-pox (London) 13. The death-rates ranged from 16.5 in Wolverhampton to 48.1 in London; Bristol 29.8; Birmingham 21.2; Liverpool 27.8; Manchester 31.6; Leeds 27.3. In Edinburgh 22, Glasgow 25, Dublin 43 (eight deaths from small-pox). Of the 20 chief towns of Switzerland, diphtheria was fatal in ten, lung diseases being very widely prevalent; small-pox caused deaths in Geneva, Lausanne, and Lucerne.

The meteorological record for the week in Boston was as follows:—

Date.	Barom- eter.	Thermom- eter.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.		
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.		
Feb. 15	30.062	29	34	25	76	89	88	85	SE	NE	N	17	10	10	O	O	O	—	.04		
" 16	30.409	34	42	24	79	38	70	61	W	NW	W	6	14	2	C	C	C	—	—		
" 17	30.473	44	52	30	79	59	62	67	Calm	S	SW	6	16	17	C	C	C	—	—		
" 18	30.032	53	63	41	92	57	80	76	SW	SW	SW	8	19	20	F	C	R	—	.14		
" 19	30.100	25	56	18	89	53	57	66	NW	NW	NW	20	32	26	C	C	C	—	—		
" 20	30.371	23	30	12	65	53	75	64	NW	NW	NW	14	14	4	C	C	C	—	—		
" 21	29.729	32	43	21	64	73	79	72	SW	SW	W	7	8	16	F	O	C	—	.01		
Week.	30.168	34	63	12				70	Northwest.											14.55	.19

¹ O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, smoky; R, rain; T, threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM FEBRUARY 21, 1880, TO FEBRUARY 27, 1880.

BYRNE, C. C., major and surgeon. Granted leave of absence for twenty days. S. O. 2, Department of Dakota, February 18, 1880.

LORING, L. Y., captain and assistant surgeon. When relieved by Assistant Surgeon D. M. Appel, to proceed to Fort Dodge, Kansas, and report for duty at that post. S. O. 39, Department of the Missouri, February 20, 1880.

APPEL, D. M., first lieutenant and assistant surgeon. Assigned to duty at Fort Supply, Indian Territory, relieving Assistant Surgeon Loring. S. O. 39, C. S., Department of the Missouri.

DRS. GEORGE MCCREERY and EDWARD D. SCHUE, of New York city, RICHARD C. NEWTON, of New York, and JOHN J. COCHRAN, of Massachusetts, having passed a successful examination before the Army Medical Board, now in session in New York city, were, February 10, 1880, confirmed by the senate as assistant surgeons United States Army, with the rank of first lieutenant.

BOOKS AND PAMPHLETS RECEIVED.—Strangulated Hernia, with Fœcal Fistula, treated by a New and Simple Enterotomy and an Anaplastic Operation. By William A. Byrd, M. D., of Quincy, Ill. (Reprint.)

A Manual of Auscultation and Percussion. By Austin Flint, M. D. Second Edition, revised. Philadelphia: Henry C. Lea, 1880.

Notes on Fever Nursing. By James W. Allan, M. B., Superintendent and Physician to the City of Glasgow Fever Hospital. Philadelphia: Lindsay and Blackiston. 1880. (Estes and Lauriat.)

The Spectroscope in Medicine. By Charles A. MacMunn, B. A., M. D. Univ. Dub. Philadelphia: Lindsay and Blackiston. (Estes and Lauriat.)

Pseudo-Hyperpneustic Muscular Paralysis. A Clinical Lecture by W. R. Gowers, M. D., F. R. C. P. London: J. and A. Churchill. 1879.

Transactions of the Vermont Medical Society for the Year 1879.

The Fallacies of Popular Clinical Medicine. By Jarvis S. Wright, M. D., Professor of Surgery. New York: G. P. Putnam's Sons. 1880.

Malaria and its Effects. By J. W. Younge, M. D., Fort Wayne, Ind. 1880.

Sore Throat, its Nature, Varieties, and Treatment, including the Connection between Affections of the Throat and other Diseases. By Professor James, M. D., Physician to the Hospital for Diseases of the Throat and Chest. Fourth Edition, illustrated with Hand-Colored Plates. Philadelphia: Lindsay and Blackiston. 1880. (From A. Williams & Co.)

On the Internal Use of Water for the Sick, and on Thirst. A Clinical Lecture by J. Forsyth Meigs, M. D. Philadelphia: Lindsay and Blackiston.

Cancer of the Uterus. Its Pathology, Diagnosis, and Treatment. By W. Harrison Cripps, F. R. C. S. London: J. and A. Churchill. 1880.

Proceedings of the Louisiana State Medical Association. New Orleans. 1879.

Supplement. National Board of Health Bulletin.

State Medicine and State Medical Societies. By Stanford E. Chaille, New Orleans, La. (Reprint.) Philadelphia. 1879.

Posture in the Treatment of Intestinal Colic and Ileus. By Frank H. Hamilton, M. D.

The Eighty-Third Annual Report of the Boston Dispensary. 1880.

Catalogue of the Medical, Dental, and Scientific Books published by Lindsay and Blackiston, Philadelphia. 1880.

List of Members of the American Academy of Medicine, January, 1880.

Fourteenth Report of the Board of Trustees of the Connecticut Hospital for the Insane. 1880.

Second Annual Report of the State Board of Health of the State of Connecticut, for the Fiscal Year ending November 31, 1879, with the Registration Report, 1878, relating to Births, Deaths, Marriages, and Divorces. Hartford, 1880.

Forty-fourth Report of the Board of Trustees of the Connecticut Hospital for the Insane for the State of Connecticut, with Superintendent's and Treasurer's Reports. Middletown. 1880.

A Protest against Meddlesome Midwifery. By H. Gibbons, Sr., M. D. Read before the San Francisco County Medical Society.

Original Articles.

FIBROID PHTHISIS.¹

BY FREDERICK C. SHATTUCK, M. D.

The term phthisis, like the term Bright's disease, represents a group of pathological conditions, not, like the term typhoid fever, a single and invariable pathological condition differing in different cases only in degree and more or less accidental complications. This group consists, according to modern pathology, of three members, tubercle, pneumonic infiltration or exudation, and interstitial growth, the fibroid substitution of Bastian. It is true that in the majority of cases of phthisis we find two or all three of the members of the group coexistent and intimately associated with each other; but we do, on the other hand, meet with cases in which some one of the members is alone, or almost alone, represented, as in acute miliary tuberculosis, acute inflammatory phthisis, and cirrhosis of the lung or fibroid phthisis. It is with the latter that we are concerned to-day.

I would define it as a chronic disease of the lungs, the vesicular structure of which in the affected part or parts is destroyed and replaced by connective tissue growth, generally unilateral and associated with bronchial dilatation, running its course without notable fever or emaciation, but, in the long run, directly or indirectly fatal.

When the greater part or the whole of one lung is involved, great distortion of the thorax and dislocation of the heart and neighboring organs may result from the diminution in volume of the diseased, and compensatory hypertrophy of the sound lung. The affection may be confined to one lobe, as in a case I saw some years since. The patient was a laboring man, who had been apparently healthy, but succumbed on the third day to an acute pneumonia of the right lung. At the autopsy the lower lobe of the left lung was found to be converted into a dense mass of fibrous tissue traversed by dilated bronchial tubes. Pleuritic adhesions are nearly always present, sometimes lax and slight, sometimes very thick and tough, even fibro-cartilaginous in appearance. In only one of thirty cases tabulated by Bastian was any fluid found in the pleural cavity. The tissue of the lung is very firm and resistant, and may even creak under the knife, and varies greatly in appearance, chiefly according to the degree of bronchial dilatation and the amount and character of the pigmentation, which latter is derived either from the blood or from the inhalation of particles of foreign substances, such as coal or iron dust and the like. The bronchial dilations, not invariably present, may equal or even surpass a hen's egg in size, and are uniform, fusiform, saccular, or globular in shape. The contents may be purulent, muco-purulent, somewhat inspissated, or thin and excessively offensive, entirely independent of gangrene. Any patches of relatively normal lung which may remain near the indurated tissue are apt to be markedly emphysematous, as is often also, to a less degree, the sound lung. This is, partly at all events, the result of the frequent and long-standing cough. The most important and frequent change about the heart is hypertrophy and dilatation of the right cavities from mechanical obstruction to the pulmonary circulation. In the last stages of the disease this is

liable to be followed by general dropsy. Bands of white glistening fibrous tissue are sometimes seen passing through the lung, but a mottled gray and black coloration is more common, leading Addison to compare the appearance to that of Aberdeen granite, and Rindfleisch to employ the term "slaty" or "schistous" induration. Miners' lung may be uniformly black, as well as the fluid which is squeezed out from the cut surface.

I will not detain you long with a discussion of the pathology of the affection, in regard to which there has been so much controversy, and is to-day such wide difference of opinion. A striking illustration of this diversity is afforded in Reynolds's System of Medicine. Dr. Wilson Fox contributes an article on chronic pneumonia, and, with an interval of a few pages, Dr. Bastian succeeds him, and treats of precisely the same condition, equally at length, under the heading of Cirrhosis of the Lung, the term given by Sir Dominic Corrigan more than forty years ago. Fox denies, Bastian affirms, its existence as an independent disease. The former says that "nearly all the cases of pulmonary induration which have fallen under my observation have been connected with previous chronic pneumonia associated with the presence of tubercles;" the latter that, though chronic lobular pneumonia, tubercle, and the miliary process are frequently combined, there is no necessary connection between them, and each may and does exist by itself as an independent affection. According to Jaccoud the process is primary only in hard drinkers. The mode of production of bronchiectasis has also been a much-disputed point since it was first described. As connected with fibroid phthisis the two chief factors in the production are probably increased pressure within the tubes during attacks of cough, and diminution in the size of the lung beyond the limit provided for by contraction of the chest wall and displacement of organs. The etiology is pretty clear except as to the question whether the condition is ever primary, and there is no doubt that it is very often secondary to bronchitis, pleurisy, croupous and catarrhal pneumonia.

The symptoms vary greatly in character and prominence with the area of pulmonary tissue involved, the absence or presence of bronchiectasis, and the stage of development reached by the affection. When it is limited to one lobe, symptoms may be nearly or quite wanting, but when it is extensive, cough, expectoration, and dyspnea, especially on exertion, are usually well marked. The expectoration may be very profuse, notably after rising in the morning, and has often a faint, sickish, disagreeable smell. Fetid expectoration indicates either gangrene or retention and decomposition of the secretion. If there be marked bronchiectasis we may have the expectoration characteristic of that condition, namely, the discharge at intervals of large quantities of secretion, the patient during the interval being nearly free from cough and expectoration. Hemoptysis is common, and apt to be frequently repeated and moderate in amount, unless it proceed from an eroded vessel in a cavity. Fox mentions a case in which it recurred seventy times in twenty-three years. Fever and emaciation are mostly confined to two classes of cases, — those in which the disease is the direct sequence of a croupous pneumonia which never underwent resolution, and the course of which is relatively short, and those in which tubercle and lobular pneumonia appear and reappear on the scene and

¹ Read before the Essex North District Medical Society at their semi-annual meeting, January 13, 1890.

bring the drama to a close. General dropsy from failure of the right heart has been already alluded to, and albuminuria is not uncommon. Laryngeal symptoms are absent, the appetite is usually good, and diarrhoea, when it occurs, is rather a complication than a true feature of the disease.

The diagnosis is often easy, though it may be attended with great difficulty. Our main reliance must be on the lack of correspondence between the rational signs and history and the physical signs. The latter are those of pulmonary consolidation and excavation, while the general condition of the patient often shows that we are not dealing with the ordinary form of phthisis. I saw at Schrötter's clinic at Vienna a remarkably plump and blooming young girl with flatness on percussion, bronchial voice and breath sounds and gurgling râles all over the base of one lung, and was assured by Schrötter that to his knowledge the girl had been in this condition for a number of years.

In unilateral cases with contraction it is not always easy to exclude chronic pleurisy, though the authorities state that it can usually be done. According to Walshe, curvature of the spine and drop of the shoulder on the affected side do not reach so high a degree in cirrhosis as in chronic pleurisy. Dilated bronchi may be met with in both affections, though they are perhaps more constant in cirrhosis. But the most conclusive evidence is a history of repeated hæmoptysis which points strongly to cirrhosis. A history of tapping excludes, of course, primary cirrhosis, and some value must, it seems to me, be attached to the fact that a patient has never been tapped. The confidence with which we now plunge a fine aspirator needle into almost any part of the body undoubtedly diminishes largely the number of undetected or doubtful pleuritic effusions. The history of the case alone will ordinarily suffice to enable us to exclude malignant disease. In the last stages of the disease, when secondary inflammatory or tubercular changes are present, difficulties in diagnosis may arise, but careful analysis of the history and the sequence of the symptoms will generally enable us to arrive at the true nature of the case.

The prognosis cannot be regarded as favorable, though it is of course much more favorable, as far as duration of life is concerned, than in cases of destruction of an equal amount of lung tissue by the common phthisical process. There are no means within our reach for restoring the vesicular structure, and the tendency of the disease is to progress more or less slowly and invade new territory, even if no more rapid process supervenes, or an intercurrent affection, as is often the case, carries off the patient. Fætor of the expectation, whatever its cause, is an unfavorable symptom, as are also, of course, fever, emaciation, albuminuria, and dropsy.

It follows from the foregoing that treatment must be chiefly hygienic and symptomatic. The patient is to be guarded as far as may be from fresh colds, and a cold, when acquired, is not to be made light of. Fresh air and sunlight, woolen clothing, a generous diet, and the avoidance of severe exertion, which throws extra work on the already overtaxed heart, are of the greatest importance. Sedative cough mixtures may be required to procure sufficient sleep, and fetid expectation may be combated by inhalations of carbolic acid and the like.

These are briefly the salient features of fibroid phthisis, and I will now venture to present a patient who

illustrates very well the part which connective-tissue growth plays in the cure—temporary though it may be—of ordinary phthisis. You have doubtless all of you seen similar cases, but they are not very common, and this particular case is so strongly marked that I think it will not be without interest.

J. A., forty years of age, was sent to me early in September, 1879, by my friend Dr. Bradford. His grandfather died of asthma, and two brothers out of nine have died of quick consumption. He served four years in the navy during the war, contracting typhoid and intermittent fevers. After his discharge, in 1865, was strong and hearty, and worked in a printing-office. In October, 1870, caught cold while house-moving, from exposure, and from this cold he dates his present troubles. Though he had persistent cough did not consult a physician for upwards of a year, at the end of which time he had night-sweats, and was so much run down that he sought advice. Was told by the physician that he had chronic bronchitis. Kept steadily at work, consulting his doctor now and then for the next two years, and was then told that he was in danger of consumption. Spat blood for the first time in 1872, since when has had attacks of hæmoptysis, recurring at intervals every spring except that of 1879. Is positive that he must have spat blood at least eighteen or twenty times, the last time in October, 1879. Between 1875 and 1877 worked off and on. Was laid up once for ten months, once for five, and alternately lost and gained in weight. Since the spring of 1877 has been able to do no work. His weight was at that time at its lowest point,—one hundred and eighteen pounds,—and he began to drink Medford rum, a quart of which a week was given him by a friend. Since then has gradually gained in flesh, and now weighs one hundred and seventy-one pounds, the greatest weight which he ever attained before his sickness began being one hundred and sixty-seven pounds. Between September 4 and December 2, 1879, gained ten pounds. Has had the opinion of many physicians during these years, and has been twice an inmate of the Boston City Hospital. All agreed in the opinion that he was in consumption. Gives a history at one time during his sickness of expectation as from a large cavity. On leaning forward at times large quantities of secretion poured out of his mouth, leaving him comparatively free from cough and expectation, until the cavity again filled and was emptied.

He now complains of dyspœa, greatly aggravated by exertion, and cough with profuse mucopurulent expectoration, especially on rising in the morning. Is greatly troubled by the fact that his acquaintances refuse to believe him a disabled man, and intimate that he is shamming. Sleeps in an easy-chair by preference, though he can lie down if his head and shoulders are well raised. Is not affected by changes of weather or draughts.

There is decided flattening and deficient expansion of both upper fronts, and the integument over the supra-clavicular space is drawn inwards during inspiration. There is also marked dullness on percussion on the upper part of both lungs front and back, especially the right front and left back, with intensification of the voice sounds and very harsh but not bronchial respiration. Over the base of both lungs percussion is not remarkable, and respiration is more or less obscured by abundant coarse, moist, and dry râles.

There is hypertrophy of the right ventricle, as is

shown by accentuation of the pulmonic second sound. There is no marked cyanosis of the lips or face, but the terminal phalanges of the fingers are clubbed to an unusual, those of the toes to a less, degree; slight oedema of the ankles. Urine has a specific gravity of 1017; shows a trace of albumen, and under the microscope hyaline and finely granular and fatty casts.

To recapitulate: A vigorous man of thirty contracts bronchitis from exposure, neglects it at first, and after a period of between two and three years inflammatory phthisis develops and cavities form in his lungs. In the course of time the catarrhal process ceases to advance; active connective-tissue growth gets the upper hand, obliterates the cavities in great measure, and so contracts the volume of the lung that the chest walls fall in over the upper fronts. With the cessation of the inflammatory process the bodily weight comes up, but so large an area of vesicular and capillary structure has been destroyed that the breathing power can respond to only the most moderate calls upon it, circulation is seriously impeded, and secondary changes supervene in the kidneys from passive congestion. The cavities not being completely obliterated, secretion persists, is retained, and tends to permanent bronchitis and the establishment of new foci of lobular pneumonia and interstitial growth.

NOTE. During the second week in February, 1880, the subject of the above history became insane, and, threatening the lives of his family, was sent to the Danvers Asylum February 14th. February 20th he was found dead in his bed, and I was so fortunate as to secure his internal organs, through the courtesy of the medical officers of the institution. The organs were submitted to Dr. E. G. Cutler, who kindly makes the following report, which it will be observed, bears out the diagnosis fully. The dyspnoea was not greatly aggravated during the last weeks of life:—

AUTOPSY

about thirty hours after death. Both lungs were very firmly adherent at the apices, slightly so over portions of the bases. The upper lobes of both lungs were greatly shrunken, especially in the upper halves, and very dense to the touch. On section, the vesicular structure of these portions was seen to be replaced by connective-tissue growth with marked peribronchitis and a number of bronchial dilations, the largest of which was about the size of a hickory-nut. These changes were most marked near the anterior aspect of the right and the posterior aspect of the left apex. There was considerable emphysema of the lower portions of the upper lobes of both lungs, and general chronic bronchitis, but no foci of lobular pneumonia or cheesy nodules. The left lung was also more or less oedematous in portions, and the main branch of the left pulmonary artery contained an extensive embolus, partially broken down and slightly adherent to the wall of the vessel. The right ventricle was markedly dilated and hypertrophied, the tricuspid valve admitting four fingers with ease, and the right auricular appendage contained an old thrombus similar in character to the plug found in the pulmonary artery. The left heart was in every way normal. The kidneys were somewhat cloudy, but there was nothing especially remarkable about any of the other organs or the brain.

— The distinguished Lockart Clarke is dead.

RECENT PROGRESS IN INSANE ASYLUM MANAGEMENT.

BY WALTER CHANNING, M. D.

A GLANCE AT INSANITY AND THE MANAGEMENT OF THE INSANE IN THE UNITED STATES.¹

DR. EARLE, in this paper, read at the Conference of Charities in September, 1879, goes again into the question of the curability of insanity. Pursuing the same line of argument as in previous papers, he first shows the fallacy of statistics collected in insane hospitals during the last fifty years. From 1837 to 1847, some of the most prominent men in the specialty, such as Woodward, Bell, Aul, Brigham, Kirkbride, Stribling, Ray, and McFarland, were in charge of insane hospitals. To the enthusiasm of these men we owe the many excellent results obtained in the treatment of insanity. "Such a body of men, acting at a time in which the enterprise for the insane was in its most plastic and impressionable stage, could not fail to leave upon it the lasting evidences of their ability." The zeal and rivalry among the various superintendents gave rise to false statistics. Dr. Todd, in 1827, got a percentage of recoveries of over ninety-two, but these were founded on the recovery of twenty-one out of twenty-three cases; and Dr. Woodward, in 1836, using the fallacious method of calculating recoveries on discharges, of 84½. During the past forty years the percentage has fallen, and in no series of one thousand cases has even a percentage of sixty-six been obtained.

The time is coming when an immense number of chronic insane must be provided for, and we must have asylums peculiarly adapted for them. The greatest objections to these institutions, namely, *danger of imperfect oversight and inspection*, has been done away with. The Willard Asylum is recommended as a model for such institutions.

REPORTS OF MASSACHUSETTS STATE INSANE HOSPITALS FOR 1879.

Dr. Earle continues his researches into the statistics of insanity in his report of the Northampton Hospital for the year 1879, under the heading of Studies Relative to the Curability of Insanity. In this he refers to a table copied from the report of the Worcester Lunatic Hospital for 1843, and republished in connection with a memorial by Miss Dix, for the purpose of showing the remarkable advantage, pecuniarily, of the treatment of insanity in its early stages. This table presents two columns, or series of cases, twenty-five in each. Those of the first column were chronic and incurable; those in the second were recent, and had been discharged from the hospital in the course of the year, recovered. It occurred to Dr. Earle that it would be interesting to follow the subsequent history of the twenty-five recent cases which recovered. In summing up the results which he obtained, he finds that only seven of them did not have a second attack, and eighteen had more than one attack. As so many are still living it is impossible to state the result in regard to the number dying insane, but already seven have died insane. In this connection Dr. Earle gives the well-known formula of Dr. Thurman, "that of ten persons attacked by insanity five recover and five die, sooner or later, during the attack. Of the five who recover not more than two remain well during the rest

¹ By Fliny Earle, M. D.

of their lives; the other three sustain subsequent attacks, during which at least two of them die."¹

In the report of the Worcester Hospital it is stated that a series of tables has been compiled from the records of the hospital containing the results in all cases since the opening of the hospital, about 11,000 in all. The superintendent states that the most important inference to be drawn from these tables is that the record of recoveries for any one year is very largely fallacious, in so far as it conveys the idea of a permanent return of patients to their homes. The old tables, giving seventy, eighty, and ninety per cent. of recoveries, are almost entirely unreliable.

The trustees of the Danvers Hospital have appointed a female assistant physician, and express satisfaction with the appointment. (There are, I believe, at present three assistant female physicians in asylums.) During the year a pathologist was appointed to the hospital. He has made six autopsies. In only two cases were there any lesions of the brain. These consisted of necrosis of brain tissue in one case, and inflammation of the membranes and the surface of the brain and atrophy of the convolutions in the other. Whether microscopic examinations were made is not stated.

FIRST ANNUAL REPORT OF THE STATE BOARD OF HEALTH, LUNACY, AND CHARITY IN MASSACHUSETTS. 1878.

The first report of this board is necessarily brief, covering but a few months, but it presents some statistics in that portion devoted to lunacy which are of interest here. The total number of insane people in Massachusetts at the present time cannot be much under five thousand. October 1, 1878, there were 2830 insane persons in the various insane hospitals and asylums in the State. During the year 1297 admissions (representing 1000 persons) to these establishments took place. There were 282 patients discharged recovered, and 253 died; at the end of the year 3017 remained. Taking these numbers together with the number of insane persons in almshouses and prisons, and it will be seen that there were 3335 October 1, 1878, and 3562 October 1, 1879, in all public and private institutions. The actual increase in the number of insane persons supported at public expense would appear to be 227 for the year. This makes an addition of twenty persons to the insane population monthly. Increased accommodations must be provided for at least two hundred persons yearly. The conclusion is arrived at (based on figures) "that the great majority of those discharged from our hospitals, otherwise than by death, go forth insane." Of 5200 actual discharges for five years, not more than 1150 can have been permanent recoveries. Among the 559 patients at Taunton, the superintendent estimated only 83, or about one in seven, as possibly curable. At the Worcester Hospital, with 860 patients in both departments, less than forty were regarded as curable, or about one in twenty-one. At the Danvers Hospital, with 533 patients, but few more than fifty, or one in ten, could be classed as probably curable. Some uniform basis for insane hospital statistics may soon be adopted, and

insanity in Massachusetts will then be better understood. Investigations are going forward which, when completed, will help to settle the vexed question of: (1) whether insanity is more frequent than formerly; (2) whether insanity is curable to the same extent as other diseases; (3) whether insanity can become well enough understood by the medical profession and public as to be practically preventable in any number of cases.

THE SEPARATE CARE AND SPECIAL MEDICAL TREATMENT OF ACUTE AND CURABLE CASES OF INSANITY IN ASYLUMS.²

Dr. Burman begins his paper by referring to the fact that public attention is chiefly occupied with efforts to provide better and more cheaply for the incurable, or vast majority, while the interests of the curable, or minority, are almost lost sight of. The care of the curable cases is more especially the work of the asylum physician. Dr. Burman quotes Dr. Thurman M. Leiznt, Baron Mundy, Dr. Lockhart Robertson, Griesinger, and Lord Shaftesbury as in favor of separation. He states that the number of curable cases remaining at the end of each year at the Wilts Asylum, while he was superintendent, was only seven per cent., which was a most liberal estimate. This very smallness of number he regards as an argument in favor of separation. While the chronic or incurable can be cared for in the main building, the curable cases should have a separate, detached hospital. The duration of the curable stage is very short, three quarters of the recoveries at the Wilts Asylum from 1869 to 1879 having taken place in nine months. Such being the case every nerve should be strained and every known appliance used to take advantage of this short period. "The question is whether this can be satisfactorily done while the curable cases are mixed up with others and scattered all over the large main building, or whether we might not more advantageously move them together in a small, detached hospital, to be the objects of special care and solicitude, observation and treatment. In such small hospitals the general superintendence of hospital details would be subordinated to the medical treatment of the patients." "It is too often the case at present that medical officers have to hurry away from important medical duties to complete their general task of daily routine." Dr. Clonston, in another place, is quoted as saying, "It is the patient's turn for an innings now. We have heard of nothing in asylums for twenty years but bricks and mortar, ornamentation and recreation; it is surely time to fall back upon our almost forgotten employment of doctors."

In the special small hospitals, among other external remedies the following should be used: (1.) Baths of all kinds, and the water treatment generally, including Turkish and Roman baths, medicated baths, the cold douche, wet packing, the ice bag, etc. (2.) Electricity. (3.) Light and darkness, and the colored light, as recommended by Ponza. (4.) Gymnastic exercises. (5.) Counter-irritation in its various forms. Internally, such remedies as nitrous oxide gas and nitrite of amyl should be employed, and subcutaneous injection should be more practiced. "Conia needs only a fair trial in subcutaneous injection to be of great and decided benefit in acute mania." Hyoscyamine is worthy a wider

¹ Backnill and Tuke state, in the last edition of their work, that "it would be strictly correct to say of eleven persons attacked by insanity six recover and five die, sooner or later, during the attack. Of the six who recover, not more than two remain well during the rest of their lives; the other four sustain subsequent attacks during which at least three of them die."

² By J. Wilkie Burman, M. D., Journal of Mental Science, October, 1879, and January, 1880.

trial. Considering the functional nature of disorders comprised within the term insanity, and that in most cases functional disorder must at any rate precede organic lesion, it is to be regretted that more use is not made of atropia, ergot, calabar bean, etc., and less of morphia, bromide, and chloral. With these remedies we could better strike at the root of disease. Compressed and rarefied air might be of value in certain cases. The latter, as stated by Parkes, causes "quickened pulse and respiration, increased evaporation from the skin and lungs, and on the whole a marked improvement in digestion and in nervous and muscular vigor." Either might be applied, as in the establishments at Lyons and Reichenhall, by placing the patients for a certain time each day in an iron chamber with thick plate-glass windows, and compressing or exhausting the air.

THIRTY-THIRD ANNUAL REPORT OF THE COMMISSIONERS IN LUNACY IN ENGLAND, 1879.¹

The number of registered insane persons in England January 1, 1879, was 69,885. The proportion of insane persons to the population was, in 1859, 1 in every 553; in 1869, 1 in every 418; and in 1879, 1 in every 360. This increase is largely confined to pauper patients, but the opportunities for the concealment of cases is so much better in the upper classes that the relative number registered is much smaller. While insanity, congenital and acquired, is somewhat more frequent among males than females, the rate of recovery is higher among females than males, but the mortality is so much greater among the latter than the former that the females largely preponderate over the males in the total number under care. The commissioners speak strongly in favor of the continuance of private asylums and licensed houses.

TWENTY-FIRST ANNUAL REPORT OF THE SCOTCH COMMISSIONERS IN LUNACY, 1879.¹

The number of registered lunatics in Scotland January 1, 1879, was 9386, showing a net increase of sixty-one per cent. since 1858. The increase of population during this time has been only nineteen per cent. Investigations have been made to determine the topographical distribution of insanity, which show that it exists to a much larger extent among the urban than among the rural population. The commissioners refer to the unlocked doors and the absence of fences at some Scotch asylums. It would seem that an unusual amount of supervision would be necessary, together with a larger number of attendants and accidents; but the cost is only five and one half pence larger a head per week, and the number of accidents is no greater than in English asylums.

INSANE HOSPITALS OF EUROPE.

In the Proceedings of the Sixth Annual Conference of Charities, Rev. F. H. Wines gives an interesting and intelligent account of a visit he made to sixteen English and Continental asylums. The classification of patients in foreign asylums because of social distinctions is entirely different from that with us; private and pauper patients cannot be mixed together. The influence of climate upon architecture and manners is very marked. In the south of England the thermometer ranges from 28° to 85° F., while in Illinois

its range is doubtless: It is therefore evident that arrangements for heating which answer admirably in England or France, and out-of-door life, must be more restricted. This difference in climate is also an answer to what Dr. Bucknill supposed to be the overheated condition of our hospital wards. English superintendents occupy the same position toward the camisolé that American superintendents occupy toward the shower-bath. They admit its value in certain cases, but banish it on account of its liability to abuse. Physical exercise largely takes the place of restraint. "What would you do," Mr. Wines asked of an English superintendent, "with that man in a paroxysm of excitement?" "Do?" he replied. "Put him in charge of two attendants, with instructions to walk him five or six miles and back; and if, on his return, he should prove to be still in an agitated state detail two other attendants in their place to repeat the dose." The shower-bath is extensively used in French institutions. A complete bathing establishment is almost indispensable in a well-managed asylum. The visitor "is shown a long row of copper bathing-tubs of the usual pattern, except that they have copper covers, which are locked, with an opening just large enough to show the head." Sometimes a patient is kept soaking in there five or six hours. A physician watches the patients to see that the pulse does not sink too low. There are *donche* baths; needle-baths, so that the patient can be drenched with spray or showered; hip-baths, and iron cages where the patients can be penned in and fired at from the nozzle of a hose-pipe in the hands of an attendant. No practicable form of torture has been omitted.

The lower floors of French asylums are occupied by day, the upper by night. On the ground floor are the dining-room, with little tables arranged as in a Parisian café or restaurant, smoking and billiard rooms, and sometimes a music-room. In good weather, patients dine out-of-doors, and the gardens, to which patients repair at will, are made attractive with little summer-houses, lighted at night with gas. Dormitories are the rule in both English and French asylums, which is the reverse of our American custom. Many of the upper windows have no guards in the French asylums, and open fires are quite general and unprotected in English asylums.

The "open-door" system Mr. Wines saw in operation in Scotland, at Cupar-Fife and Lenzie. At Cupar he walked through the front gate of the asylum directly into the wards. At Lenzie there are five hundred patients, but not one locked ward. The officers carry no keys; there are no window guards, yet there are no more accidents than under a stricter rule.

At Cheadle (England) an interesting experiment is in progress. The asylum farm contains one hundred and forty acres, and the number of patients is two hundred. Sixty of these patients live in cottages. Three of the cottages are in the grounds; the rest are private residences, scattered through the neighborhood, some at a distance of several miles; one is at the seaside, for recreation. The superintendent or assistant physicians visit the cottages daily, on horseback or by carriage.

ISOLATION OF PERSONS IN HOSPITALS FOR THE INSANE.

Dr. Isaac Ray read a paper on this subject before the Philadelphia Social Science Association, last October. The idea now prevails that legislatures should

¹ Jour. Ment. Science.

² Jour. Ment. Science.

prescribe the forms of commitment which should be gone through in sending persons to insane asylums, but the question is so biased by the influence of passion, prejudice, and temperament that it can be settled only with great difficulty. Persons are confined to their homes, deprived of their liberty, and even subjected to personal restraint, if suffering from insanity, outside of a hospital. Why should they not be sent to institutions for treatment, without interference from society? The law of Pennsylvania declares that insane persons may be placed in insane hospitals by their legal guardians, provided such a proceeding is sanctioned by the certificates of two physicians. It is said that physicians may be dishonest or deceived, and it is not right to give them the sole power of committing to the hospital, and so disposing of a person's liberty; but in "signing a certificate of insanity a physician performs a professional service, in which he is amenable to his own sense of right and wrong and responsible to the laws of his country. Under what stronger obligations and sanctions can one act?" The medical certificate is all-important, but the physicians are so poorly protected that some of them in Philadelphia, to avoid a law-suit, will sign no certificates. At a time when a whole family is bowed down with grief, and the patient himself in a highly irritable condition, all unnecessary complications should be avoided, for they will only make the grief of the family greater, and develop suspicions, and perhaps delusions, in the mind of the patient. On the whole, therefore, medical certificates are, in Dr. Ray's opinion, the only safeguards needed in committing persons to insane hospitals.

Hospital Practice and Clinical Memoranda.

A REMARKABLE CASE OF CARCINOMA.

BY C. H. BROCKWAY, M. D., LYNN, MASS.

ON the 8th of December last I was called to see Mrs. A. G., a lady not quite thirty years of age. She was sitting up, and complained of pain "all over," as she expressed it. She would not admit that it was more severe in one region than another, only that it did not exist above the shoulders or below the hips. After some cross-examination I concluded that she really suffered most in the hypogastrium, across the abdomen, in the right hypochondrium, and at a point just below the inferior angle of the right scapula. I could find no tenderness on pressure except over the right ovary. By passing a finger into the vagina, the uterus was found to be immovable and slightly retroverted; anterior and a little to the right of it was felt a small, easily defined mass of moderate firmness, evidently the result of cellulitis. I pressed upon the tumor and in other directions, but she said it gave her no pain. She was exceedingly nervous, and slept but little. She could lie only on her right side, saying that it took away her breath when she lay on her left. There was no cause for this peculiarity that I could discover. Her pain came on suddenly three weeks previously, and had steadily increased in severity; she was tolerably free from it in the forenoon, but every afternoon about four o'clock it became so severe that she had been obliged for some days past to take morphia for its relief. She described it as gnawing, grinding pain, never sharp and lancinating. Her pulse was

88, and of fair strength; temperature five r. m. 99.5° F.; heart sounds normal; appetite poor, but she took animal broths, bread, fruit, and milk with lime-water without distress; bowels constipated; liver somewhat enlarged from above downward; no symptoms referable to the kidneys or bladder. Inquiring into her past history, I learned that she had considered herself in fair health since her childhood, only that at intervals of a month or more during the past three or four years she had suffered from gastralgia. Last October I saw her in one of these attacks; there was neither vomiting nor purging, only pain in the region of the stomach and liver, with anorexia. This lasted two or three days. I made but one visit, and gave her an anodyne, which relieved her. Two and a half years ago she married, and has since had two miscarriages, each between the third and fourth months; the second one occurred last July. She suffered little at either time; did not remain in bed except on the first day, but went about her household duties, which were quite onerous, she being step-mother to three children. Her menstruation has been regular and nearly painless, with but moderate flow. I learned that her mother died of some obscure disease of the liver.

Mrs. G. said that six years ago she was quite plump in appearance, but during the past two years had grown very thin. Her complexion was bad, but not cachectic. I ordered her bowels to be opened by enemata every other day, gave her small doses of iron and strychnia, and allowed her morphia at night.

December 11th. No improvement; ordered a blister, three by three, over the right ovary, and allowed her to be rubbed with an anodyne liniment.

December 18th. Pain continuous throughout the day; she is much depressed, and says she does not expect to recover. She prefers sitting to lying down, and cannot walk about the house without feeling exhausted. She now complains of severe pain over the liver below the ribs, and points out a small spot which is quite tender on pressure; a blister is applied, and quinine added to her other tonics.

December 22d. Weaker; complains of inability to fix her attention, and says she is "dazed" at times; no headache; on pressure over the tender spot in the right hypochondrium a small, poorly defined mass is felt, somewhat hard to the touch; pulse 93; temperature five r. m. 101° F. As her insomnia was distressing, I gave her fifteen grains of chloral at night; it made her wild with excitement, and was not repeated. She took morphia both day and night, but never more than one grain in the twenty-four hours.

December 25th. As no diagnosis had been made, and she was fast losing her strength, I asked Dr. Pinkham in consultation. We met at four p. m. Mrs. G. was sitting up, as usual, and in reply to questions concerning herself she referred us to her sister, saying that her head felt strange, and that she could not readily collect her thoughts. Pulse 100; temperature 102° F. Dr. Pinkham examined her per vaginam, and found a condition existing such as I have previously described, with the addition of tenderness on pressure in various directions. The hardness over the right lobe of the liver was made out, but Dr. Pinkham thought it might be caused by irregular contraction of muscular fibres. Her breath was very disagreeable, and had been for weeks. Her only symptoms at this time were exceedingly weakness and an inability to lie on either side, continuous pain, chiefly over the liver and under the

right scapula, insomnia, and complete anorexia. She could walk about the room, but required help because her head felt dizzy. Dr. Pinkham advised the use of iodides, with tonics and good nourishment; also flying blisters over tender spots.

Ten hours later, at three A. M., December 26th, I was sent for, and arriving quickly at her bedside found her totally unconscious, with complete hemiplegia of the left side; pupils evenly contracted; breathing natural; pulse 120, and hard. On examination per vaginam the roof of the pelvis felt boggy on pressure, as if fluid of some kind had been effused into the pelvis. Externally, a very hard, irregular tumor, the size of a small hen's egg, could be felt in the left ovarian region, and was easily movable. Alcohol and drop doses of Squibb's fluid extract of digitalis were given every half hour until six o'clock, when Dr. Pinkham again met me. No change was made in the treatment except that the digitalis was omitted, as her pulse had fallen to 100, and was weaker.

During the day small quantities of alcohol and beef tea were given at short intervals. She would swallow slowly if carefully fed with a teaspoon. The patient would toss the right arm about, and flex and extend the right thigh and leg incessantly. She lay in this condition for five days, the faces and urine passing involuntarily. On the sixth day she began to breathe stertorously, her pulse grew weak, and she quietly expired at one A. M., December 31st, never having regained consciousness.

Sectio cadaveris thirty-six hours after death. Drs. Pinkham and Colman present. The body was emaciated. *Thorax.* The lungs exhibited a number of isolated masses when viewed externally, each mass about the size of a small pea; they were raised above the surface, and felt firm and hard; large numbers of them were found on the posterior aspect of each lung, and still more were seen just under the parietal pleura. *Abdomen.* The lower part of the cavity contained about a pint of a sanguinolent fluid; peritonæum covering abdominal wall was studded with nodular masses like those in the lungs. The omentum was very thick and irregular in shape from the presence of hard, conglomerate masses of grayish color; it was firmly bound to the surrounding intestines, which were also studded with grayish masses. The liver was enlarged, and nodules were found in numbers on its surface; on cutting into the organ its proper substance was to a great extent infiltrated with a similar matter. The pancreas was partially diseased in like manner. The spleen was considerably enlarged. The proper substance of both ovaries was destroyed, and its place occupied by firm, grayish matter. The ovaries had a shriveled appearance, their surface being covered with alternate elevations and depressions. The uterus was not examined.

For want of time the skull was not opened, but we had every reason to believe that the matter found so extensively infiltrated through the other viscera was present in the brain, and had been the cause of an effusion of serum or of blood which had produced the hemiplegia and was the immediate cause of death.

Microscopic Examination. Dr. Pinkham kindly examined portions of the grayish material found in the ovaries and liver. Under a power of three hundred diameters there was clearly seen a fibrous stroma with alveolar spaces, closely packed with masses of cells of

various forms, round, oval, and spindle-shaped, with large, single, and some with multiple nuclei.

We looked upon this case as remarkable because of the almost total absence of symptoms during life, while the autopsy revealed such extensive infiltration of cancerous matter through many organs. Until the middle of November Mrs. G. felt fairly well, and performed much household work, besides sewing for her family. From that time until a week before her death her only symptoms were wandering pains, increasing in severity at night, and tenderness over small spots in various regions, not unlike what is often observed in neuralgia. Physical examination during the last week of life revealed the evidence of subacute cellulitis which three weeks before I had looked upon as chronic. She had neither cough, nausea, vomiting, diarrhoea, external hemorrhage, tympanites, oedema, nor even fever, until within the last few days. She had not the cachectic look so often seen in cancerous patients, nor was any real tumor discoverable until she was stricken with death, when an effusion into the pelvic cavity buoyed up the hardened left ovary so that it could be felt through the abdominal wall.

Scirrhus cancer is acknowledged by all observers to be very rare before middle life, yet the patient whose case I have recorded had not quite reached the age of thirty.

A CASE OF TYPHOID FEVER DURING PREGNANCY.

BY VIRGIL O. HARDON, M. D.

K. F., aged thirty-four, became pregnant for the fourth time in January, 1878. Her pregnancy progressed favorably until about the first of August, when she began to suffer from malaise, loss of appetite, headache, and chills. Her symptoms increased in severity until August 9th, when she sought medical aid. When first seen by me she was in bed; her face was flushed; her tongue dry and covered with a thick brown coat; abdomen tender, with gurgling in the right iliac region; pulse, 120; temperature, 102.4° F. Examination of the abdomen showed the presence of "rose spots." I made a diagnosis of typhoid fever, prescribed a mixture of equal parts of liq. ammon. acetat. and aq. camphor, and ordered milk and brandy to be given as freely as possible. August 10th. Six P. M. Pulse, 126; temperature, 103.2° F. August 11th. Six P. M. Pulse, 136; temperature, 103.8° F. August 12th. Eight A. M. Pulse, 122; temperature, 102.8° F. Active delirium during the night. Ordered quin. sulph. gr. iv. every three hours. Six P. M. Pulse, 144; temperature, 104.4° F. Upon inquiry I found that my orders in regard to milk and brandy had been strictly carried out. The patient had taken, of her own accord, six quarts of the former and about eight fluid ounces of the latter in each twenty-four hours. As there was no vomiting, no diarrhoea, and no appearance of undigested milk in the feces, the same quantities were allowed to be continued. Up to this time there were no symptoms referable to the uterus.

August 13th. At two A. M. labor pains commenced, and three hours later patient was delivered of a male foetus, which made a few ineffectual attempts at respiration. No hemorrhage of any consequence followed, and the womb contracted immediately. The strength of the patient was not perceptibly diminished. At eight A. M.

the temperature had fallen to 98° F., and in the evening rose to 100.2° F. No delirium.

From this time onward the fever pursued a course of moderate severity, the temperature at no time rising above 101° F. The same large quantities of milk, brandy, and quinine were taken until two weeks later, when convalescence was established. The patient made a good recovery.

Typhoid fever during pregnancy is rare. In regard to the influence of this complication upon the course of the disease authorities differ. Out of fourteen hundred and twenty cases of typhoid fever seen by Liebermeister¹ in the hospital at Basle, only eighteen occurred in pregnant women. Of these eighteen, fifteen aborted and six died. Griesinger² met with five cases, of which three proved fatal. Niemeyer³ says, "Pregnancy gives almost absolute immunity from the disease." Playfair⁴ reports twenty-two cases, of which sixteen aborted. He does not give the mortality. Schroeder⁵ says that the immunity is not so great as was formerly supposed, and that on the whole the disease does not take a more unfavorable course in pregnant woman than in other individuals. Cazeaux⁶ gives the result of his experience in the following words: "La fièvre typhoïde a rarement été observée pendant la grossesse, et ne paraît pas recevoir de cette coïncidence une influence fâcheuse." I have myself seen a case, in addition to the one above reported, in which the fever occurred in the third month of a first pregnancy. Abortion followed, and the woman died.

A remarkable fall of temperature immediately following abortion was observed by Liebermeister⁷ in all his cases, and was attributed by him to loss of blood. He found that the temperature always rose again within twenty-four hours to a point as high as before the abortion. In the case reported above, the temperature fell to about the normal point immediately after abortion occurred, but did not rise at any time afterwards to within three degrees of the point at which it stood on the evening previous. I attribute this circumstance to the fact that large doses of quinine were given on the day before the abortion, and continued throughout the remainder of the fever. The value of quinine as an antipyretic is now well established. I cannot, however, agree with Liebermeister as to the best method of administering the drug. He says,⁸ "This dose [twenty-two to forty-five grains] must positively be taken within the space of half an hour, or, at the most, an hour. It is useless to expect the full benefit of this dose to appear, if the dose is divided and its administration extended over a longer time." I have obtained more satisfactory results by giving four grains every three hours throughout the day and night than by giving a single large dose once a day. I have never been able to detect any signs of cinchonism during typhoid fever, although I have frequently given thirty-two grains per day for more than two weeks. In view of the oxytocic effect ascribed to quinine, it is interesting in this case to note the promptness with which abortion followed the administration of this remedy. The

fact that the fœtus was born alive has an important bearing upon this point, since, according to Schroeder,⁹ abortion during typhoid fever is due to the death of the fœtus, within the uterus, from excessive accumulation of heat.

Another point of interest in connection with this case is the amount of milk and brandy taken by the patient throughout the whole of her sickness, which was certainly large enough to satisfy the most ardent advocate of "supporting treatment." The milk taken was wholly digested, no part of it being vomited or appearing in the feces. The brandy produced no intoxication, although the patient was unaccustomed to the use of alcoholic stimulants. In my opinion, this portion of the treatment contributed in no small degree to the successful issue of the case.

PROVIDENCE, February 11, 1880.

A PIECE OF METAL TWENTY-THREE YEARS IN THE EYE WITHOUT CAUSING SYMPATHETIC OPHTHALMIA.

BY JULIAN J. CHISOLM, M. D., BALTIMORE, MD.

I. N. M., aged thirty-nine, applied to the Presbyterial Eye and Ear Charity Hospital of Baltimore for treatment. He had lost the right eye from injury twenty-three years before. A gun-cap, exploding, struck him in the eye, cutting the cornea, and causing irido-cyclitis, through which inflammation the eyesight was lost. He was then a lad sixteen years of age. When the destructive inflammation quieted down the conjunctiva lost its redness, the cornea keeping its transparency, and the eye retaining somewhat its normal appearance. He has been a hard-working man all his life, and yet this injured eye has been in a passive state, giving him no trouble. Only recently has it taken on inflammation and shown degenerative changes. When he presented himself for treatment the eyeball was partially atrophic, somewhat corrugated, the cornea smaller than normal, but clear, and surrounded by a zone of ciliary injection, with some large subconjunctival vessels advancing from the back of the eye to the corneal border. The pupil was altogether closed by old deposit, and upon the iritic surface near the centre was a yellowish-white spot of about two lines in diameter. This reflected light, and induced the belief that it might be a fragment of the copper cap. The eye was painful, very sensitive to the touch, and exhibited all the symptoms for an early enucleation. The left and good eye gave evidences of irritation. Extirpation was performed under chloroform, the anæsthetic in daily use at the hospital.

When the eyeball was cut open the retina was found completely detached as a cord stretching antero-posteriorly through the centre of the eye chamber from the optic-nerve entrance to the ciliary region. A muddy fluid filled the choroidal cavity in which was a diaphanous choroidal membrane nearly deprived of pigmentation. The lens was cretaceous. In examining the iris, especially with reference to the glistening spot upon its anterior face, a fragment of the cap was found imbedded in lymph, and therefore shut out from view. It was the inflammatory deposit which had incarcerated it that had given the yellowish-white reflex which had attracted attention through the cornea. The interest

¹ Ziemssen's Cyclopaedia, Am. Ed., vol. i. p. 143.

² Virchow's Handbuch der spec. Pathologie und Therapie, page 162.

³ Textbook of Practical Medicine, vol. ii. p. 576.

⁴ Science and Practice of Midwifery, page 195.

⁵ Manual of Midwifery, page 114.

⁶ Traité des Accouchements, page 362.

⁷ Op. cit., page 182.

⁸ Op. cit., page 213.

⁹ Loc. cit.

attached to the case was that a piece of metal cutting into the eye with force enough to excite destructive traumatic inflammation could afterwards remain in the lost eye for twenty-three years, during this long period causing no trouble, and then exciting anew a powerful inflammation which threatened sympathetic irritation to the good eye.

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

F. C. SHATTUCK, M. D., SECRETARY.

OCTOBER 6, 1879. DR. BOARDMAN read a paper entitled

SOME OBSERVATIONS ON THE TREATMENT OF UTERINE DISPLACEMENTS.

The paper was reserved for separate publication. He advocated strongly a tolerably extended use of pessaries of a dumb-bell shape composed entirely of cotton-wool, and reported some cases to illustrate the successful application of his method.—DR. BAKER thanked Dr. Boardman for his interesting and valuable paper. One of the cases in particular illustrated very well the great importance of preparing the vagina to receive a pessary. It is far too common to attempt to use a hard instrument from the first; indeed, as Dr. Boardman shows, the cotton pessary will often enable us to dispense entirely with a hard form. The form shown corresponds in some respects with one described some years since in the *New York Medical Journal*, but differs in two important points; that of Dr. Boardman contains no whalebone, and is applied transversely, while the New York form is applied in the axis of the uterus. Even if it proves necessary finally to use a hard pessary, the cotton dumb-bell will often so prepare the way that a decidedly smaller hard instrument will attain the ends which could at first have been attained only by a larger one.

INNOMINATE ANEURISM.

DR. BEACH reported a case of innominate aneurism which had gradually developed in a man of thirty-seven years without known cause. When he entered the hospital the prominent symptoms were aphonia and more or less pain in the vicinity of a pulsating tumor, which had a well-marked thrill, and extended for an inch and a half above the sterno-clavicular articulation. There was a considerable difference in the pulsation of the two radial and temporal arteries, those of the right side having less force and volume. Tufnell's method of treatment was adopted with good effect up to the twenty-eighth day, the pulsation in the radial and carotid arteries of the affected side having in the mean time stopped; the tumor had become firmer, and the thrill was less perceptible. From the twenty-eighth day his respiration became more and more labored; as the tumor grew harder and its expansive pulsation diminished, his dyspnoea grew worse. On the forty-eighth day after the treatment had begun, he coughed, and felt something "give way" in the tumor. From that time he grew worse rapidly, bronchitis developed, dyspnoea increased, and he had occasional attacks of asphyxia, from which he was with difficulty relieved, dying quietly three days after. Upon exami-

ination after death the aneurism was found to involve the innominate artery and sufficient of the arch of the aorta to include the organs of the left subclavian and carotid arteries, the tumor extending from a point one inch and a half above the top of the sternum to the arch of the aorta (four and a half inches); the innominate portion of the aneurism was partly filled with laminated fibrin. This clot had been forced upward against the origins of the subclavian and carotid arteries by the arterial current, and had partially stopped them, thus accounting for the absence of pulsation in those vessels and their branches. The arch of the aorta was dilated to three times its normal size, and there was a hypertrophied left ventricle of the heart. Old clots were found adherent to the mitral and tricuspid valves. The lungs were oedematous; the trachea was flattened at the seat of the tumor, and filled with a frothy, muco-purulent fluid. The right lung was adherent to the chest wall. The pericardium contained half an ounce of turbid serum. The right recurrent laryngeal nerve had been compressed by the tumor.

A NEW ANTISEPTIC.

DR. BEACH showed a specimen of styrene (styryl alcohol or cinnyl alcohol, C_9H_9O or C_9H_7OH). It is obtained by heating styracin or cinnyl cumamate (a compound contained in liquid storax and in balsam of Peru) with caustic alkalies. It crystallizes in soft, silky needles, having a sweet taste and an odor of hyacinths, melting at $33^\circ F.$, and volatilizing without decomposition at a higher temperature. It is moderately soluble in water (about one part to twelve), freely in alcohol and ether.¹ Dr. Beach had tested the efficiency of the antiseptic by applying it (one part to twelve of water) to a foul, ulcerated surface, with the effect of completely deodorizing it. The same surface was dressed with sheet lint saturated with an emulsion of the styrene and olive oil, one part of the former to twelve of the latter, covered with thin gutta percha and the edges of the gutta percha fastened to the skin by collodion. At the end of five days the dressing was removed, and the accumulated secretions were found sweet, and having the odor of the styrene, which is fragrant. This dressing was repeated at different intervals with a like result; the granulating process progressed as well as if it were under a carbolized or thymolized dressing. The pure styrene is slightly irritating to a raw surface, causing a burning sensation, but diluted to one part in six either of oil or water the result is a non-irritating emulsion. In either form it is a perfect deodorizer of a foul wound, and does not interfere with the process of cicatrization. One part in twelve of oil or water is sufficiently strong to be effective. To determine the relative efficiency of carbolic acid, thymol, and styrene, the following test was made: Three ounces of normal urine from the same specimen were placed in each one of four clean glasses. To the first glass was added ten drops of pure carbolic acid, to the second ten drops of pure thymol, to the third ten drops of styrene, and to the fourth nothing. The open mouths of the glasses were filled with borated cotton to protect the urine from dust. On the second day the urine without an antiseptic became decomposed, and was thrown away. The first specimen, containing carbolic acid, was offensive from the smell of decomposing urine on the sixth day, and under the microscope presented bacteria in the monad and rod

¹ Fowne's Chemistry, Philadelphia, 1869, page 554.

forms; it had a strong urinous odor from the first day. The second and third specimens, preserved by stryrene and thymol, were in good condition at the time of making the report, fifty-nine days later, and were free from any urinous or offensive odor. No fungoid forms could be detected under the microscope at that time.

DR. BEACH reported the following cases of

RECOVERY FROM SEVERE INJURIES

at the Massachusetts General Hospital.

CASE I. A man twenty-six years old fell forty feet with several tons of stone and a derrick. Upon examination it was found that he had the following injuries: a compound comminuted fracture of the ulna at the junction of the middle and upper thirds, and an extensive lacerated wound of the soft parts, laying open the elbow-joint; a compound fracture of the tibia in close proximity to the knee-joint, and two scalp wounds. The elbow-joint was completely excised, and the loose upper fragment of the ulna removed. A suppurative synovitis of the knee-joint followed, with severe constitutional symptoms, for which the joint was laid freely open, drainage tubes were inserted, and the whole joint carbolized. The leg was placed upon an excision splint, and attention paid to thorough drainage, carbolizing the wound, and stimulating the patient. His temperature ranged from 90° to 105.5° F., and his pulse from 95 to 145. He left the hospital with a stiff knee-joint, but a serviceable leg. His arm was useful, the false joint permitting free extension, supination, pronation, and rotation, notwithstanding the loss of the insertion of his brachialis anticus. He was able at the time of making the report to work all day in a blacksmith's shop wielding a sledge hammer, and had almost perfect use of his hand and fingers.

CASE II. The second case was that of a man thirty-four years old, who had, one half hour before entering the hospital, sustained the following railroad injury: compound, comminuted fractures of the bones, and laceration of the soft parts of both legs, ankle-joints, and feet. The right thigh was amputated at the junction of the middle and lower thirds by the oval method, and the left limb just below the knee-joint by anterior and posterior flaps. Obstinate vomiting began soon after the operation, and lasted for the greater part of five days. His strength was supported in that time by stimulating and nutritive injections, and very small quantities of champagne and Valentine's beef extract by the stomach. He was discharged, well, six weeks from the day he entered the hospital.

OVARIOTOMY: DEATH FROM INTERNAL HÆMORRHAGE.

DR. A. T. CAROT showed an ovarian cyst removed the week before by Dr. J. H. Homan. The case was favorable for operation, the cyst being unilocular and free from adhesions, and illustrates the danger of catgut ligatures. The patient did well till night, when the nurse noticed that she was weaker, and called the house officer, but the patient died before he could reach her. The abdominal cavity contained a large quantity of blood, and one of the ligatures seemed to be loosened, but no particular vessel could be selected as the source of the bleeding. The operation did not last above forty minutes.

DR. HOSMER reported a case of Supposed Phlebitis of the Lung.¹

¹ Vide JOURNAL, vol. ci., p. 726.

OCTOBER 20, 1879. DR. BOLLES read a paper on

CASES OF COLLES'S FRACTURE,

showing a new splint which he has devised and uses with the best results. He claimed for his method increased comfort for the patient and diminution in the length of time that the splint must be worn, as well as in the degree and persistence of stiffness in the fingers and wrist after the splint is removed. The paper was reserved for future publication. — DR. PORTER inquired whether Dr. Bolles knew the subsequent history of many of his cases. He noticed that in some the splint had been removed on the eighteenth day. The class of people who fill our out-patient rooms are apt to think that they are entirely well as soon as a splint is removed, and begin immediately to use the hand as if nothing had happened. The consequence is that the deformity is apt to return. — DR. BOLLES replied that the splint had been removed as early as the eighteenth day only in cases of separation of the epiphysis. Adults always wear the splint four to five weeks. — DR. PORTER then remarked that he considered even four weeks too short a time. He had seen cases in which the splint was removed thus early, and in which deformity persisted. If the form devised and shown by Dr. Bolles favors more rapid and permanent repair, it will prove a great convenience to surgeons, but it is well to exercise great caution, in view of a suit for malpractice. — DR. BOLLES said that he hoped he had not conveyed the impression that he is in the habit of removing the splint by the calendar, — he always waits for firm union. He had seen many of his cases subsequently, — one after an interval of six months, — and there was no return of the deformity. — DR. PORTER spoke of a case which had convinced him that there is movement in the callus. A boy of twelve years was referred to him by Dr. Ellis, with marked deformity after a Colles's fracture of six weeks' standing. Very strong pressure was applied and the arm put in proper position, with the result that after six more weeks it could not be distinguished from its fellow. — DR. BOLLES did not think that the union could have been bony, or it would not have given way. — DR. INGALLS expressed his satisfaction with the paper, and asked the reader whether he had met with marked and persistent inability to move the fingers and impairment of motion at the wrist. — DR. BOLLES said that he could not recall any case of the kind after a considerable time had elapsed. He remembered one case in which motion was not very good after six weeks. — DR. INGALLS said that this question was prompted by the recollection of a case in which Dr. Bolles's splint was applied by his assistant, and which has since proved very troublesome. The splint was left in place for eight or nine weeks, and although no deformity remained, stiffness of the fingers is still very marked. The patient is of lax fibre, and may perhaps have done no better after any injury or appliance. — DR. T. B. CURTIS alluded to the so-called displacement or subluxation of the lower end of the ulna, so often reported in cases of Colles's fracture, and occasionally even said to exist without any displacement of the radial fragment. He asked the reader if he did not think that any apparent displacement of the lower end of the ulna should always be considered significant in reality of a displacement of the lower end of the radius, carrying with it the carpus and hand. The ulna being the only bone which remains in its place, the alterations of its rela-

tions must be due solely to a displacement of the other bones. He also inquired of the reader to what extent and for how long he is in the habit of confining the fingers. He had often observed that the stiffness of the hand and fingers following an otherwise successful treatment gave more trouble than the fracture itself. — DR. BOLLES replied that the fingers were immobilized in but very few of his cases. He considers it better to leave the fingers free, provided that the carpus is confined, and to this freedom of the fingers he attributes the early use of them noted in his cases. He agreed with Dr. Curtis in the opinion that patients often suffer more from the consequent stiffness than from the fracture, and thinks that a fortnight is saved by leaving them free. With Dr. Curtis's remarks as to subluxation of the ulna he also agreed entirely. — With regard to the relationship supposed to exist between the degree of displacement and the amount and duration of subsequent disability, DR. CURTIS stated that fractures into the wrist-joint are probably not infrequent and must entail more serious consequences than attend ordinary fractures, even with considerable tilting of the fragments. He then alluded to Dr. Bigelow's case of stellate comminuted fracture of the lower end of the radius.¹ The *Bulletins of the Anatomical Society of Paris* recently contained the report of the post-mortem examination of a case of double Colles's fracture, in which both of the radial fragments were split into several pieces. In one wrist the tip of the styloid process was torn off; in both the triangular ligament was more or less detached from the ulna.² With such injuries a considerable degree of arthritis would be likely to occur. — DR. BOLLES called attention to the fact that in his list of cases those past middle life did as well as younger people. As a rule the degree of deformity and subsequent stiffness in his experience correspond pretty closely. — DR. J. C. WARREN remarked that great stress should be laid on the importance of thoroughly reducing the deformity, to do which more force is required than is generally supposed. The small size of one of the fragments and the fact that the fracture is apt to be impacted add to the difficulty. It is the lateral deformity which is liable to persist, the antero-posterior being corrected by the splints. With regard to the case mentioned by Dr. Ingalls, Dr. Warren thinks that surgeons meet with such disagreeable cases from time to time. The confinement of the fingers certainly contributes to subsequent stiffness, but he noticed formerly, when surgeon to outpatients at the Massachusetts Hospital, that protracted convalescence usually goes with feeble intellect. Intelligent people know, or find out soon, how to use the hand, and how not to do so. He remembered a case in which the stiffness lasted for nearly a year. — DR. DWIGHT stated that he has had large experience with the reader's splint, and has found it excellent. — DR. LANGMAD asked on what principle the splint was devised. — DR. BOLLES replied that when a dresser at the City Hospital he had noticed the difficulty in so padding a splint that it would fit and allow itself to be applied to the whole arm, and soon after Dr. Fifield brought back from Europe a splint with a wooden pad devised by Mr. Gordon, from which he took his idea.

CARIES WITH PERFORATION OF THE PATELLA.

DR. BRADFORD showed a patella removed from a

child brought to the Children's Hospital with what was supposed to be knee-joint disease. After consultation with Drs. Ingalls and Langmaid, aspiration was practiced but without much result. Subsequently the dermis which was seated over the patella was probed and found to lead directly through the patella into the joint — purulent synovitis. The joint was laid open, and the child died of shock twelve hours later. On examination, after death, caries of the centre of the patella was found, and the synovial membrane of the joint was thickened and covered with granulations. The femur, tibia, fibula, and cartilages of the joint were healthy.

CEPHALHEMATOMA.

DR. SABINE showed the specimen removed from a child seven weeks of age. About a week before death the child refused food, had slight diarrhoea, and vomited somewhat. At the autopsy no sufficient cause for death was found, and no symptoms pointing to the head had made their appearance during life. — DR. C. P. PUTNAM remarked that the specimen was very interesting. Cephalhematoma is always recovered from, and anatomical specimens are consequently rare.

NOVEMBER 3, 1879. DR. BRADFORD read a paper on Cases of Tracheotomy, an abstract of which, with the discussion which ensued, will appear in the first number of the *Journal of Laryngology*, shortly to be published.

PROCEEDINGS OF THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

MALARIAL PUERPERAL FEVER.

At the last meeting of the New York County Medical Society, January 26th, DR. FORDYCE BARKER read an important paper on the above subject, which was listened to by a large audience. This title, he said, in commencing, was one that had not as yet been adopted by the scientific world in the nomenclature of diseases, but at the present day it was almost impossible for those who were at all largely engaged in obstetric practice to get along without resorting to some such term. For several years now he had himself been in the habit of employing it, and he believed that it was beginning to come into pretty general use among the profession in the city of New York. Moreover, the affection thus designated was of such importance that it was worthy of very careful study on the part of all who are interested in the practice of midwifery, and he felt assured that he could not occupy the time of the society in a more profitable manner than by inviting their attention to some consideration of the subject.

The occurrence of chills, high temperature, rapid pulse, and great depression of the vital forces in a puerperal patient, he continued, must always cause anxiety in the medical attendant, and especially if these symptoms, real or simulated, were accompanied by phlegmasia of the pelvic organs, or followed by mania or other serious phenomena; and it at once became a very important matter to decide whether the attack were due to septicaemia or to the telluric and miasmatic influences which we describe as malarial. He did not mention puerperal peritonitis as among the affections simulated by, and likely to be confounded with, malarial puerperal fever, for the reason that it had never happened to him to meet with the

¹ JOURNAL, vol. lviii. p. 99.

² Bull. de la Soc. anat., May, 1877, page 382.

characteristic symptoms of either the sthenic or septicæmic form of peritonitis in a case of the latter affection. He had notes of seventeen cases of the disease in New York and its suburbs; only three of which, however, had occurred in his own practice, — the other fourteen having been met with in consultation with other practitioners. The limits of the present paper did not permit him to give the full details of these cases, which were in his possession; and he proposed only to make some statement of their aggregate results, and the conclusions at which he had arrived from their study.

As to the time of infection, the disorder could be developed at any period following parturition until all the physiological changes resulting from the latter had been completed. The earliest case that had come under his observation was one that he had seen in consultation with Dr. Howard Pinckney, and in this instance the attack commenced only twenty-four hours after delivery. After doing perfectly well up to this period, the patient was seized with a violent chill and acute pain in the left groin, extending down the thigh. Then followed high fever and profuse perspiration. Dr. Pinckney, thinking the trouble probably due to malaria, ordered quinine in large doses; but, unfortunately, the drug was not well borne. He therefore called in consultation a very eminent obstetrician of this city, and the latter pronounced the case one of well-marked septicæmia. The temperature was 105° F. at the time that he saw the patient, and he therefore advised that she should be kept on a water-bed, and that cold affusions should be made to the abdomen; which was accordingly done. Soon afterward, however, the temperature fell to its normal degree, and the next time that the consulting physician saw her, he frankly acknowledged that he was mistaken. The quinine was then renewed in smaller quantities; but as it did not have the desired effect of controlling the fever, which again returned, Dr. Barker was called in. He recognized the case as undoubtedly one of malarial puerperal fever, and suggested that quinine should be given in very full doses, but in connection with bromide of potassium, on account of the tendency to cerebral congestion which had been found to result from it previously. This was tolerated perfectly, and the patient then became rapidly convalescent.

The case in which the affection was longest in making its appearance occurred in Dr. Barker's own practice. It was on the twenty-first day after delivery that the patient was seized with a severe chill. This was soon followed by high fever (the temperature running up to 105½°, and the pulse to 128), and she became decidedly delirious. There was no abdominal tenderness whatever, and a vaginal examination proved negative in its results. Twenty grains of quinine, with one grain of codeia, were ordered to be taken at once, and the same to be repeated in the evening. She then passed an excellent night, and the following day felt perfectly comfortable, although rather weak. The above remedies were now continued in half the previous doses; but afterwards she had another similar attack, even more severe than the first, and the large doses were again ordered to be repeated, with the addition of five grains of calomel. On the same day that the fever and delirium returned she had a profuse uterine hemorrhage, and on each of the three following days she took no less than sixty

grains of quinine and three grains of codeia, in addition to a considerable quantity of tincture of the chloride of iron, tincture of nux vomica, and fluid extract of ergot. Afterwards she made a good recovery.

The most prominent symptoms of malarial puerperal fever, Dr. Barker went on to say, were chills followed by a higher temperature than is ordinarily met with in other puerperal diseases so soon after their onset. After such an explosion there occurred a remarkable remission on the following day, and the physician was very apt to imagine that the trouble was now all over, and that the treatment which he had adopted had been most successful. The delusion was removed, however, when on the first, second, or third day afterward the attack was renewed with equal or even greater severity. Dr. Barker was inclined to believe that in the greater proportion of cases the patient began to suffer from general *malaise* three or four days before the occurrence of the explosion, and that when this was the case the latter was apt to be less severe than when the attack burst out in full force without any premonition. This form of the disease, he thought, was also more protracted in its duration and less amenable to treatment than the other. In some cases it was very liable to be mistaken at first for ordinary puerperal fever, as the symptoms were often strikingly like those of the latter, and the discrimination had to be made with great care. In others the attack closely resembled phlebitis, and this had been the case in one of his own patients.

In one of the three cases occurring in his own practice (where the malarial affection had made its appearance on the sixth day after confinement), the cure was finally accomplished by means of the hypodermic injection of quinine in large doses. This, unfortunately, produced abscesses; but in no other way was it possible to introduce a sufficient quantity of the drug into the system. It was important to bear in mind the fact that malarial puerperal fever might occur in connection with any of the phlegmasiæ incident to the puerperal state. In several of the cases, beside the one mentioned, uterine hemorrhages had been noted as a result of the malarial poisoning. In some of these it was observed that the lochia became very offensive in odor towards the end of the hemorrhage, and Dr. Barker thought the explanation of this was that, the blood being poured out very slowly at this time, it underwent decomposition in the cavity of the uterus before a sufficient quantity had accumulated to force its way out at the os by exciting contractions in the organ. In one of the hemorrhagic cases purpura was noticed as a result, and in this instance convalescence was very slow; recovery not being complete, indeed, until the patient had spent several months in Europe. In no case, so far as was known, had there been any blood in the urine.

Dr. Barker next spoke of delirium or mania as a symptom of this malarial disease. It occurred in four out of the seventeen cases. In three of them there was delirium rather than mania, while in the fourth there seemed to be mania, as the mental excitement continued for several days. In one case, which he saw in consultation with a physician of Jamaica, Long Island, he found the patient almost in a semi-comatose condition, and at first felt confident that she was suffering from uræmia. The examination of the urine, however, showed no evidence whatever of any such trouble; but still, notwithstanding this, he could not

divest his mind of the idea that there must be uræmic poisoning present, and so advised the use of Clutterbuck's elaterium. This produced free purgation; but instead of being benefited by the treatment, the patient only grew worse. He now became convinced that the symptoms were due to malaria; but the attending physician was very reluctant to accept that view of the case, and to prescribe quinine in the very large doses that he suggested. As the latter had come to regard the case as hopeless by this time, however, he at last consented; and after some morphia and atropia had been preparatorily employed the patient was given one drachm of Lente's solution of quinia. This was repeated every three hours; so that in twenty-four hours she received eighty grains of quinine. The next day the patient was perfectly rational, and the physician now became as enthusiastic over the treatment as he had previously been skeptical.

After this the convalescence was rapid. It was worthy of note in connection with this case that the patient never once complained of pain in the head, ringing in the ears, or any other symptom of cinchonism; and it was found, as a general rule, that there was in all the cases a most remarkable tolerance of quinine.

One fatal case occurred out of the seventeen. The patient, who was seen in consultation with Dr. Hall, had been married only a year, and had spent the three years previous to her marriage in Rome, Italy. Her mother was of the opinion that she had contracted malaria even before she went abroad. The confinement was a normal one in every respect, and she did perfectly well up to the thirteenth day afterward; when she had a violent chill, which was followed by fever, though there was nothing abnormal about the puerperal functions. She was given thirty grains of quinine, and the next day, the fever continuing, she took thirty grains more. It was not until the third day that the remission occurred, and the case was then regarded as one of remittent malarial fever by the attending physician, and by Drs. Thomas, Metcalf, and Barker, all of whom saw her in consultation at different times during her illness. For many days she took on an average sixty grains of quinine a day. Later there was profuse leucorrhœa, and also slight cystitis; and at one time there was a secondary uterine hæmorrhage, which was followed by fetid-smelling lochia.

In the latter part of her illness Warburg's tincture was substituted for quinine. At first it was followed by so much improvement that there seemed a likelihood of her recovery; but it appeared to lose its effect, and she grew worse again. A fatal termination was reached on the forty-seventh day after confinement; and this was, no doubt, one of those cases in which the system had become so saturated with the malarial poison that no remedial agent yet known to science could have saved the patient's life. In a number of instances Warburg's tincture had been found much more efficient than quinine, and Dr. Barker said that he usually gave half an ounce of it every four hours until the symptoms disappeared, when the dose was gradually diminished; though the remedy was not entirely relinquished until complete convalescence was established, and if there was any return of the malarial manifestations, however slight, the large doses were at once resumed.

DISCUSSION.

The subject of the paper now being thrown open for discussion, Dr. HALL, in whose practice the fatal case just alluded to had occurred, remarked that the toleration of quinine in this instance was most extraordinary, since in the height of the fever the patient frequently took one hundred and fifty grains in the twenty-four hours, and yet never once complained of any *cinittus aurium* or other symptom of cinchonism. He also spoke of the use of the nitrite of amyl, which he had employed with good effect during the excessive prostration which accompanied the period of chill in this case. He could not say that it had cut short the length of the chill; but it certainly did seem to fortify the powers of the patient in such a way that she was the better able to endure the high fever that followed.

Dr. HANKS, who had been the attending physician in one of the cases mentioned by Dr. Barker in which hæmorrhage was a prominent feature, stated that in his patient there was more loss of blood when the child was born than he cared to see, and that she had flowed excessively after the delivery of the placenta; so that he was now convinced that she was even then suffering from the effects of malarial poisoning. The pulse remained above 95 for twelve hours after delivery, and he left the house in considerable anxiety, as he felt that he might be summoned back at any moment. On the sixteenth day after confinement she was seized with a profuse flooding, and it was only after the most persistent efforts on his own part and that of a physician who had been called in, in the emergency, before his arrival that she was revived after the state of extreme exhaustion into which she had fallen in consequence.

Last June Dr. Hanks attended in her confinement a lady who had previously been traveling extensively in the West and South, and had thus contracted malaria. She went through labor perfectly well; but on the fourth day afterward she had a chill. Not being acquainted at that time with the previous history of malaria, Dr. Hanks supposed that she was probably going to have puerperal metritis or peritonitis; but when she told him of this, he felt reassured, and at once gave her a large dose of quinine. The drug was continued for some time, and she had little further trouble. In this case, bromide of potassium was given in connection with the quinine, and it seemed completely to counteract all its unpleasant effects.

Dr. S. S. JONES said that it had fallen to his lot to meet with a great deal of malarial trouble in puerperal women, and he thought that Dr. Barker's admirable paper was exceedingly well timed. There was one point, however, which had not been touched upon in it, and to which he would like to call the attention of the society, as he believed it to be of considerable importance. From a pretty extensive experience in these cases complicated with malarial difficulty, he had become convinced that septicæmia was liable to supervene upon malarial puerperal fever, and he thought that this fact afforded an explanation of those exceptional cases occasionally met with in which the administration of quinine is not followed by the good effects which ordinarily result from its use. As his practice lay principally in a malarial district, the northeastern portion of the city, he had adopted the rule of always giving quinine on the second day after

confinement, because he had now come to regard any case as exceptional in which, without this, there was not some malarial development within the first ten days following delivery. If he found that the malarial manifestations continued after a trial of quinine in sufficient doses, it was his practice to cleanse the uterus thoroughly with a solution of carbolic acid. In such cases this always acted most happily, and in some instances he believed it had been the means of saving life.

He then mentioned particularly one case, in which, notwithstanding the fact that the patient was fully cinchonized, the temperature remained at 105° F., until the cavity of the uterus was treated as above; when it almost immediately went down to 103°, and the procedure being repeated from time to time, it gradually sank to the normal. This, and other cases in which he had repeatedly tried the same thing, seemed to demonstrate a definite relation between the local treatment and the reduction of temperature, entirely independent of the administration of quinine. His experience had been strongly confirmatory, therefore, of the conclusion which, after an interesting discussion, was arrived at in the London Obstetrical Society last year, namely, that a high temperature remaining for any length of time during the puerperal state is very apt to result in septicæmia from the decomposition of blood in the cavity of the uterus occasioned by that high temperature.

Recent Literature.

Pharmacographia: A History of Drugs of Vegetable Origin met with in Great Britain and British India. By FRIEDRICH A. FLÜCKIGER, Phil. D., and DANIEL HANBURY, F. R. S., etc. Second Edition. London: Macmillan & Co. 1873.

This noble work first appeared in 1874, and became at once a favorite with advanced students of materia medica proper (as distinguished from therapeutics). It met with a rapid sale that exhausted the entire supply in a few months, since which time until now, owing probably to the untimely death of Mr. Hanbury, in 1875, it has been out of print, and stray or second-hand copies have been eagerly bought at an advanced price. It was translated into French, in 1878, by Dr. J. L. de Launessan, with the addition of notes and cuts.

It is difficult to find a work covering exactly the same ground as this with which to compare it. We are accustomed to materia medicas written by physicians where therapeutics is the principal object, to pharmacopœias and dispensatories especially devoted to preparations, to pharmaceutical chemistries and medical botanies, but here is a work devoted to the study of drugs as objects for examination and description, without reference to their value or uses. The learned authors, neither of them physicians, one a member of a well-known English drug house, the other an eminent pharmaceutical chemist, have treated the substances which they have selected to describe much as a naturalist would the subjects of his investigations, studying them thoroughly, conscientiously, as it were, for their own sakes; and it is safe to say that the work laid out by these gentlemen was never so well done before. The articles upon opium, cinchona, olibanum,

styrax *liquidus* (as Mr. Rice will have it), and many others are monographs of which any one might be proud.

The most noticeable addition in the present volume is the bibliographical appendix, filling sixteen of the hundred new pages. This is interesting as showing the extended reading upon which the historical part of the work is founded, and is also valuable to any one interested in the subject, as it gives the dates and short accounts of the writers or books referred to. In the body of the book the principal changes are from the nature of the subject in the chemical sections, where the work has been well brought down to the present time: thus the extensive researches of Dr. Wright upon the aconites are embodied here; *caoutchouc*, *neconoiotin*, and alkaloid No 17, *gnoscopina*, are added to the heretofore known ingredients of opium; physostigma is credited with its new alkaloid *calabarina*, and pomegranate-root bark with *pelletierina*. The glucoside of cherry-laurel leaves is now stated to be different from amygdalin, that of bitter almonds. Schmielberg's *digitarin* is added to the confusing chemical substances composing digitalis, and Nativelle's crystallized digitalin is stated to be a mixture. The *veratridia* of Robbins, as well as the *veratroidia* of Bullock and Mitchell, are noticed in the chemical section of the article on veratrum viride. Finally, crystallized *ergotina*, the new alkaloid of ergot, isolated by Taurer, and the *sclerotic acid* of Dragenlorff, with *pirosclerotina* and half a dozen other less important substances recognized within the past year or two, are here described.

The botanical and historical sections are much less changed; still, some new facts and explanations are added, as well as many new references. The Meddygon Myddfai, a collection of medical recipes in use by the Welsh physicians of the thirteenth century, has furnished some of these, and Bentley and Trimen's new Medical Botany some others.

The commercial part, of "unequal value," as the authors acknowledged, in the first edition, does not appear to have received much attention in this, and remains about as before. It is singular that the statement there made concerning the oil of cade, "It is imported from the Continent, but where made and from what wood we know not," should still remain true.

A most serious fault in the book for the American student is its purely British scope. It was designed to illustrate the London and Indian drug market, and to these it is confined; there are a score or more of drugs in the United States Pharmacopœia, of acknowledged utility and extensive use in this country, not to be found in it, the addition of which would have greatly increased its value upon this side of the water.

The new titles in the present edition are, *Folia Pilocarpii*, *Flores Arnicæ* (the root was already in the first), and *Galla Chinensis*.

It is hardly fair to criticize a therapeutic inaccuracy in a book which makes therapeutics no part of its subject, but the statement in regard to digitalis, that it has the "effect of reducing the frequency and force of the heart's action," might be amended with advantage.

In the field which it covers this book has no equal.
W. P. B.

¹ The latest investigations upon this plant have been published since. Vide JOURNAL, page 199.

The Feigned Insanity of Troy Dye.

The *Sacramento Dental Jurist* for January, 1880, contains an account of the feigned insanity of Troy Dye, by Dr. G. L. Simmons, M. D. Harv., commissioner in lunacy. This case has excited great interest in California from the unusual nature of the crime and the desperate attempt of the murderer to escape its consequences. Troy Dye, a public administrator, planned the murder of several wealthy citizens without heirs, in order to provide fees for his office and to rob their estates. One of the murders was executed by hired assassins, and discovery followed. At the trial Dye acknowledged his guilt, but on being removed to jail for the noon recess fell in a heap on the floor, with a twisting motion, as the jailer said, of the right leg. Physicians were summoned, who agreed that he had been frightened into semi-consciousness, partial delirium, and slight spasm by an overwhelming sense of his inevitable fate.

To avoid execution it is said he continued to feign insanity in various forms. At first he seemed more or less demented, and after an interview with doctors, in which protrusion of the tongue to one side was mentioned as indicating paralysis, he clumsily imitated this symptom. Afterwards he assumed a maniacal condition, and then a mixture of dementia and mania, answering many questions well, but becoming stupid when allusion to his execution was made.

Dr. Simmons, Dr. Shurtleff, of the Sacramento Asylum, and others, testified to his sanity and to the existence of shamming. Dr. Dixon, homœopathist, insisted that he was insane and paralyzed, and that lesions would be found at the origin of the auditory, optic, and facial nerves. After his execution a post mortem was made, at which all the physicians were present. No lesion of any kind was found on the most careful inspection and the brain was as healthy as that of his confederate, Anderson, who was hanged at the same time. There were adhesions of the dura mater along the Pacchionian bodies in both brains, but there was no congestion, or incipient inflammatory symptoms, or slight apoplectic clots, or visible lesions in either. It was agreed on the part of the regular physicians to call it a case of "homœopathic insanity."

T. W. F.

A Manual of Pathological Histology. By V. CORNIL and L. RANVIER. Translated, with notes and additions, by E. O. SHAKESPEARE, M. D., and J. H. C. SIMES, M. D. Philadelphia: Henry C. Lea. 1880.

This book, which originally appeared in France in several portions at intervals extending from 1869 to 1876, was very well received abroad, and still maintains a prominent position. It has been translated into German as well as other languages, and now an English edition has appeared, which differs somewhat from the original, as it seemed best to bring some of the older portions of the work up to the views entertained at present. The translators have done their work very well indeed, rendering it into smooth and excellent English, and in their selection of new material they have in the main used good discrimination. There has been a considerable addition to the number of wood-cuts in the original, and though most of them materially aid in elucidating the text, notably the beautiful cuts taken from the second part of the medical volume of the *Medical and Surgical History of the*

War, by Dr. J. J. Woodward, the repetition of a number of them seems hardly called for. The additions are mostly brought in at the end of the subjects, whereas they would be less distracting and answer the purpose better if they were incorporated in their proper places in the text. In the description of the changes in vessels there is less said of the recent work of others besides that of one of the translators than seems desirable, especially in view of the advances recently made in this subject.

We heartily commend the book as one of the best works on the subject. The publisher has done his work remarkably well, and turned out a most attractive-looking book.

The Alienist and Neurologist. A Quarterly Journal of Scientific, Clinical, and Forensic Psychiatry, and Neurology. Edited by C. H. HUGHES, M. D. St. Louis. Vol. I. No. 1.

This new journal is at hand, and presents an attractive appearance. It contains 125 pages of varied matter, including nine original articles by Drs. Curwen, Earle, Beard, Hamilton, Hughes, Dean, Stevens, and Workman. The Propositions of the Association of Superintendents, Neurasthenia, Tendon Reflex, Aphasia, Cerebral Thermometry, Relief in Nervous Diseases following Enucleation of the Eyeball, Syphilitic Hypochondriasis, and the Curability of Insanity are the subjects treated. The selections consist largely of the proceedings of foreign societies, those of the psychological and neurological section of the International Congress at Amsterdam being of special interest. The Editorial is a hopeful survey of the field of psychiatry, and the intention is declared of an endeavor to prevent the divorce of psychology and neurology from the main body of medicine. We wish the new journal all success, and have no doubt it will find its place among the like periodicals of the country.

T. W. F.

A Text Book of Physiology. By M. FOSTER, M. A., M. D., F. R. S. Third Edition, revised. London: Macmillan & Co. 1879.

The third edition of this valuable text-book is now before us. It differs from the preceding edition chiefly in the fact that the section on Muscle and Nerve has been rearranged and to a large extent rewritten. The general character of the work remains unchanged, and fully merits the praise bestowed upon it at the time of the appearance of the first edition.¹ The judicial fairness with which Professor Foster treats all disputed questions, and the care which he has taken to present the results of recent investigations, entitle his work to the highest place amongst English text-books of physiology.

The price of the work has been much reduced. Though larger by 80 pages than the preceding edition, it is offered at \$5.50. It is therefore somewhat difficult to avoid the conclusion either that the former price (\$5.00) was exorbitant, or that the present one cannot be very remunerative. The publishers also announce that a still cheaper students' edition is soon to make its appearance.

¹ The JOURNAL, June 21, 1877.

Medical and Surgical Journal.

THURSDAY, MARCH 14, 1880.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly by HOUGHTON, OSGOOD AND COMPANY, Boston. Price, 15 cents a number; \$5 00 a year, including postage.

All communications for the Editors, and all books for review, should be addressed to the Editors of the Boston Medical and Surgical Journal.

Remittances by mail should be sent by money-order, draft, or registered letter to HOUGHTON, OSGOOD AND COMPANY, BOSTON, MASS.

THE NEW CODE OF ETHICS OF THE MASSACHUSETTS MEDICAL SOCIETY.

THE new code of ethics of the Massachusetts Medical Society is presented to our readers to-day. This draught, as adopted at the meeting of the councilors of the society held February 4th, is that reported by Dr. Henry J. Bigelow, who formed a minority of one of the committee appointed to consider the subject, and the final action of the councilors is the result of a deliberation extending over two years. The present code may be regarded as a compromise between a more elaborate one and none at all. It is concise and clear, and should suffice to enlighten the understanding, if not to restrain the inclinations, of the poacher, which character is after all, we take it, the exciting cause of most codes. That the species is not extinct, a communication in our last issue appears to show. For our own part, we should have preferred to have struggled on as have our predecessors, without such an instrument; but, if these things must be, we again regret that some uniformity cannot be secured for the country at large. This feeling, however, need not carry us so far as to desire the adoption of the fine old-fashioned code of the American Medical Association, of the presence of whose pompous and ponderous garrulity at the end of the volumes of Transactions most men are sufficiently aware to enable them to turn off in time down a side page, thereby making a mistake at least once, for if read with care and discrimination this compilation is by no means dull. The physician who may hitherto have shunned it will do well to read it, and still better to commend it to his patients. He will then imbue his mind with the greatness of his mission, and study to unite tenderness with firmness and condescension with authority, thus inspiring their minds with gratitude, respect, and confidence. They will learn that, having once selected him, they should always apply for advice, even in what may appear trivial cases, for on the slightest accidents the most fatal results often supervene; that their own crude opinions as to the fitness of his prescriptions should never be permitted to interfere with their attention to them, for a failure in one particular, even as to diet, drink, or exercise, may render an otherwise judicious treatment dangerous, perhaps fatal; and that after recovery—or, we suppose, if they have indulged their own crude opinions, equally after death—they should entertain a just and enduring sense of the value of his services, which are of such a character that no mere pecuniary acknowledgment can repay or cancel them. Let them be

warned, however, not to interpret the latter part of this clause too seriously. Both physician and patient will learn many other things if they will be advised and inspect this megatherium of a by-gone period.

To the members of the profession in Massachusetts we wish a pleasant journey under the auspices of the compact little code which is appended, and hope it may prove a pillar of fire to the ignorant Israelite, and a Red Sea to the false Egyptian.

CODE OF ETHICS OF THE MASSACHUSETTS MEDICAL SOCIETY.

(Adopted by the Councilors, February 4, 1880.)

Object of a code of ethics. The Massachusetts Medical Society is designed to secure to the public a body of well-educated and otherwise trustworthy physicians. Its code of ethics is intended to furnish certain principles and rules of action for their guidance and convenience.

I. The relation of the physician to medical science. A physician should lend his influence to encourage sound medical education, and to uphold in the community correct views of the powers and the limitations of medical science and art.

II. The relation of the physician to medical business. The professional success of a practitioner depends upon qualities connected with his moral character, his scientific attainments, and also his industry and business talent. But the relation of practitioners of medicine to families and households is not like that of tradesmen to their customers. The kind of competition which might be considered honorable in business cannot exist between physicians without diminishing their usefulness and lowering the standing of the medical profession. (See IV. § 1; V. § 1.)

III. The relation of the physician to his patients. The first duty of the practicing physician is to his patient, who has a right to expect that his disease shall be thoroughly investigated and skillfully treated, with charitable consideration for his mental peculiarities or infirmities, and in a relation strictly confidential.

1. The physician should not make unnecessary visits. He should neither permit needless apprehension, nor fail to give reasonable notice of danger.

IV. The relation of the physician to other practitioners and to their patients. In his relations with another medical practitioner and his patients, a physician should be governed by strict rules of honor and courtesy. His conduct should be such as, if universally imitated, would insure the mutual confidence of all medical practitioners.

The foregoing rule should be a sufficient guide of action. Some of the following contingencies will illustrate its application:—

1. A physician should take no step with a view directly or indirectly to divert to himself the patient or practice of another physician.

2. If formally requested to assume charge of a patient or family usually attended by another physician, he should consent to do so only after notifying the latter,—unless the case be one of pressing necessity.

3. If a physician is called to a patient during the temporary absence or illness of the usual physician, or in case of accident or other emergency, he should direct that the former be sent for as soon as he is able to take charge of the case, and should then relinquish it to him. It is generally agreed that, among sev-

eral physicians thus called, he who first arrives shall act, unless the family designate another.

4. A communication from the temporary to the usual physician, in the absence of the latter, should be written and sealed, and not simply verbal.

V. The relation of the physician to quackery. In every community there are minds naturally inclined to quackery, which has flourished in every age. It grows by being noticed, and thrives best under opposition. It is commonly unwise to employ argument against it. But a physician should lend his influence to establish a distinct line between the regular practice of medicine and the practice of quackery, and should avoid any act which might tend to weaken such a distinction either in the professional or in the public mind.

1. Thus, he should not consult with an irregular practitioner (see *By-Laws*); nor countenance the use of secret remedies; nor be interested in medical trade-marked preparations; nor give certificates recommending mineral waters, patents, or medical preparations, or the like; nor give a commission to an apothecary, nor receive one from him; nor advertise himself or his practice in public print; nor publicly advertise advice or medicines to the poor, etc.

VI. Consultations should be encouraged in cases of unusual responsibility or doubt.

A consultation is called for the benefit of the patient, and to give him the advantage of collective skill. Should there be a difference of opinion, discussion should be temperate, and always confidential.

A consulting physician should be careful to say or do nothing to impair the confidence of the patient or his family in the attending physician.

1. See, for guidance of a consultant, IV. §§ 1, 2, 3, 4.

2. At a consultation punctuality is important; and non-arrival within fifteen minutes after the appointed time should be interpreted as non-attendance.

3. For the advantage of the patient and for economy of time, it is well in a consultation to observe a certain order of business. The following has been found convenient:—

The attending physician, having stated in general terms the nature of the case, may then call, in turn, upon each consultant, if there be more than one, to examine the patient,—the usual order being that of seniority. No consultant should make an examination or inquiry out of turn. On retiring, the attending physician may invite, in the usual order, the opinion of each consultant, who should not be interrupted while giving it; after which he may add his own. In conclusion a course of action may be agreed on, or the attending physician may be left to act at his own discretion.

VII. Fees. A fee-table has a local application, and is designed to indicate a fair or average amount due for services. But if the patient fully understands it beforehand, a physician is at liberty to place any value he sees fit upon his services. It is then at the patient's option to decline them or to pay the price. A physician should be considerate of the poor.

1. A patient in moderate circumstances should not be called on to pay a fee unusually large for the service rendered, without a previous explicit understanding. A physician, if able, should offer to pay the medical attendant of himself or his family. Unless by special agreement, a physician attending or acting for another should receive the fees. Among obstetricians a rule obtains that the interval between the birth of the child and of the placenta halves the service and the fee. A fee should be charged for a medical certificate or paper of value to the applicant,—connected, for example, with absence or exemption, life insurance, pension papers, etc., except the usual certificates of vaccination and death.

VIII. Seniority. Seniority applies rather to duration of practice at the place in question than to age.

LUNACY REFORM.

It will be remembered that a meeting was held at the Cooper Institute in New York last December for the purpose of considering the interests of the insane. At this meeting resolutions were adopted which stated substantially that the system of asylum management was defective: that a lunacy commission, modeled on the plan of the English commission, was needed for New York; and that a committee should be appointed to devise plans for the organization of such a lunacy commission, and to present to the next legislature a bill for its creation. A committee was accordingly chosen, consisting of Messrs. Wm. C. Church, Dorman B. Eaton, and Chas. E. Whitehead, and Drs. Geo. M. Beard and E. C. Seguin. This committee have now prepared a bill, a copy of which has been sent us, together with a full explanation and a letter appended by Mr. Eaton, on Changes in the Present Lunacy Laws of New York, written and published in December last.

The bill first provides for an addition of three members to the State Board of Charities. Two of these members shall be physicians, and shall have practiced ten years in the State, and the other member shall be a lawyer who also has practiced ten years in the State. After the appointment of these officers the State Board of Charities shall be the State Commissioner in Lunacy, and have all the authority now conferred on the state commissioner, and these powers shall be exercised through an agent or secretary. Particular attention is to be paid to making an annual report, which shall contain suggestions for the improvement of lunacy administration. The secretary to be appointed shall be a competent and experienced physician, and not a member of the board, and shall perform any duties assigned him by the board.

Such is in brief the bill. For the first time, those persons who are seeking to institute asylum reform may hope to see some definite results growing out of their efforts; for, instead of trying to tear down insane asylums with iconoclastic hands, they moderately ask for what any citizen may with reason expect to have. All asylum superintendents of integrity will unite with them in asking for thorough asylum supervision, for it will bring the public and themselves into clearer and friendlier relations. As the committee say in their "brief explanation," "reforms are most promoted by moderate measures in the right direction." The committee believe in a lunacy commission, but are willing to use the State Board of Charities as a stepping-stone.

We do not wish to criticise the bill in any but the most friendly spirit, as we feel that it will, if passed, result in lasting good to the public, but we wish to present one or two objections that have occurred to us. It will first be seen that the members who are to be added to the board are not required to have a knowledge of insanity or insane asylums. We think this a mistake, for intelligent and thorough supervision of asylums can be efficiently undertaken only by experts. Insanity in its social and clinical relations should be practically understood, and still more

the practical management and treatment of the insane in the asylum. No man would be intrusted with the management of a business without practical acquaintance with its details, and to no greater an extent is a physician without special experience competent to pass upon the needs and care of the insane. We know that many persons imagine themselves to be possessed of a thorough understanding of insanity, and they therefore are inclined to ignore the knowledge of the person drilled in its treatment, and to assume that any one is competent to undertake the management of the insane, but our experience has taught us that such is not the case. We have seen earnest attempts made at lunacy reform, but its advocates have so magnified the smallest evils, misinterpreted facts, and erred in their methods of conducting the reform that they have injured rather than helped their cause.

While commending the moderation in the construction of the bill, we have gained the impression that the direct inspection of the asylums must still be chiefly left to the secretary. He, as the agent of the board, will visit and investigate the asylums, while the new members, serving without compensation, can of necessity give but a more or less limited portion of their time to the work, and must therefore rely for information on their secretary. It would have seemed better to us to enlarge the membership of the board, give it the same powers asked for in the bill, and, instead of specifying the employment of a secretary to have left the board the power to appoint such inspectors or commissioners as, in their judgment, might seem best.

The end of the efforts being made this winter in New York will eventually be a paid lunacy commission, but until public opinion recognizes the importance of such a change, reformers, looking only to the true and highest interests of the insane, must be satisfied slowly to fight their way with discretion and patience.

STONE IN THE BLADDER: LITHOLAPAXY.

THE following article appeared editorially in *The Lancet*, February 7th:—

The universal testimony of experience approves the well-known dictum that every foreign substance that gains admission into the living body, or that is engendered within it, no matter what its origin or its nature, must become organized or absorbed, eliminated or encysted, if it is not more or less seriously to prejudice health or to destroy life. In one or other of these modes does nature endeavor to preserve and protect living tissues from violent reaction, disorganization, and death. Not un seldom, however, she signally fails, and has to call in the aid of art. No better illustration of this can be adduced than that of stone in the bladder. If the peccat' substance be over a certain size, nature's unaided efforts are ineffectual to procure relief. Organization of a vesical calculus is impossible, absorption doubtful, elimination rare and uncertain, encystation accidental, painful, and

hazardous. Surgery alone may be trusted to act intelligently and safely. This truth has long been recognized. The earliest records of the surgical treatment of stone in the bladder belong to times now very remote. The operation of cutting for stone is one of the oldest in history, and reigned for at least two thousand years without a rival. Its supremacy remained unquestioned until the beginning of the present century, when the practice of crushing through the urethra was introduced. Then for fifty years crushing steadily grew into more and more esteem, and the reputation of cutting dwindled in a corresponding degree, till at length the more sanguine advocates of lithotripsy confidently prophesied the final abandonment of lithotomy as uncalled for and unnecessarily severe. In the opinion of cooler minds, however, the ultimate triumph of lithotripsy was not so sure. Little by little the uncompromising lithotritists had to change their position; the cutting and the crushing operations were no longer antagonistic but complementary, provided always that lithotripsy was to be the rule and lithotomy the exception. With this avowed lithotripsy lost much of its prestige, and was not likely again soon to recover its old status. Its good name had been called in question, and there were those who were not slow in dragging to light some of its drawbacks and disadvantages. Every year the advocates of the newer operation had to make more and greater concessions to the champions of the older, and, in spite of the oft-repeated unparalleled results of the professed lithotritists, a distinct reaction began some two or three years ago to set in towards the cutting operation. About that time, however, an unexpected event occurred which called off attention into another direction. Professor Bigelow, of Harvard, United States, proposed and introduced an entirely new method for the removal of stone from the bladder, namely, by complete crushing and continuous evacuation of the fragments by means of aspiration. This method he designated "litholapaxy."

We have called Professor Bigelow's method an entirely new one, and such we believe is its true character, notwithstanding the attempts that have been made to explain away its significance or to destroy its originality. Litholapaxy can appear as a mere modification of lithotripsy only to a superficial observer. The philosophical student will not fail to discover an essential and fundamental difference of principle. Apart from the irreconcilably opposite modes of procedure, in crushing a stone after the manner of professed lithotritists, and in removing it by Professor Bigelow's plan, there is no real analogy whatever. Lithotripsy, as ordinarily practiced, is an operation of least interference: the calculus is crushed at one sitting or at many sittings into fragments small enough to be passed, *per vias naturales*, by the expulsive efforts of the bladder and abdominal muscles. In other words, a rude attempt is made to reduce a large calculus into several small ones, which may be passed spontaneously. Litholapaxy, on the other hand, is a radical operation, and aims at breaking up the whole of the calculeous mass, and removing it at once by powerful

but systematic aspiration. In the one the calculus is broken, and then nature is left to get rid of the irritating fragments as best she may; in the other the comminution and the removal are alike accomplished by mechanical means. It is in vain that efforts are made to establish identity between the aspirator employed for the entire removal of all the fragments of stone in the operation of litholapaxy and the weak and inefficient suction-bottles made use of to remove the finer *débris* in the operation of lithotripsy. One frees the bladder from all foreign matter; the other removes only the soft pulverulent particles, and allows the larger, hard, and angular fragments to come into closer and rougher contact with the mucous membrane lining the interior of the bladder.

In the interests alike of science and humanity it is right that these important truths should be distinctly and emphatically stated. Almost every observer who has recorded his experience of Professor Bigelow's method has made confession of a preliminary repulsion which only success in application has modified or removed. The plan is still on its trial, though so far eminently satisfactory. Those, on the other hand, who had the largest opportunities of using the suction-bottle for the removal of the finer *débris*, after ordinary lithotripsy, were almost unanimous in asserting that, as a rule, it was better to do without it. And probably this apparent paradox may, after all, contain a kernel of truth. It is not difficult to conceive that unless all fragments can be removed it is better to let the pulverulent matter remain behind, as a soft pulsatious sediment to protect the tender walls of the bladder from actual contact with the large and sharp fragments that cannot pass through the small tube that is used in Crampton's or Clover's bottle. This may be the true but hidden reason why the suction-bottle was not approved by the best lithotritists, and it may likewise afford a clue to the success of Professor Bigelow's bold and ingenious device.

THE DUTY ON QUININE.

THE House Committee on Ways and Means have given a hearing to manufacturers of quinine who desire the duty on the imported article technically known as sulphate of quinia, which was removed by act of Congress during the special session, to be restored. Several manufacturers of sulphate and other salts of quinia made arguments before the committee in support of their memorial. The points made were that the law removing the duty was hurriedly passed through Congress, without giving them an opportunity to be heard; that it went into immediate effect, affording them no opportunity to prepare for the change; and that while the duty on imported quinine has been removed the articles from which it is manufactured are still taxed, fusel oil paying a duty of two dollars per gallon, alcohol one dollar and seventy cents per gallon, soda ash one quarter cent per pound, and cinchona bark ten per cent. *ad valorem*. To offset these duties and taxes they argued that a duty should be imposed upon foreign sulphate of quinine, to enable

them to compete with foreigners, whose governments guarded their interests most carefully, and who have, in consequence, great advantages over American manufacturers. They also presented a memorial, numerously signed by the druggists and dealers of forty-eight cities in various parts of the country, favoring an import duty on foreign quinine of at least ten per cent. *ad valorem*. The memorial sets forth that the continued manufacture of sulphate of quinia in this country is a matter of great consequence to the people at large; that the American article is uniformly of excellent quality and superior to imported, and should, as a matter of policy, be protected. A large number of letters from physicians and druggists were also offered as cumulative testimony to the statements set forth in the memorials.

As we have before said, there are two sides to the "free quinine" question. In 1878 the price of sulphate of quinia was \$4.50 per ounce; in 1879, after the removal of the ten per cent. duty, it fell to \$2.60 with a small demand, rising again in 1880 to \$3.40. Our best manufacturers have always maintained a high standard, and it is questionable how far the public are benefited by the importation of poorer qualities at prices with which the home manufacturers cannot compete. It must be borne in mind, however, that the removal of the duty is to a great extent a protection against the artificially high prices which have at times been brought about through speculation.

HEALTH OF LARGE ENGLISH TOWNS.

The *Lancet* states that the severe cold of the third week in January caused a further marked increase of mortality. In twenty of the largest English towns, estimated to contain in the middle of this year seven millions and a half of persons, or nearly a third of the entire population of England and Wales, 5110 births and 4264 deaths were registered during last week. The births were 75 below, whereas the deaths were no less than 989 above, the average weekly numbers during 1879. The deaths showed a further increase of 523 upon the numbers returned in the two preceding weeks, and the annual death-rate, which had been 24.2 and 26.0 in the two previous weeks, further rose last week to 29.7. The lowest death-rates in the twenty towns last week were 16.5 in Wolverhampton, 21.0 in Portsmouth, 21.4 in Sheffield, and 24.1 in Bradford. The rates in the other towns ranged upwards to 31.3 in London, 31.7 in Liverpool, 32.0 in Plymouth, 32.3 in Salford, 31.9 in Manchester, and 35.2 in Liverpool.

The deaths in the twenty towns referred to the seven principal zymotic diseases, which had been 519 and 514 in the two previous weeks, further rose last week to 600; they included 273 from whooping-cough, 127 from scarlet fever, 110 from measles, and 39 from fever, principally enteric. Whooping-cough showed the largest proportional fatality in Salford, Plymouth, and London; measles in Hull, Plymouth, Nottingham, and Leicester; and scarlet fever in Norwich and Sunderland. Of the 17 deaths referred to diphtheria in

the twenty towns, 10 occurred in London and 3 in Birmingham. Small-pox caused 12 more deaths in London and in its outer ring of suburban districts, but not one in any of the nineteen large provincial towns. The fatal cases of small-pox in London were more numerous than in any week since the beginning of July last. The number of small-pox patients in the Metropolitan Asylum Hospitals, which had been 75 and 84 at the end of the two preceding weeks, were 80 on Saturday last; during the week 22 new cases of small-pox were admitted to these hospitals, against 8 and 21 in the two previous weeks.

Our weekly Mortality Tables, which we are enabled to print through the kindness of the Secretary of the Massachusetts State Board of Health, indicate the continuance of a high death rate in Great Britain.

MEDICAL NOTES.

— Surgeon-General William Maxwell Wood, United States navy, retired, died lately at his residence at Owing's Mills, Baltimore County, Md., in the seventy-second year of his age. Dr. Wood was born in Baltimore, and entered the navy in 1829 as an assistant surgeon. He saw a great deal of sea service early during his career; in 1844-46 was fleet surgeon of the Pacific squadron. During this period Commodore Sloat, commanding the Pacific squadron, wrote a letter to him, saying, "I am most happy to acknowledge the very important services you rendered the government and the squadron in the Pacific under my command at the breaking out of the Mexican war. The information you furnished me at Mazatlan, from Guadalajara, at the risk of your life . . . induced me to proceed immediately to California, and upon my own responsibility to take charge of that country. I have always considered the performance of your journey through Mexico at that time as an extraordinary feat, requiring great presence of mind and address. How you escaped from the heart of an enemy's country and such a people has always been a wonder to me, and has been so characterized on all occasions." The chairman of the Senate Naval Committee also complimented Dr. Wood upon his success in furnishing the information upon which the acquisition of California was based. In 1856-58 Dr. Wood was attached to the East India squadron, and took part in the Chinese war. During the civil war he was fleet surgeon of the North Atlantic squadron. He was chief of the Bureau of Medicine and Surgery in 1870, and in 1871 was retired.

— We wish again to call the attention of our readers to the *Index Medicus*, now entering upon its second year. It has admirably fulfilled its purpose, and as this publication in no wise conflicts with any medical journal, either local or special, but on the contrary actually forms a guide and supplement to all, it would seem that an appeal for coöperation in its behalf should meet with some practical and cordial response from its contemporaries and their subscribers.

— Says the *Medical and Surgical Reporter*: "A

physician of this city recently informed us of a case in which he had performed vaccination on a child, followed in a few days by the usual signs of a successful result. On the seventh day, however, the child was attacked with varicella; the redness, etc., disappeared around the vaccinated surface, and all signs of irritation passed away. On the fourteenth day, the varicella having run its course, renewed signs of the vaccine impression began, and a perfect vesicle was formed, following the usual course. Thus the virus had lain dormant in the system during the presence of the acute disease. Can similar instances be furnished?"

— Paul Broca has been elected a life senator in the French senate. Paul Bert and Clemenceau are also senators, but in spite of their well-known ability the *Union médicale* says of them, "The two united heads of Bert and Clemenceau are not worth the single encyclopedical head of Broca."

NEW YORK.

— The Rev. Edward Cowley, of "Shepherd's Fold" notoriety, has been found guilty of misdemeanor, as charged in the first indictment against him, namely, "Having the care and custody of a child, to wit, Louis Victor, did wilfully cause such child to be placed in such a situation that his life was endangered, and his health injured." At the last monthly meeting of the Society for the Prevention of Cruelty to Children, a committee was appointed to obtain subscriptions to a fund of fifty thousand dollars to establish a nursery in a suitable building, where the offices of the society may also be located.

— The commencement exercises of the University Medical School were held at the Academy of Music, on the evening of February 17th, when the degree of M. D. was conferred on one hundred and eighty-nine graduates. Among the candidates who received honorable mention for the excellence of their examinations was a son of Prof. Wm. A. Hammond. The ninth annual dinner of the Alumni Association of the college came off at Delmonico's on the 19th, and on this occasion Dr. St. John Roosa, the president, in speaking of one of the objects of the association said: "It is in the air that medical education is undergoing reform. The increased number of instructors, the more thorough examinations, and the better character of the students indicate this. But these are changes without support, and which may not be maintained. There is still wanting radical and organized reform. We still need the community at our back. There is as yet no interest in medical colleges at all commensurate with their importance to the State. This is more true of New York than of Boston or Philadelphia. These medical colleges have the aid of the most influential and wealthiest citizens, while here they are kept alive almost entirely by their teachers."

— In reporting upon the Blackwell's Island asylum, the committee mention first the removal of the former superintendent for incompetency upon their recommendation, and then go on to say that under the reforms instituted by Dr. A. E. MacDonald, by

whom he was supplanted, it bids fair once more to be free from defects. After referring to the increased comforts provided for the patients, and the great diminution in the amount of stimulants consumed, which Dr. MacDonald has made, they state that more nurses have been and are being provided, so that there will be one day nurse to each fourteen patients, and at night one nurse to each ward; and the system of watchers has been so regulated that the new nurse comes on duty one hour before the old one relinquishes her charge, thus affording a conference in regard to the condition of the patients. Work-house women now have been dispensed with, so that the evil contact of these persons with patients has been done away with. A much-needed reform was the establishment of a proper hospital ward, and this has been accomplished by Dr. MacDonald, who found all the sick patients huddled together in damp basement rooms. In regard to the death of the woman Ottner, whose decease followed the assault of another patient, they say, "We have determined, after careful examination, that in no way are the medical officers responsible for this woman's death, but that it occurred as the result of the unavoidable overcrowding. The patient was violent and noisy, and removal to the retreat was therefore a perfectly proper measure. Death by violence in asylums must sometimes occur, in spite of all precautions, and the reports of the best American and foreign hospitals for the insane are by no means free from record of homicidal and suicidal violence." Then, mentioning the methods of restraint in present use, the report continues, "We deem it wise to allude to these simple methods of restraint, or rather protection, which are used only to prevent the patients from injuring themselves, and not in the way mentioned by unjust and censorious critics. Without their use we believe that such accidents as fractured ribs, broken limbs, and an unnecessary expenditure of physical strength upon the part of the patient himself would be disagreeable alternatives, which will be appreciated when the character of these patients is taken into account. The use of restraint, we are pleased to say, has been reduced by Dr. MacDonald fully one third." The report concludes with the following suggestions: *first*, that new buildings or wings be provided at both Wards and Blackwell's islands for the accommodation of the chronic insane; *second*, that the salaries of the assistant physicians be increased, and that two more assistant physicians be appointed for each asylum; and, *third*, that all *Eugene* periodicals devoted to mental and nervous medicine be subscribed for and provided for the asylums.

—Mr. J. S. Browne, lately of the Astor Library, has been appointed assistant librarian of the New York Academy of Medicine, with a salary of one thousand dollars, and the efficiency of the library will no doubt be very greatly increased in consequence of this step. By the liberality of Mr. John Jacob Astor, a very large addition is now about to be made to the Astor Library building, which will correspond in size and appearance to the south section, which was the original structure erected by the present Mr. Astor's

grandfather. The north section, which was built by his father, Wm. B. Astor, will henceforth be the central portion, and in order that a long monotony may be avoided in the three sections this will be provided with an additional story, of a Mansard pattern, while other improvements will be made both in the interior and on the exterior of the building. The entire cost of the addition and improvements will reach two hundred thousand dollars, and the shelving capacity of the library will thereby be increased by two hundred and fifty thousand volumes.

—Mr. James Lenox, the founder of the "Lenox Library," has just died at the advanced age of eighty-nine years. He was also the originator of the Presbyterian Hospital, to which he gave not only land valued at two hundred and fifty thousand dollars, but an endowment fund of another two hundred and fifty thousand dollars.

CHICAGO.

A New Medical College,—What is it?—Steps have been taken by a few of the stirring spirits in all the so-called schools of medicine in Chicago to organize a new medical college, to be called the "Union" school. Its faculty, as so far indicated, is to contain men who have heretofore been known as regular physicians; it will have eclectic doctors and homeopaths, and possibly representatives from one or two other 'pathies. Certainly the right to its name will not be questioned. The talk is of having it located on the "north side." It is intended that a dental school shall be one of its several departments.

Miscellany.

THE PROPOSED LAW TO REGULATE THE PRACTICE OF MEDICINE IN MASSACHUSETTS.

MR. EDITOR.—This bill comes from the Social Science Association. Though the word "quackery" is not mentioned in it, the object of it is to make the public protect itself against quackery in medicine by trying to regulate practice. The word quackery has no definite meaning in the public mind, and it is not possible to give a definition which will be understood and accepted. It is an indefinite term, the meaning of which varies with each person who uses it.

The *Boston Advertiser* says, "A Thompsonian or a hydropathic physician who has learned by experience how far his system is useful, who employs it only so far, and who when baffled tries remedies which his experience or his reading of medical books suggests, or candidly advises his patient to call in another doctor, is not a quack." It is easier to say what it is not than what it is. But the bill must be to protect people against some definite act or persons. In the public mind the only thing that stamps a man as a quack is, not that he is culpably ignorant, but that he is culpably dishonest, and against such it is willing to protect itself.

No one nowadays carries his son to a king to be touched for scrofula, nor hangs the image of a malign

nant tumor on the shrine of a saint to be cured by him; but people still carry their children to Indian medicine men to be cured of hip disease, and bring to people suffering from cancer the remedies put up by those who offer to cure it. Educated people still believe that a man without knowledge of any kind can possess a mysterious tact and faculty for healing. The proofs in their minds are abundant. Innumerable testimonials can be collected from perfectly honest people that they have been cured of every curable or incurable disease. The majority of intelligent men do not think it necessary to protect themselves against people whom they believe to be honest. They go farther than this. The popular feeling is expressed in the *Boston Daily Advertiser*: "It a harsh measure at the best to forbid a man to exercise a calling which others may freely engage in, and to take away his sole means of earning a livelihood, and it should apply only to those whose system is a pretentious fraud." This sounds very well, but who is to decide what a pretentious fraud is? The board of examiners, as proposed by the new bill, has nothing to do with the suppression of fraud.

This board of examiners is the key-stone of the new plan, and is in itself a compromise between what the public know as the different schools of medicine. It is to decide who are prepared to practice medicine, while in the profession the diploma of the Harvard Medical School will be worth more than the decision of the board, which is merely a legal form that every new practitioner of medicine will have to comply with. The members of the proposed board are not to be professors who know by experience how to examine a candidate, but members of what are called the "state societies," appointed by the governor, and who are likely to have forgotten many things that the candidates will know. Such a bill is likely to be an indirect support to second-rate medical schools; for where will be the incentive to give a thorough medical education to men, if their final examination is not to correspond with their education.

What result is such a bill likely to have? It may oblige a few of the present quacks, whom it wants to get rid of, to go somewhere else, but their places will be filled by others who have licenses, and who will pander to the public belief in and desire for the marvelous in medicine with as little scruple as their predecessors, and with a greater appearance of knowledge, and who will be able to hold up to the public their "permit to practice medicine" as a guarantee that they are considered reliable men by the State.

The members of the Massachusetts Medical Society, who want the public to understand that they are simply physicians, and are neither allopaths, nor homœopaths, nor eclectics, and who consider the assumption of any medical dogma as derogatory, are asked to join with what are called by the public "the different schools" to form a supreme board of examination. By doing so the Massachusetts Medical Society will be considered by the public as recognizing that such schools really exist in the science of medicine, and are not merely devices for securing practice. No legislation can do what is the slow work of time and education. Moreover, who is to prosecute? Who is to pay the expenses? Will a jury be found which will convict any one of quackery in any case that cannot at present be brought up into court under the charge of obtaining money under false pretenses? The object should be, not so much to punish the quack, whom the public

believes to be honest, and to be gifted with a wonderful tact in curing disease, as to enlighten the public by exposing him. X.

DEATH FROM IMPACTED GALL-STONES.

BY ISAAC F. GALLOWAY, M. D., LYNN.

CASE I. Fatal obstruction of the intestine by gall-stones is a sufficiently rare event to make the following cases worthy of being put on record.

I was called on the 5th of April to see Mrs. M., a lady sixty years of age, who had then been suffering from biliary colic for three days, during which time there had been vomiting, obstinate constipation, notwithstanding the use of powerful cathartics, and at short intervals paroxysms of severe pain. She stated that she had previously suffered several attacks like the present, but of less severity. At the time of my first visit there was tympanites, stercoraceous vomiting, marked prostration, and pain that only full hypodermic injections of morphia could relieve. Without mentioning details, it is sufficient to say that these symptoms continued until the 11th, when the patient died of exhaustion and inanition.

At the autopsy an ovoid gall-stone was found, measuring $3\frac{1}{4}$ by $3\frac{1}{4}$ inches in circumference, impacted in the small intestine, at a distance of eight feet from the pylorus. It was externally of a dark brown color, and on section exhibited the appearance of pure cholesterine. That portion of the intestine that had been traversed by the calculus was dilated to the size of the colon; the remainder was contracted to one third its normal size. There were a few old adhesions, and the appendix cæci, which was six inches in length, was attached to the fundus of the gall-bladder.

CASE II. The history, symptoms, and progress of this case were similar to those in the case of Mrs. M. The patient was a woman forty years of age.

At the autopsy the intestines and omentum were found matted together and bound down by old adhesions, so as to make it difficult to trace the natural divisions. A stricture was found in the sigmoid flexure tightly plugged by a gall-stone about the size of a pigeon's egg.

PERMANENT CLOSURE OF THE PALPEBRAL APERTURE.

MR. EDITOR, — I am always interested in reading the *Boston Medical and Surgical Journal*, and it is especially interesting to me when it contains a paper by my friend, Dr. Henry W. Williams, on a moot ophthalmological point, such as is that which he has lately read, and which you have published in your issue of the 22d of January. In the discussion thereupon, at page 85, I see that Dr. F. P. Sprague said that Mr. Critchett had advocated, in some cases, the destruction of the conjunctiva, and the consequent and final approximation and closing of the palpebral aperture. I am glad, and am not surprised, if he has done so, for my experience of the operation, in particular cases, is more and more in its favor. I think I have probably done it more frequently than any other ophthalmic surgeon, and as the operation is now so highly commended in America, as well as in England, I wish to retain the credit of its origination. My papers on the subject appeared in the *Lancet* on the 15th and 22d of June, 1872, at pages 821 and 855. I am, sir, your obedient servant.

J. F. STREETFIELD, F. R. C. S.

ROYAL LONDON OPHTHALMIC HOSPITAL, February 16, 1880.

REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 28, 1880.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Deaths under Five Years	Percentage of total Deaths from				
				The Principal "Zymotic" Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.
New York.....	1,085,000	541	237	19.96	17.01	7.02	.92	.92
Philadelphia.....	301,380	294	99	14.97	9.18	4.42	2.72	2.38
Brooklyn.....	564,400	234	84	16.24	20.51	9.40	1.71	—
Chicago.....	—	169	77	28.99	14.79	13.61	5.33	2.38
St. Louis.....	—	110	42	18.18	17.27	3.64	—	.91
Baltimore.....	393,796	140	60	12.86	9.29	4.28	3.57	—
Boston.....	365,000	161	61	12.42	18.01	6.83	.62	1.24
Cincinnati.....	280,000	93	30	16.13	9.68	2.15	5.37	2.15
New Orleans.....	210,000	109	27	14.68	11.01	3.67	.92	1.83
District of Columbia.....	170,000	98	46	4.08	17.34	1.02	1.02	—
Cleveland.....	160,000	60	23	28.33	5.00	5.00	10.00	5.00
Pittsburgh.....	—	—	—	—	—	—	—	—
Milwaukee.....	127,000	40	24	32.50	5.00	15.00	—	2.50
Providence.....	101,500	42	10	26.19	14.29	2.38	21.43	—
New Haven.....	60,000	23	10	21.74	21.74	8.70	—	—
Charleston.....	57,000	33	15	8.57	20.00	—	—	2.86
Nashville.....	17,000	23	6	4.35	17.39	—	—	—
Lowell.....	54,000	26	14	23.08	15.38	7.69	15.38	—
Worcester.....	53,000	26	7	7.69	23.08	—	—	3.85
Cambridge.....	50,400	23	4	4.35	8.69	—	—	—
Fall River.....	49,000	26	12	26.92	11.54	—	23.08	—
Lawrence.....	38,600	15	8	20.00	20.00	13.33	—	—
Lynn.....	34,000	17	3	11.76	35.29	11.76	—	—
Springfield.....	31,800	4	—	—	—	—	—	—
New Bedford.....	27,200	12	—	58.33	8.33	33.33	25.00	—
Salem.....	26,500	12	3	8.33	33.33	8.33	—	—
Somerville.....	23,500	5	2	—	60.00	—	—	—
Chelsea.....	21,000	6	2	16.67	16.67	16.67	—	—
Taunton.....	20,200	8	4	25.00	—	25.00	—	—
Holyoke.....	18,400	9	5	44.44	11.11	33.33	—	—
Gloucester.....	17,300	6	3	33.33	16.67	—	16.67	—
Newton.....	17,300	6	3	33.33	33.33	—	—	—
Haverhill.....	15,350	4	1	—	50.00	—	—	—
Newburyport.....	13,500	7	1	28.57	—	—	—	28.57
Fitchburg.....	12,600	5	2	20.00	—	—	—	—
Nineteen Massachusetts towns.....	143,810	43	10	18.60	9.30	4.65	4.65	4.65

Two thousand four hundred and thirty-two deaths were reported; 927 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas and fevers) 433, consumption 397, lung diseases 361, diphtheria and croup 155, scarlet fever 70, measles 51, diarrheal diseases 41, typhoid fever 33, whooping-cough 33, erysipelas 19, malarial fevers 16, cerebro-spinal meningitis nine, small-pox six. From *measles*, New York 28, Philadelphia nine, Brooklyn and Chicago three, New Orleans and New Haven two, St. Louis, Cleveland, Lawrence, and Holyoke one. From *whooping-cough*, New York and St. Louis five, Brooklyn, Boston, and Cincinnati three, Chicago, Baltimore, Cleveland, and Charleston two, New Orleans, District of Columbia, New Haven, Cambridge, Gloucester, and Fitchburg one. From *erysipelas*, New York seven, Philadelphia, Chicago, and Milwaukee two, Brooklyn, St. Louis, Baltimore, Cleveland, Providence, and Worcester one. From *malarial fevers*, New York seven, Brooklyn, St. Louis, New Orleans, and Milwaukee two, Baltimore one. From *cerebro-spinal meningitis*, Chicago two, New York, Baltimore, New Orleans, Cleveland, Fall River, Malden, and Quincy one. From *small-pox*, Philadelphia five, Baltimore one. One hundred and sixty-four cases of measles, 38 of diphtheria, 31 of scarlet fever, four of whooping-cough, and three of typhoid fever were reported in Brooklyn; 18 of diphtheria and 10 of scarlet fever in Milwaukee; scarlet fever 40, diphtheria 17, typhoid fever two, in Providence; diphtheria 37, scarlet fever 13, in Boston; diphtheria five, scarlet fever one, in Cambridge; diphtheria nine, scarlet fever seven, in New Bedford. The death-rate of whites in District of Columbia was 23.72, of colored 42.71.

The total number of deaths and of deaths under five reported is very nearly the same as for the previous week. Lung diseases remained about as before, and the mortality from consumption was a little greater. There were fewer deaths from typhoid and malarial fevers, the other infective diseases remaining without noteworthy change. In 28 cities and towns of Massachusetts, with an estimated population of 1,032,460 (pop-


ulation of the State about 1,690,000), the death-rate was 21.26 against 20.22 and 22.09 of the previous two weeks, with an increased mortality from scarlet fever and diarrheal diseases.

For the week ending February 7th, in the 20 chief Swiss cities and towns, diphtheria, scarlet fever, and typhoid fever were the only prevalent infectious diseases, the latter two, however, not having proved very fatal; there were no deaths from small-pox or measles; lung diseases continued to cause excessive mortality. In Belgium, small-pox was more fatal, 46 deaths in seven towns having been due to it; bronchitis, pneumonia, diarrhoea, and whooping-cough were excessively prevalent and fatal; croup and typhoid fever quite so, while scarlet fever and measles caused only a moderate number of deaths. In Paris, Lyons, and Marseilles the death-rates were enormous, due largely to the great fatality of small-pox, typhoid fever, diarrhoea, and acute lung diseases. In 142 German cities, with an estimated population of 7,602,749, the death rate was 26.9 against 25.7 of the previous week. Three thousand nine hundred and twenty-eight deaths were reported; 1739 under five years; pulmonary consumption 594; acute diseases of the respiratory organs 487, diphtheria and croup 158, whooping-cough 64, typhoid fever 57, scarlet fever 55, measles and *röteln* 36, prurient fever 28, small-pox (Dantzig, Berlin, Beuthen, Stargard) 4, typhus fever one. The death-rates ranged from 16.1 in Wiesbaden to 41.9 in Erfurt; Königsberg 32.0; Dantzig 32.3; Breslau 28.4; Munich 36.4; Dresden 22.4; Berlin 23.5; Leipzig 24.8; Hamburg 24.5; Hanover 21.0; Bremen 29.2; Cologne 33.0; Frankfurt 20.7.

For the week ending February 14th, in the 20 English cities and towns, with an estimated population of 7,499,468, the death rate was 30.1 against 37.0 of the previous week. Four thousand three hundred and twenty-three deaths were reported. Lung diseases had very much declined from 1557 to 1020, but exceeded the corrected weekly average by 554; whooping-cough 279, scarlet fever 110, measles 81, fever 52, diarrhoea 32, diphtheria 20, small-pox (London) 12. The death-rates ranged from 19.3

in Leeds to 35.5 in London; Bristol 24.7; Birmingham 23.1; Leicester 19.7; Liverpool 29.9; Manchester 26.1; in Edinburgh 19, Glasgow 23, Dublin (small-pox, three deaths) 45.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.				
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7  M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.				
Feb. 22	29.883	34	46	26	77	34	70	60	W	NW	SW	10	5	3	C	C	F	—	—				
" 23	29.577	33	39	30	79	100	50	76	S	NW	NW	13	16	24	O	R	F	—	.37				
" 24	30.092	26	35	16	68	51	53	57	NW	NW	NW	27	14	10	C	C	C	—	—				
" 25	30.056	32	41	19	60	70	53	61	C	SE	SW	0	10	5	F	O	O	—	—				
" 26	29.925	43	48	34	83	77	91	84	C	N	NW	0	4	1	T	O	G	—	.14				
" 27	30.141	48	61	33	90	63	59	71	NW	SE	NW	3	3	3	C	C	C	—	.03				
" 28	30.130	47	56	37	82	61	93	79	C	S	SW	0	3	10	F	C	R	—	.05				
Week.	29.972	38	61	16				68	Northwest.													19.45	.59

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY, FROM FEBRUARY 28, 1880, TO MARCH 5, 1880.

COOPER, GEORGE E., lieutenant-colonel and assistant medical purveyor. To be relieved, temporarily, in the charge of the medical purveying depot in San Francisco, Cal., by Captain H. Johnson, medical storekeeper. S. O. 48, A. G. O., March 3, 1880.

HEGER, A., major and surgeon. Having reported in compliance with orders from the A. G. O., is assigned to temporary duty at department headquarters. S. O. 42, Department of Texas, February 26, 1880.

MUNN, C. E., captain and assistant surgeon. Granted leave of absence for one month. S. O. 44, Department of the Missouri, February 27, 1880.

BROWN, P. R., captain and assistant surgeon. To report in person to the president of the medical examining board for examination for promotion, and on completion of the examination, to the commanding general, Department of the East, for assignment to duty. S. O. 47, A. G. O., March 2, 1880.

FINLEY, J. A., captain and assistant surgeon. To report in person to the president of the medical examining board, in session in New York city, for examination for promotion, and, upon completion of the examination, to the commanding general, Department of the East, for assignment to duty. S. O. 47, C. S., A. G. O.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting will be held on Monday evening next, at eight o'clock, at the hall of the Medical Library Association. Reader, Dr. Garland. Subject, A Report of some Cases of Pleurisy in the Service of Professor Ellis, with remarks on the same.

FREDERICK C. SHATTUCK, M. D., Secretary.

SUFFOLK DISTRICT MEDICAL SOCIETY. — A meeting will be held at the hall, No. 19 Boylston Place, on Saturday evening, March 13th, at seven and a half o'clock. The following papers will be read. Dr. D. Hunt, Objections to the Proposed Law to regulate the Practice of Medicine. Disputant, Dr. E. W. Cushing. Dr. E. Cutter, The Salisbury Treatment of Consumption. Disputant, Dr. E. Cheney. All members of the Massachusetts Medical Society are cordially invited to be present and to take part in the discussion. Supper at nine o'clock. T. M. ROTCH, M. D., Secretary.

BOOKS AND PAMPHLETS RECEIVED. — Contributions to the Physiology and Pathology of the Nervous System. Part I. By Isaac Out, A. M., M. D.

The International Scientific Series. The Crayfish. By T. H. Huxley, F. R. S. With eighty-two illustrations. New York: D. Appleton & Co. Boston, 6 Hawley Street. 1880.

Transactions of the New Hampshire Medical Society. 1879.

Eleventh Annual Report of the Children's Hospital. Boston. John Wilson & Son. 1880.

Meddelelse om Skarlagensfeber af Aug. Koren, Korpsslæge. I, II, III. From the Norsk Mag. for Lægevidenskaben. 1879. Christiania, Norway.

Treatment of Diphtheria. By Ira E. Oatman, M. D., Sacramento.

Atlas of Histology. By E. Klein, M. D., F. R. S., and E. Noble Smith, L. R. C. P., M. R. C. S., Part X. Philadelphia: J. B. Lippincott & Co. London: Smith, Elder & Co. 1879. (For sale by A. Williams & Co.)

Paquin's Thermo-Cautery, with Wilson's Antithermic Shield, in Epithelioma of the Cervix Uteri. By H. P. C. Wilson, M. D., Baltimore, Md.

Boric Acid. A New Remedy in Eye Diseases. By Samuel Theobald, M. D., Surgeon to Baltimore Eye and Ear Dispensary, etc. (Reprint.)

Clinical Notes upon the Use of the Galvano-Cautery. By William A. Byrd, M. D., Quincy, Ill. (Reprint.)

Nitro-glycerine as a Remedy for Angina Pectoris. By William Munell, M. D., M. R. C. P., Lecturer on Practical Physiology at Westminster Hospital, etc. London. (Reprint.)

The Medical Annals: A Journal of the Medical Society of Albany. Vol. I. No. 1.

The Causes and Results of Pulmonary Hemorrhage, with Remarks on Treatment. By Reginald E. Thompson, M. D. Cantab., etc. With Illustrations. London: Smith, Elder & Co. 1879.

Monthly Bulletin of the North Carolina Board of Health. Wilmington, N. C. January, 1880. Thomas E. Wood, M. D., Secretary.

Norris on the Discovery of an Invisible or Third Corpuscular Element in the Blood. Abstract, with a Critical Note by Mrs. Ernest Hart. (Reprint from London Medical Record.)

Report on the Revision of the United States Pharmacopœia preliminary to the Convention of 1880. By Charles Rice, Chairman of the Committee. New York. 1880.

The Therapeutics of Gynecology and Obstetrics. Edited by William B. Atkinson, A. M., M. D. Philadelphia: D. G. Brinton & Co. 1880.

Excerpta from the Annual Report to the Board of Health for 1879. By Joseph Holt, M. D., Sanitary Inspector, New Orleans.

Pharmacology and Therapeutics; or, Medicine Past and Present. By T. Lauder Brunton, M. D., F. R. C. P., F. R. S. London: Macmillan & Co. 1880. (A. Williams & Co.)

Classical Writers. Edited by John Richard Green. Virgil. By H. Nettleship. New York: D. Appleton & Co. 1880.

Ceremonial Institutions, being Part IV. of the Principles of Sociology (the first portion of Vol. II.). By Herbert Spencer. New York: D. Appleton & Co. 1880.

Skin Diseases, including their Definition, Symptoms, etc. A Manual for Students and Practitioners. By Malcom Morris. With Illustrations. Philadelphia: Henry C. Lea. 1880.

Original Articles.

CASES OF INSANITY AND OF FANATICISM.¹

BY CHARLES F. FOLSOM, M. D.,

Lecturer on Hygiene and on Mental Diseases in Harvard University.

Mr. F. is the next to youngest child of five, four of whom are in good health. There is no known insanity in the family. The father is still living, of very intemperate habits; the mother died of cancer. Mr. F.'s general habits are good; he has used tobacco, but never to excess. He was always strong-willed and very conceited.

When fifteen years old he enlisted as drummer boy in the recent war, and served to its close; he had many hard marches, and was several times ill with dysentery. At the age of twenty-one he "experienced religion," having worked at "healing" in a Lynn shoe manufactory since the war, with the exception of a year passed with a brother in the town of Natick. In Lynn he became acquainted with his wife, employed there stitching shoes. He worked so hard to save money to get married that he broke down in 1871, and had to take a vacation, upon his return from which he was married, at the age of twenty-five, a year after having had an attack of diphtheria. In 1875, business being dull, he removed to Pocasset, the home of his wife, and took a small house, nearly a half mile from his nearest neighbor; Pocasset being a village of three settlements, about a mile and a half apart, containing in all about eighty houses, and from three hundred and fifty to four hundred inhabitants. He employed himself carrying the mail between the railroad station and the post-office, for which he was paid one hundred and fifty dollars a year, took care of the Methodist church, and raised a few crops on a small piece of land, keeping a horse, and also one cow, whose milk he sold when he had any to spare. In the summer of 1876 he was overworked by exposure to the sun in haying, felt weak, nauseated, with a feeling of oppression about his head, so that he had to give up work, and has not been able to wear a stiff hat or a tight one since that time. His family physician remembers having heard him complain of his head a year later. He is a rapid, fluent speaker, very bright, of not much education, thoroughly kind, humane, affectionate, and extremely fond of his family, especially the younger daughter, who was his constant companion.

February, 1878, in the church, one evening, he heard the Old Testament preached, and thought if it were all true, and men lived up to it, they would soon be in the poor-houses with their families. It made such an impression upon him that he had to go home, leaving a friend to put out the lamps and shut up the church, thinking that no one lived up to the religion which he professed to believe. On reaching home, he found a paper called the Golden Rule, and in it a sermon on renunciation by a popular preacher. He came to the conclusion that the only way to find out whether the Bible were true would be to live up to it, to follow the letter to its logical sequence, and see whether God would support a man in it, as "the Spirit of God leads a man in the opposite to the natural direction." He began to discuss religious doctrines incessantly,

and went about to those acquaintances with whom he had any differences and said he wished all to be forgotten, as he meant to lead a new life of devotion to the Word and Spirit of God. He "experienced religion" a second time at the Methodist camp meeting, — the first having been in Lynn years before. He spent much time poring over Josephus and the Bible.

He thought the Lord asked him to consecrate himself to his work, to the exclusion of every other duty, even to letting his family starve if necessary. He struggled with the question for several days, and then yielded, when he thought he was rewarded for his act of faith by the Lord's not requiring him to do it. Again the Lord asked him if he would renounce his family altogether, and never see them again, in order to go and preach the gospel. The question at first "staggered" him, as did the former on consecration, but finally he consented, and the Lord rewarded his faith by not requiring him to do it, as in the former case, and by giving him clearer light to see the meaning of the Bible. He said that he always talked with the Almighty as if he were a boy fourteen years old, and God always held him to his word.

In the summer of 1878 he had his "baptism by water" under the Adventist leaders, Wing and Brown, although he says he got his inspiration and communications directly from God. He had a great vision, beginning while he was asleep, although he is sure he did not remain so, for everything was very vivid and real, and he recollects getting out of bed to pray. A heavy black cloud settled down on him; he heard some voices plainly and others faintly, is not sure what they said. He was translated three fourths of a mile to the house of his mother-in-law, and saw a terrible whirlwind, with noise of hail and thunder, so that the adjacent house of his brother-in-law was leveled with the ground. He was very much frightened. The Adventists soon became so demonstrative that they were forbidden to hold their meetings in the church, and afterwards were prohibited from using the school-house for that purpose. On the departure of the Adventist leader from Pocasset, F. at once became the acknowledged head of the sect in that village. There arose a bitter quarrel, and F.'s brother-in-law forbade his wife having anything to do with F. or his family, which he considered to be a fulfillment of the vision just related; and his followers thought him chosen of the Lord because of the vision and its fulfillment.

In December, 1878, the Lord required him to give up relations with his wife. He wondered whether the suggestion were from the Lord or the devil. He and his wife argued the point, standing in their night-dress in their chamber. He finally consented, and then, as in the two cases before, of consecration and renunciation, he found the Lord did not require him to do more than show his faith.

In these communications from the Lord there was no act of the will, but they came beyond his power to bring them or prevent their coming. They were always accompanied with a peculiar, indescribable sensation, as if something was going from the ends of his fingers, a sinking sensation about the heart, and a feeling lasting about fifteen minutes which he could not explain, but it was not unconsciousness.

Nine weeks before the homicide he had another revelation that he should lead a life of celibacy. He and his wife both finally agreed to give up their relations for three weeks, to see whether the Lord really

¹ Read before the Boston Medical-Psychological Society, February 5, 1880, and also before the Boston Society for Medical Improvement.

meant that. At the end of that time, for a trivial reason, he concluded the Lord meant for them to abstain, which they did for the remaining six weeks of their living together. At a meeting one evening, about this time, he had an uncontrollable fit of crying, and wondered whether it was a sign that the Lord meant him to renounce his family and go away to preach. He became irritable and impatient with his children, whom he really loved very much.

Three weeks before the murder he had his second great vision, one afternoon on lying down for a nap. A cloud settled down over him; his head and chest seemed as if afire; a tornado swept by, and he heard the sound of thunder (which Dr. Denny thought might have been suggested by the striking of the clock). He saw himself standing in a room in his night dress, with a dim light from a candle. A voice said, "Jesus is here, Jesus is here." He says he is sure he was not asleep, but remarked that it was quarter past three when he awoke. He could not understand the Lord's meaning, and could not sleep any more than if he were of glass, being in great agony.

Ten days later, and also ten days before the homicide, his wife's sister was at F.'s house, when her husband, a violent-tempered sea-captain (not the same brother-in-law as the one already referred to), found her there against his orders. He had a gun with him, and threatened to shoot Mr. F. This made such an impression on him that he could not attend to his work, although he continued to carry the mail. There was an awful feeling as if God were actually in the house, and about to require some great sacrifice of him. For the next ten days he ate only bread and cracker very sparingly, and drank only water, sleeping very little, scarcely an hour at a time, breathing so heavily in his sleep that he could be heard distinctly in the next room.

All of this time, while nominally the leader of the Adventists, he considered himself far in advance of them all, as having direct relations with God, and being chosen to do a great work second only to that of Christ. He remained in the greatest agony to find out what the Lord meant by this vision, and in great fear from the threat of his brother-in-law to shoot him.

Four days before the murder, he told a young girl, sick with consumption, that he could restore her to health, if she would have faith in him; and the day before it he went to a sick Adventist and said that it had been revealed to him that he should get well.

Three days before the murder, he became convinced that the Lord meant him to go away and preach, but he did not know where. He had just money enough to go to Boston, and he told the postmaster that he meant to give up carrying the mail in a few days, — a great act of faith, for the one hundred and fifty dollars a year from it constituted then his only income.

The next day his wife read in an Adventist paper of the sacrifice of Abraham, and asked him if he could perform so great a sacrifice, if that was what the Lord meant to require. He was shocked, and thought it preposterous, and then felt it so absurd that he laughed outright. After having slept a little that night, he began soberly to think whether he could do so, and laughed aloud again, the idea seemed so absurd. However, he soon concluded that some sacrifice was necessary, but did not know whether the Lord meant to take him, his wife, or one of the children. He felt that the one to go was to be taken by sickness and die, as did his

first-born child, of diphtheria, some years before. He told his mother-in-law that if there was anything between her and God she had better make it square with Him, and give God the benefit of the doubt.

This brings us up to April 30th, the day before the homicide. His family physician had noticed undue excitement for the previous month, and that for a week F., instead of being loquacious as usual, had been taciturn and moody, even passing his friends without recognition. He had been living a life of intense religious excitement for six months, and had himself remarked an uncommon weariness and inability to work; indeed, he had said that he was getting prematurely old; and some former friends visiting him, several months previous, from Lynn, remarked that if he were not then insane he soon would be so.

During the day, a tramp had called for food, and upon being generously treated left F. an old case-knife, with a rough blade six and three eighths inches long, one inch wide, and tapering to a point, the handle being of wood, five and one eighth inches long, four inches round, and bound at the end with tin. That evening F. and his wife went to the Adventist meeting, and he spoke fluently. On the way home they saw lightning, which both remarked upon as being unusually red, and a black cloud was thought to cover the moon. F. was sure that was a sign from the Lord. They went to bed, and he awoke between one and two o'clock with the sensations which he usually felt in his revelations. He was shown that the Lord meant to test his faith by asking him, as he did Abraham, to kill his beloved child. His wife told him he was wrong then if never before in his life, and tried to dissuade him from it. He went to the room where he occasionally had worked at shoemaking, got the knife left by the tramp the day before, as specially ordained by God, in his mind, sharpened it, as he had seen pigs stuck clumsily and wanted his child killed at once, if at all, and then went back to his wife's chamber. She still tried to dissuade him, but he assured her that all God wanted was a test of his faith, and that, as on previous occasions, He would not require the deed to be done. She said, "Go, and God be with you," but neither then thought that the child was to be sacrificed, although F. was prepared to do it, if the Lord so required. "One moment of agony," he said, and "then everlasting peace."

On finding himself standing in his night-clothes, holding his head with his hands, in the room dimly lighted by a kerosene lamp in the chair, he recognized the position as being identical with that of his vision three weeks before, and knew he had found its interpretation. He raised his hand to the highest, kept it up a long time to give God plenty of time, brought it down and struck the bed. He then raised it again, and on bringing it down pierced the walls of the heart, when the child died almost instantly, moaning, and simply regaining consciousness a moment to say, "Oh! papa," — and not suffering much pain, as he prayed might be the case if the sacrifice should be required.

The elder sister, at first unconscious of the act, was then awakened and sent to her mother. She had only a vague recollection of the matter, and says, "Edie moaned dreadfully." F. lay quietly on the bed with the dead child, feeling a great sense of relief. Mrs. F. then went to the next room and said "Oh! Charles! how could you do it?" He answered, "I promised the Lord I would, but thought He would stay my hand." He had hoped and felt that there would be a

moment of agony in consenting to do it, and that then he would be the favorite servant of the Lord, and he and his child would go out and preach a new salvation. He had been baptized with water and of the Holy Spirit, and hoped for the baptism with fire.

He soon had another revelation that the child would rise before morning, and went quietly to sleep. After an hour of intense suffering on the part of himself and wife when they found the child did not rise, he had another revelation that she would do so on the third day. Up to this time none of the other Adventists had any idea that such a sacrifice had even been thought of. A neighboring fanatic, Mrs. H., was sent for at eight o'clock in the morning, and her husband came two hours later. They were at first shocked, but soon were filled with the delusion as to the resurrection. F. carried the mail unconcernedly that morning, and then gave it up, and asked Mr. H. to take his place, until a successor should be appointed. During the day, he sent to all the Adventists and to the leading people in the town, including the physician, selectman, and Methodist minister, to come to his house, as he had a special announcement of great importance, which they supposed to mean his going away to preach, especially as he said it would be his last meeting in Pocasset. None but Adventists appeared, the meeting being in the middle of the afternoon. There were present: Mr. and Mrs. F.; Mrs. D. and daughter; Mr. and Mrs. S. and daughter; Mr. and Mrs. W. and two sons; Mr. and Mrs. G.; Mr. and Mrs. H.; Mrs. S.; Miss C.; Miss W.; Mr. and Mrs. H. — or twenty out of the twenty-three Adventists.

F. spoke fluently of the lightning and the cloud over the moon on the previous evening, and of his many revelations and visions, and then showed them the dead child, to their horror. He finally convinced them all of her resurrection on the third day. When the meeting dispersed, Mr. W. told two carpenters working for him of the deed, but otherwise it was not mentioned until the evening, when Constable R. ascertained the fact of Miss D., whom he happened to visit. Mr. R. at once called on Selectman N., to tell him of the homicide, and was sent to Mr. H. to ascertain whether such were the fact. In the mean time, lightning again, Thursday evening, was interpreted by F. as another revelation from Heaven that he had done rightly.

The next morning, the constable went with a friend to guard F.'s house, and the selectman drove to a railroad station, several miles distant, to telegraph for the sheriff and medical examiner. On their return, Mr. and Mrs. F. appeared perfectly calm. Mr. F. told the story minutely, even stopping from time to time to have every word put down, but showed great emotion when speaking of the child's death. He told his family physician that he should kill the other child if the Lord required it, and his wife sat quietly by darning stockings, without any of the emotion shown by her husband, sure that whatever happened the resurrection on the third day would fully justify the deed.

On the way to the jail Mrs. F. sat in the ear quiet and calm; Mr. F. sang religious hymns, and tried to harangue the passengers about his great mission as an evangelist.

Mr. D., the greatest fanatic of the others, was not at the meeting, and on reaching home, late Thursday night, at once saw the nature of the homicide, and set to work to disabuse the rest of their delusions. Most of them were brought to their senses in a day or two,

but some remained deluded until the third day, when Mrs. F.'s mother went to the room where the child's body had been put to see whether it had arisen. Mrs. F. thought the child would rise and the prison doors be opened on the third day; but when that did not happen, she too was convinced that her husband had acted from mistaken faith, and had simply murdered a daughter to whom they were both devotedly attached.

F. alone held to his delusion. When the child did not rise on the third day he was not troubled in the least, as he said the word day was used in the scriptural sense, and he did not know its length.

Previous to the murder, as afterwards, he was sure that he was within a step of Jerusalem, of being where the apostles started; that he had in his hand the silver keys to the kingdom of God and that he should have the baptism of the Holy Spirit, — it might take a day to get it, or a thousand years. Daniel, Michael, Cyrus, and Christ were represented in him, and especially Jacob. The twenty-three hundred days mentioned in the book of Daniel when Michael shall stand up ended on the day of the murder, and he was Michael, who also was Jacob. He never before felt so happy and full of peace as after killing his child.

Soon after going to jail he had his third great vision, and "the third baptism, with fire" as a reward of his faith. He felt so cold that he could not get warm by piling on all the bed-clothes. It seemed to him as if he were in a "rush of water" and all attire inside throughout his body. He was dazed for several days, and since then his life has been filled with revelations and minor visions, one of them being that the prison doors would be opened May 21st, with great phenomena from the heavens, and that the kingdom of God would be preached by him with his risen daughter, who would appear in a cloud of light, etc.

F. and his wife both refused counsel, saying that they were in the Lord's hands, and only consented to have lawyers appointed for their defense when they found the court would require it. It should be said, too, in passing, that the Adventist papers mentioned the homicide as an insane act, due no more to one form of religion than another.

I saw Mr. F. three times before the sitting of the grand jury in October. He appeared a man of high sense of honor, with a very keen general appreciation of right and wrong, neat and particular in his dress, very scrupulous in his habits, and of tender feelings. His great love of his family, especially of the younger daughter, and his devotion to them were commonly observed and remarked upon. He could not refer to the killing of his child without completely breaking down, although if asked if he did aright he would at once break out into rapturous descriptions of his greatness, and boasted of his being so important a personage that his supernatural power was so felt by the other prisoners that they obeyed his slightest word, — a delusion based on the fact that when disturbing our conversation they kept quiet at his request.

The extravagance of his delusions, the very marked tremor of his hands and tongue, and the rapidity with which he rushed from one emotional state to another suggested to me general paralysis of the insane; but the failure to detect any, even slight, incoordination of any of the finer muscles, the want of permanent impairment of the memory, the absence of tabic symptoms or increased sexual impulse, the efforts to avoid being seen when strangers came in, convinced me that

such was not the disease in hand and, indeed, a general paralytic, so long ill, could not have written such letters as several which were shown to me. The three great visions, probably somewhere on the obscure border line between consciousness and unconsciousness, with symptoms somewhat like an *aura*, made me think, but only for a moment, that epilepsy might be an element in the case.

I could not find any evidence of disease of heart, lungs, liver, kidneys, or brain except the mental symptoms and indications of hyperæmia, at least partial, of the brain. I did not observe any marked pallor or congestion of the face, although the eyes were flushed. The brain was very tired, however, especially at my first visit, and Mr. F. could read only in snatches for the first five months of his confinement, without lying down to rest, and it was impossible for him to concentrate his attention. At times he was somewhat incoherent and illogical, and very easily lost the question put to him, but he was as a rule quite clear, and reasoned accurately. His pulse was, as I saw him, once quite slow, but commonly about 70, regular and weak. Generally he slept well enough, but lightly, after a couple of weeks of sleeplessness in the jail. Digestion not troublesome; no hallucinations of sight or hearing. He thought God worked through the other inmates of the prison to do things to help him, even when they were making profane or obscene remarks. He had apprehensions part of the time that other sacrifices might be necessary, but finally gave up that idea, although he was not quite sure even then whether some other revelation might be made to him to kill his wife or other child; and he would at any time do it if God so commanded. If he thought there was any danger of his killing the other daughter, in spite of his faith in God, he would want forty thousand bars and walls between them. Several times, indeed usually, I found a little uncertainty about him, and that he rarely repeated the same statement in precisely the same way as before.

He had no care for the future, knowing that he was in God's hands, and all would be right. If set free, he would have nowhere to go, and would at once come back to prison, — a curious inconsistency with his grand ideas, but probably due to his believing that he must await the Lord's time for the resurrection. He said he did not care for his wife's future, as she, too, was in God's hands.

Just before the homicide, he thought he was called to preach the life, and was ready to give up his wife and children forever for that purpose; but instead of that God guided him to murder and Barnstable Jail. Barnstable being in Cape Cod, and the cape being called sometimes the right arm of the State, his incarceration is spoken of in the Bible, where it is said that God shall hold his own in his right arm. The Bible says, "He shall stretch out his arm like a swimmer," which referred to the great swimmer Boyton, and showed that the present is the time for the fulfillment of Scripture. He had a large marble to toss in his cell, and when it broke he said it was the ball in a great waste mentioned in the Bible. In fact, nearly every trivial act or event in his prison life was referred to by him as being an illustration or verification of some passage of Scripture, and indicating that all the great predictions were being fulfilled. He knew he was right, and the rest of the world wrong in not believing him. In October, he came to the conclusion that he might not preach the gospel to audiences, but

still be the great light of the world. If he and his wife were hanged it would make no difference, for the great glory would come to pass in some way which would be shown.

In the October session of the grand jury he was indicted for murder in the first degree, and his wife was set free. He still maintained his composure, but on close questioning acknowledged that he hoped his wife would be sent to a more comfortable place than the jail. Since his so-called baptism by fire and the Holy Spirit, he had constantly said that he had attained everlasting life.

Between August 15, and October 13, 1879, there was an improvement in his physical condition, and the confused feeling about his head had disappeared, so that he could read and write without weariness. Between that time and January 28, 1880, there was still an improvement in his condition, and he had almost ceased to have direct communications with God or revelations. Although asserting his personal bodily immortality, and repeating that he and his wife stood alone on the top of Mount Zion, he expressed a doubt as to the resurrection of the child, and feared that his wife was going to have a hard time of it for the rest of her life. A new idea had come to him that he had killed the child under the influence of the devil, the devil acting under God, and that thereby he had overcome the devil; that his life represented the struggle in heaven between the archangel Michael and Satan. All murders illustrate this and bear on his case.

He was not allowed to plead at the trial, and the wife was objected to as a witness, on the ground of insanity. He seemed to me for the first time to show evidences of clearing up in his mind, and told me that he expected to be sent to an insane asylum.

Mr. F. was examined by Dr. J. H. Denny, Dr. C. A. Walker, and Dr. J. P. Brown for the government, and by myself for the defense. We were all agreed as to his insanity.

The testimony before the court was substantially as follows, in reply to questions by F.'s counsel, Hon. A. W. Boardman and C. Allen Taber, Esq.:—

Dr. Charles J. Wood, of Pocasset, was the first witness called. After testifying to his experience and his acquaintance with F., which had been intimate during the past seven years, he said that as far as he knew F. was an honest, humane, and truthful man, a good husband and a loving father; a man attentive to business, prudent, sober, and had no vices except the use of tobacco. After his conversion, however, two years ago, a change came over him; his conversation turned wholly on matters of religion; he seemed to consider business pursuits as of secondary consideration, and neglected his farm. The homicide having occurred the first of May, the doctor was asked as to anything peculiar he had observed in F.'s manner during the ten days immediately preceding. He said that on the fourth day before the homicide, at the railroad station, he appeared to be completely absorbed in thought, and entirely contrary to his usual custom took no part in conversation; there was a great change in his whole demeanor, and he did not appear like the Charles F. whom the witness had known. On cross-examination the witness testified that he observed nothing about the defendant that showed a lack of general intelligence and understanding. His conversation on matters of religion was coherent and logical according to his own way of thinking, and his quotations of Scripture were profuse, correct, and apt.

TESTIMONY OF THE JAILER.

Mr. Isaiah C. Innan, the jailer who had Mr. F. in charge since his arrest, said that when he first came under his care he was in a great deal of excitement, so much so that he was feverish. He remained in this excited condition of body and mind for some time. After that stage was gone through with he came to another. He said he had received signs in various ways. He said one night he heard a noise in his pillow. He

thought at first it was imagination, and he changed the position of the pillow, but the noise did not stop; he said also that at the same time he smelt a bad odor. This he said indicated the presence of bad spirits, and he pointed out scriptural proof of this. On another time the wind rattled a window on the corner of the jail building. This, he said, was a sign representing that he was a corner-stone. He continually referred to other signs he had seen and heard signifying his peculiar calling. His appetite has been good, and, as a general thing, he has slept soundly. On cross-examination he said there was no want of general intelligence in Mr. F.; he showed no deficiency of memory, and quoted Scripture with great fullness and accuracy. He understood perfectly the nature of the various legal papers that had been served upon him in the case.

TESTIMONY OF MRS. S.

Mrs. H. S., of Pocasset, Mrs. F.'s mother, was next called. She testified that F. was sober, industrious, humane, a good husband, and a kind and indulgent father. After his conversion he was not so avaricious for worldly gain as he was before. He felt that his first duty was to God. He was constant in attendance upon religious meetings, and was always ready to give his testimony for Christ. A marked change came over him during the ten days previous to the homicide. She detailed the circumstances of the visit by Captain H., F.'s brother-in-law, who threatened to shoot F. for leading his sister into the Advent faith. F. appeared to have been very much frightened, and was greatly depressed, lost his appetite, and was unable to sleep. This was during the period of the ten days referred to. He had a vision during this time, and heard the noise of a rushing wind and of thunder. He spoke of three baptisms, the baptism of water, of the Spirit, and of fire, and said during the week preceding the homicide that he had just passed through the second. He said he felt the presence of God in the house, and that he was filled with an awe that was almost fearful. He was glad to have people come to the house, as it relieved him of the pressure upon him. On cross-examination the witness testified that about twenty people attended the meetings. She did not know as he believed everything F. did, for she had not gone as far as he had. She believed in baptism by water and of the Spirit; she could not say about the baptism by fire, for she had not experienced it.

TESTIMONY OF DR. FOLSON.

Dr. Charles F. Folson, of Boston, was called. He testified that he first saw F. in August, and since then had seen him at various times, spending at each interview from half an hour to three hours with him. He told him of three visions which he had had. He said he considers himself at the present time as representing the archangel Michael, and that the struggle between himself and Satan represented the struggle between Michael and Satan in heaven. He thinks that he is in a position that is occupied by nobody except Christ and St. Paul. He feels justified in what he has done, and says that the Lord will show to the world in due time that such is the fact. I should say to-day that he is decidedly of an unsound mind.

Q. I will ask you if his mind is capable of comprehending fully the charge in the indictment against him?

A. Not fully, but within certain limits. He is able to understand the form and technicality of the proceedings, but I do not think he is capable of forming a reasonable judgment upon their importance or upon the result.

I think he would be of no aid to counsel defending him, in the challenging of jurors, the examination of witnesses, or in summing them, or in any way whatever. I should say the form of his insanity is delusional mania. And in this particular case the special form of it is in regard to religious matters. I should not want to say at the present stage of the case how far the disease had extended, whether it was simply trouble with the circulation and impaired nutrition, or whether it had gone further than that. I think his insanity is due to five causes, operating together. I will not say that either one, or either two, or possibly either three, would alone produce the disease, but I think that with the five operating together the chances are more in favor of mental disease resulting than not. Giving them in the order of importance which I attach to them myself, I should say, in the first place, hereditary tendency, which I consider in this case a very strong one. In the second place, religious excitement, which in the so-called emotional causes of insanity occupies the second place in point of frequency. In the third place, a mild sun-stroke which he had three years ago last summer, and from which, as I understand it, he has never entirely recovered. Fourth, I should say the fact of his having led a life of great excitement from the time when he was fifteen years old, when he enlisted as a drummer boy in the army, to the time of his going to Pocasset, four or five years ago, and of the change in coming

into a little village of three or four hundred inhabitants, where his mind was deprived of the stimulus to which it was accustomed and thrown upon itself. The fifth cause I should place in his physical condition. About eight years ago he broke down in health, and had to take a vacation, and about a year from that time he had an attack of diphtheria. These facts show that his power of resistance is not what a man would naturally have, and I don't think he has ever recovered the same physical condition he had before. In addition to this an important factor is the very serious fright he had nine days before the first of May. [The doctor referred in this to the threat F.'s brother-in-law made to shoot him.] During my examinations of him I noticed an extraordinary change from deep depression to very great exaltation, which I never saw in a sane man, and should not expect to. He would be much depressed and troubled, showing very great grief, and five minutes afterward amused, and speak in a jocular, pleasant way. Generally speaking, however, during the first three visits which I made from August 15th to October 13th, his condition was pretty uniformly one of very great exaltation,—so very great that I suspected a graver form of the disease than I at present think exists.

Q. Is his grief ever accompanied by any remorse? A. No, sir.

Q. Any sense of guilt? A. No, sir.

Q. Has he ever manifested or does he feel, in your judgment, any consciousness of having done wrong? A. No, sir, not the slightest. On the contrary, he thinks he has done as the Lord communicated to him directly, as He communicated to St. Paul and Christ.

Q. Would you say, doctor, that his delusion controls his will, or does he? A. I think, sir, that is just the distinguishing point between insanity and fanaticism. His delusion has got the control of him, whereas a fanatic, although inordinately devoted to one idea, still retains his judgment and power of self-control so far as to obey the laws of society. As far as his general intelligence is concerned I should not suppose that it was seriously affected. His delusion has got the complete mastery over him, to the exclusion of everything else, and he would not act in any way contrary to his delusions. So, although his general intelligence may be as good as it ever was, it is of little value. He could not be worse off, as regards ability to control himself or give a reasonable judgment about the homicide.

DR. DENNY'S TESTIMONY.

Dr. James H. Denny, of Boston, was the next expert called. He testified: I have examined Mr. F. with reference to the question of his intelligence and with reference to his delusion. I have formed the opinion that he is a man of good intelligence upon general subjects; that upon the subject of religion as applied to himself his mind is unsound in many particulars. I noticed that he was restless in his demeanor, beating the floor with his feet, and he would frequently smile without any apparent cause. There was evidence of overplus of blood revealed by the ophthalmoscope, and his temperature was abnormally high. There is a marked tenderness about the head on the lines of the sutures. I do not lay any stress on these evidences other than as corroboratory of other indications of hyperemia of the brain, such as might naturally follow such cerebral congestion as results from exhaustion and sun-heat effects testified to, and the state of active delusion which has been manifested in connection with intense headaches. At the present he is laboring under delusional insanity of a religious type. He would not understand the indictment as applied to himself, because his delusions impair his judgment. I have no doubt that he is not in a proper condition to prepare for the defense.

To the attorney-general. The specific delusions which I have observed in him are as follows: He supposes that he is the Spirit of Truth, the third person of the Trinity in his system of theology; that he himself will never die; that he is immortal, so far as this life is concerned; that when he is taken away from this world it will be in some manner different than by death; that he is the second Adam; that he represents in himself, in some way, the second coming of the Messiah; that he is one of the greater prophets, like Jeremiah; that he himself is the "elder brother" spoken of in the Scriptures. He believes that various passages of Scripture have been written with direct reference to himself and family, and not to others; that the world has been saved through him. In all of these delusions he has great system, and is extremely candid. He has told me that he has endeavored to prove by every means possible in his power the truth of what was presented to him by the Spirit; that he required as the apostles did, and received as the apostles did, supernatural evidence of what he believed with reference to himself, and that when he received supernatural evidence he used every method possible to determine himself, as a

thinking man, that it was supernatural and given by the Spirit to him. He tested himself with reference to the odor that he smelt, which he supposed was frankincense, in the pillow that was spoken of by the jailer. He tested himself with reference to the various sensations which he felt, the baptism of fire that he speaks of,—a sensation which came naturally from the congestion of his brain and over-excitement of his nervous system.

To the court. I have satisfied myself that these delusions were not simulated, and I feel perfectly sure of it.

To Mr. Boardman. I have never found in him any consciousness of wrong-doing, but, on the contrary, the most exalted sense of the right of his position, and his exaltation shows the course of his mind during the past two years. He at first felt he was called as an evangelist; then as one of the greater prophets; and then, in a still greater stage of exaltation, that he represents the Spirit of Truth, the third person of the Trinity; and, finally, he has accomplished the salvation of the world. There has been a steady progress so far in the exaltation of his religious ideas.

Dr. Folsom was recalled, and testified that F.'s insanity is not simulated. A man cannot feign this form of insanity so as to deceive a person who is familiar with it.

TESTIMONY OF DR. BROWN.

Dr. John P. Brown, of the Taunton Insane Asylum, in his direct testimony corroborated the other experts. On cross-examination he said: The leading delusion which Freeman manifested was that he was the promulgator of a new dispensation through the death of the child; that God had used him as an instrument in sacrificing his child, in bringing about a new dispensation for the salvation of the world. He stated to me at one visit that Christ's atonement did not include the salvation of children, and the sacrifice of his child was necessary in order to secure the salvation of children. That was the main delusion, but he changed the form of it several times. Once he said that he was the second Christ and God in man, and that he was the third person of the Trinity. He said that God had recently given him the power of discerning the spirit of evil in man; that if a person approached his presence, before he got near him he could tell by this power, which was imparted to him by God, whether the man was possessed of a good spirit or of a bad spirit. He said it had been illustrated to him in a great many instances, and he made a comparison this way. He said, "It seems to me as though a certain substance passes from the individual and into me. It oftentimes seems as large as my hand, and sometimes it is of a dark color." He would first have a mental impression and then a feeling in his chest. God asked him if he would be willing to give up and sacrifice all his property and family and everything on earth, whether he would be willing to have them swept away by God. He said when he had that mental impression he had a feeling at the same time of depression, a sinking feeling at the stomach. Last evening he told me distinctly for the first time that since my last visit it had been made known to him that his body would be immortal, that he would live as he is now in this body eternally. I have not had the slightest idea that he was simulating, although I have borne it in my mind, of course, at each interview.

THE DISPOSITION OF THE CASE.

Attorney-General Marston then addressed the court, and said that he was entirely content, representing the commonwealth, to assume that the evidence given by the experts had come from proper sources, upon proper examination, and that it disclosed as well as could be disclosed to the mind of the court what the condition of the prisoner was. Judge Morton said he felt bound to say that the testimony made it entirely satisfactory to his mind that the prisoner was not in a condition in which he could intelligently and prudently plead to the indictment. After explaining briefly the law and his interpretation of it as not giving him power, sitting during the vacation, to order a commitment to an insane asylum, he remanded the prisoner into the custody of the sheriff till the regular session of the court for Barnstable County, which would be about the first of May. He suggested, however, that the governor had power to commit. The court then adjourned.

Mr. F. at the close of the hearing shook hands with quite a number of his friends in the court room, and was then conducted back to the jail. He expressed himself as being satisfied with the result of the hearing, and will be glad to change his present quarters for some more comfortable if it is God's will. He was very careful, however, not to acknowledge by the slightest concession that he considered himself insane in the least, but if he was to go to an asylum he rather preferred Danvers, as being near his early home. "I am not insane because they say so," he said, "and I would stay here for years rather than

do anything to admit in any way that I had done anything wrong or that I am insane. If I am convicted of insanity the Bible must be shut up." "It is time now for the Spirit of Truth," he says, "the third part of the Trinity. Up to this time Father and Son only have been known. I am the Spirit of Truth." "I represent Christ in all his parts, prophet, priest, and king." "It has been prophesied that all shall be gathered into one; that it is me." "I have a dual nature; both Christ and man is represented in me, the son of man on earth." "All good is represented by one person, and I am that person." "I am the result of Christ's teachings; Christ's teachings are perfected in me." "My wife and I are the first two persons who have ever stepped into the kingdom of God; the Bible is of no more use for us; we have fulfilled it; we are saved, and cannot be lost. I feel sure that our names will be honored above any other name except Jesus." "We are the door, and everybody must enter through us." Speaking with reference to Dr. Folsom's testimony, in which allusion was made to F.'s belief that he was the archangel Michael, "Has the doctor ever seen him?" he asked; "does he know how he looks?" And then he said, "I am the archangel Michael; now let Dr. Folsom prove that I am not."

As already remarked, I thought I saw at the time of the trial evidence of some shaking in the firmness of the delusions, and was inclined to give a more favorable prognosis than I had formerly expressed: an opinion which I should say was not shared by the other physicians called upon to testify.

Three days after the trial, before leaving the jail for the insane asylum, he destroyed all his writings, hymn-book, etc., except his Bible, which he said he would willingly give up. He said to me, before reaching the hospital, that he should never say anything more about his faith unless questioned. When interrogated by old friends whom he met in the court room, he expressed great annoyance, and was not willing to answer any of their questions. I overheard him say that he meant to get cured in the asylum, if he had delusions, as the doctors all thought he had. In the next breath, however, he insisted that he had done right to kill the child. A little while before, he had said that the political stealing of the seal of state in Maine was a representation of the loss of the seventh seal of the Bible.

The delusions of Mr. F. and his act are, of course, conclusive of insanity; to my mind, the character of the homicide alone is just as conclusive, as much so as if the man had jumped from the top of a church, expecting the Lord to arrest his fall. So far as his homicidal act is concerned he belongs to that large class of the insane who are described as reasoning well from false premises. As Dr. Ray says of them, their insanity consists "in being unable to discern the essential identity of nature between a particular crime and all other crimes, whereby they are led to approve what in general terms they have already condemned." No amount of evidence is of any value to Mr. F. on this point.

Mrs. F. is also thirty-three years old, a few months younger than her husband. Her mother is of a family in which there have been several cases of insanity, and she now has a sister in the insane hospital at Worcester, whose son has also been insane. She has three sisters and two half-sisters, all well. Mrs. F. had, when eighteen years old, some convulsions attended with sudden loss of consciousness, which seemed from her description to resemble epilepsy. No physician had observed them. She sold her wedding presents and gave the money to a hospital for the sick (Consumptives' Home) late in 1878. Like the most deluded of the other Adventists, she came to her reason as soon as it was shown that her daughter did not rise

on the third day, and she remained so for a month, suffering most intense mental anguish all of that time. Only Christ, she thinks, has suffered as much. But constant brooding over these matters, being shut up in jail without occupation except from her thoughts, and, worst of all, often receiving from her husband notes concerning his insane delusions, she finally was "baptized with the Holy Spirit," in a flood of light, and saw that the child would rise in three "prophetic days," that is, days of unknown length. I copied down many of her delusions, but they were simply the same as her husband's, of which he kept her constantly informed. Mrs. F.'s mother essentially followed her daughter in some of her delusions, chiefly as to the resurrection; and after Mrs. F.'s release from jail, last October, a very few of the most fanatical formed a circle of believers around her on her return to Pocasset.

Mrs. F. really did little more than accept fully the delusions of her husband, after her month of feeling that the act was one of mistaken faith in God. After her release in October, she thought God had commanded her to go barefoot and naked, like Isaiah, to be a sign to the people, and did almost no act, no matter how trivial, until she had a sign from the Lord. After her husband was sent to the insane asylum, she altered her tone somewhat, expressing a desire to get away from the old associations, wishing to get employment to occupy her mind and make a living, saying that she needed rest, and hoping to have her other child with her. Public sentiment is now so strong against her in Pocasset that she cannot go back there.

Of course, these two are as clear cases of insanity as one could well see. I do not know of any form of human suffering more intense than delusional insanity, partial intellectual mania of this form, where persons are borne on by virtue of their delusions to commit acts from which they naturally shrink with the greatest horror. I certainly never saw two human beings who had a fuller right to the deepest sympathy of their fellow-men than these two insane persons.

So far as the other eighteen Adventists who shared the delusion of the immortality and bodily resurrection of the murdered child are concerned, little is to be said. With the exception of three, who are ill balanced, they belong to the sensible grammar-school-taught, neat, industrious Americans of the rural districts of New England. Their delusion, in the midst of the realities of the practical life of our day, is more like the witchcraft delusion than any other which comes to my mind, and opens a field for most interesting philosophical inquiry too wide to be entered upon here. It would be difficult to find a more curious illustration of the fallibility of the human mind, especially among people who now are as totally at a loss as others to explain their singular mental freak. The most fanatical of the Adventist community, next to F., has swung to the opposite extreme, and would have the doctrinal churches and usual Bible teaching abolished.

Of course, the insanity of F. and his wife cannot be a matter of dispute among competent persons. Fifteen of their associates were as clearly simply fanatics. If I were required to positively place the other three, with my present knowledge, I should be in great doubt on which side of the line between fanaticism and insanity to put them; for insanity, as compared with fanaticism, or even with sanity, is often merely a question of degree, depending upon the extent to which the power of rational self-control has been lost.

THE TREATMENT OF IRREDUCIBLE HERNIA.¹

BY J. COLLINS WARREN, M. D.

THE object of this communication is to call attention to a mode of practice which, although not new, has received but little attention from surgical writers since it was brought to notice, about twenty-five years ago, by Maisonneuve, whose chief weapon was the rubber bandage which has lately come so much into use in this country. We find, indeed, fragmentary allusions to curative treatment of this disease in early writers, chiefly by rest in the recumbent posture. Arnaud² describes a case, and Sir Astley Cooper alludes to the possibility of reducing large and old herniæ by appropriate diet and purgatives. It would be possible, without doubt, to trace these methods back to a much earlier period. Before calling your attention to them, I wish to refer briefly to some of the causes of the permanent irreducibility of herniæ. These may be found chiefly in the secondary changes which take place with the lapse of time in the character of the sac or of its contents. When the sac is first formed the neck, like the mouth of a bag, is thrown into folds; so long as the sac can be returned into the abdomen these unfold themselves and disappear, but after the sac has remained unreduced for a considerable length of time the sulci between the contiguous folds become obliterated by bands of adhesions. A permanent ring or neck is thus formed. The surrounding subperitoneal tissue becomes in the mean time more vascular and considerably hypertrophied; strong bands of tissue form around the neck, which in old cases sometimes assumes an almost cartilaginous hardness. This tissue is at times quite contractile, so that it has been thought by some to be a cause of strangulation. When the contents of such a sac remain "reduced" for some time the ring may contract so vigorously as to shut off all communication with the abdomen, and we then have what is called the uninhabited sac. The whole wall may by this time have become exceedingly thickened, not unlike an old hæmatocele, and, as in the latter disease, it may inflame and suppurate. In addition to this hypertrophy there are many changes brought about by the gradual development of the hernia. The ring may be forced from its bed by some unusual violence, which brings down a fresh installment of sac and contents,³ forming an hour-glass-like contraction, and this may be repeated several times, giving the sac a varicose appearance. The mass thus thrust down may force its way completely in front of the old hernial tumor, which will thus be concealed behind it. Like the old thickened hæmatocele alluded to, we may have thick bands formed from old adhesions extending across the sac in different directions. It does not necessarily follow that this state of things when once produced will remain so permanently, for with increasing size the ring may be dilated, the bands torn from their insertion and absolved, and the sac wall much thinned by distention. It will thus be seen that in a large hernia, rapidly increasing in size, conditions are constantly changing, and it may have become more susceptible of reduction than it was in an earlier stage of development.

If we turn now to the contents of the hernia we

¹ Read before the Boston Society for Medical Improvement, March 8, 1889.

² Arnaud, *Traité des Hernies*, tome ii, page 135.

³ Schmidt in Von Pitha and Billroth's *Surgery*, page 28.

shall find that the chief obstacle to reduction is the adhesions formed by them with the walls of the sac. These are most likely to occur when the hernia is omental; according to Gosselin¹ the adhesion of the intestine to the omentum or sac is exceedingly rare, such as we find when an operation for strangulated hernia is performed, being soft and due to recent peritonitis. This is explained by the different character of the two structures, the immobility of the omentum in its new bed favoring adhesion. The intestine, however, may become adherent either to the sac or to the omentum.

The omentum after long residence in a hernial sac undergoes considerable transformation of structure. It soon loses its membranous character; the adipose tissue may become greatly hypertrophied, grouping itself in large, nodulated masses; the veins become greatly dilated, and the connective tissue thickened and indurated. The folds, lying in contact with one another, contract adhesion, and the mass may finally be converted into a long, tough cord, or rolled up into a ball attached to a long pedicle, forming a sort of ball valve, preventing any fluid secreted from entering the abdominal cavity.² When there are both intestine and omentum in the sac the hernia is usually of large size, and although symptoms of strangulation may occasionally appear it is extremely rare that any operation becomes necessary, as genuine strangulation does not take place. These symptoms are caused by a hernial peritonitis, which spreads through the ring, but which yields to rest and appropriate medical treatment. Not only is the ring large, but the sac, being already full, does not admit of considerable increase of contents. The hypertrophy which the omentum undergoes may be sufficient to prevent its reduction even if there be no adhesions. A great obstacle to the reduction of large hernie has been found in the diminished size of the abdominal cavity, so that, although the viscera can be returned, it is impossible to retain them there owing to the distress and colic which their presence causes. This has erroneously been supposed to be insuperable. The size sometimes becomes enormous. The most notable example is that of Gibbon, the historian, described by Cooper.³ It was a left scrotal hernia, of thirty years' standing, and reached to his knees. The lower portion was, however, a hydrocele containing several quarts. He succumbed to a peritonitis following an evacuation of six quarts by tapping, and at the autopsy it was found that the abdominal cavity was nearly emptied of movable viscera, and that the pylorus lay at the opening of the sac, which was large enough to admit a hand.

Attempts to remedy this disease were first suggested by the observation that during prolonged illnesses large irreducible hernia returned spontaneously into the abdominal cavity. Cooper evidently proposed to imitate this by extraordinary fasting, diaphoretics, and cathartics, but he could never persuade any one to undergo this treatment.

Maisonneuve⁴ appears to have been the first who attempted a systematic mode of treatment. The main feature of this method consisted in the use of elastic pressure, by means of the rubber bandage

which has since become so fashionable in this country. It was about twenty-five years ago that he first treated irreducible hernie in this way.

When the tumor was large and could be gathered up at its base into a pedicle, the bandage alone was used. A few turns were taken tightly over the pedicle to prevent an escape of the tumor, which was then carefully covered in by circular and oblique turns. Having used it with great success in a large number of irreducible hernie, Maisonneuve subsequently applied it to strangulated hernie, which were thus reduced in the space of a few minutes. When the tumor could not be pediculated, direct compression was applied by an instrument which consisted of two pads, one to be placed upon the back, the other over the tumor, the two being connected by horizontal shanks, the ends of which were bound together by the elastic bandage. Further pressure could be produced by a screw attachment of the pad.

Gosselin describes a case from Arnaud of large scrotal hernia, which was treated by rest for thirty days, baths, purgatives, mercurial treatment, three venesections, and a restricted diet, with the local application of *emplâtre de Vigo*. Lannelongue⁵ conceived the idea of pressing or pulling back, the hernial mass through the abdominal walls by means of a bag of shot weighing two pounds placed above the neck of the tumor. It was supposed also to paralyze the action of the abdominal muscles.

Among English writers I find little said upon this subject. Agnew⁶ says, "When there is reason to believe that the obstacle to reduction is of recent origin, as the formation of an inflammatory adhesion either from violence or from neglect to wear a truss, it will be proper to make an effort at restoration. With this end in view, the patient must be confined to bed, with his shoulders elevated and the limbs drawn up. Pressure over the tumor to an extent not incompatible with the comfort of the person should be made by a bag containing shot,—a kind of compress which adjusts itself neatly to the form of surface upon which it is placed. The diet should be restricted; absorbents, like the iodide of potash and the bichloride of mercury, administered; and once in six or eight days an active purge given, both with a view to aid in the absorption of the incarcerating bands of lymph which detain the contents of the sac in their unnatural location, and to detach and separate the same by exciting peristaltic movements in the protruded bowel. If such a course be maintained for three or four weeks the surgeon will occasionally have the satisfaction of finding the hernia restored to the abdomen. Except, however, when the irreducibility depends upon a cause like the one above mentioned, the probabilities of restoration in the form of hernia under consideration are so slight that it will be useless to subject the patient to any such course of treatment."

Gross⁷ advises, should the attempt be made, absolute rest in the recumbent posture, low diet, venesection, purgatives, mercurials, and sorbent applications. "Occasionally steady, systematic compression answers a good purpose; maintained either with adhesive strips, as in the treatment of subacute orchitis, or by means of a truss with a hollow pad, progressively lined with layers of leather, or furnished with

¹ Leçons sur les Hernies abdominales, Gosselin, 1865.

² Schmidt, *op. cit.*

³ Cooper on Hernia, Part I.

⁴ Comptes rendus des Séances de l'Académie des Sciences, 1863, 2. p. 265.

⁵ Bulletin de la Société de Chirurgie, 1870, p. 66.

⁶ Agnew's Surgery, vol. i. p. 465.

⁷ Gross's System of Surgery, vol. ii. p. 679.

a gum-elastic air cushion." He adds, "In the few cases in which I have employed it I have found it extremely difficult to secure the hearty coöperation of the patient beyond six or eight weeks, and I am satisfied that few persons will be found willing to submit to it even that long."

The method which I have employed with success in several cases differs from those described above in the employment of rest in the *inverted position*; that is, the foot of the bed should be so raised that the neck of the hernial sac should be at a higher level than any portion of the abdominal cavity, and that not only all intra-abdominal pressure should thus be removed, but that gravity should aid in returning the hernial mass into the abdomen. No special medical treatment was found necessary.

When the descent of the hernia is comparatively recent and consists of intestine only, no additional mechanical appliance is needed.

The two following cases, illustrating this point, are taken from the record book at the Hospital:—

J. C., thirty years old, entered with an inguinal hernia of four months' standing. Whether irreducible during this period is not stated. A prolonged attempt at reduction by taxis under ether was unsuccessful. The patient was placed in bed in the inverted position, and at the end of eight days the hernia had reduced itself.

J. W., aged forty years, had a left inguinal hernia of twelve years' standing, which for a few days past had become irreducible, and at time of entrance to hospital was slightly painful to touch. It was about the size of the fist and very hard. Taxis under ether was unsuccessful. After he had remained in bed for six days in the inverted position the hernia reduced itself, without further assistance.

When the hernia is of the large and mixed variety various mechanical appliances must be brought into requisition, and the active and intelligent coöperation of the patient is indispensable, as the following case will show:—

H. R., about forty-five years of age, has suffered from an irreducible hernia for twenty-five years. When small it was accompanied by a varicocele, which was operated upon by a French surgeon. It has steadily increased in size, in spite of support from suspensory bandages of varied device, and of late years the increase has been very rapid, until, at the time treatment began, it measured seventeen inches round the pedicle and extended half-way to the knees. It was an entero-epiplocele. The skin of the scrotum was tense and shining, the penis had disappeared from view, and the groins and thighs were in an irritated eczematous condition. The discomfort of the patient, was greatly increased by excessive corpulency, which, despite a very active life, had recently developed itself. A portion of the hernia could be reduced, but an attempt to replace more than a limited amount was followed by nausea and abdominal pain. A strong iron bedstead, to which was fitted a wooden bottom, for extra support, having been selected, the feet were raised on wooden blocks about eight inches in height. A large, wedge-shaped hair cushion, made like a mattress, was employed to elevate still further the pelvis when desirable. Owing to the patient's great weight, it was found that his head slipped down between the iron bars of the head of the bed during the night. This was obviated by a device ingeniously

contrived by himself,—a wooden yoke that braced against the shoulders, allowing the head to be free in a space hollowed out for the purpose. The scrotum was supported in a vertical position by a hard rubber splint specially prepared. No pressure was applied for three weeks, during which the inverted position was carefully preserved, except at meal-times, when a semi-recumbent posture was allowed. The diet was that of a person in ordinary health; the bowels were regulated by laxatives. The activity of the circulation was maintained by massage, and the hernial tumor was gently manipulated to facilitate the absorption of inflammatory tissue. By this time it was noticed that rugæ were beginning to form on the scrotum. Pressure was now applied to the fundus by a small sand bag weighing four pounds, and this weight was rapidly increased, with favorable result, a marked diminution in the size of the hernia soon showing itself. A great variety of methods of exerting pressure were tried. The use of compressed sponges was on the whole not satisfactory, owing to the difficulty of confining them effectively in this region of the body. The rubber bandage, used as Maisonneuve recommends, produced a most formidable pressure, but its effectiveness was impaired by the fact that the pedicle made by it was separated nearly *four inches* from the inguinal ring by adipose tissue. Moreover, the constriction necessary in the first few turns to enable the bandage to retain its hold was so great that I could never induce myself to keep it on longer than a couple of hours at a time. These first turns of the bandage curl up into a rope, and strangulate so powerfully that prolonged application would be dangerous. This difficulty may be overcome by making a pedicle with strips of adhesive plaster first, thus forming a collar two or three inches wide, over which the bandage may be applied. The bandage was used more efficiently and comfortably, in connection with pads and compresses, applied in figure-of-eight turns round the groins and over the scrotum. By means of a hoisting apparatus, similar to that described in Hamilton's work on fracture, the hips were still further elevated at intervals during the day. At the end of the eighth week about two thirds of the mass had been reduced, but there was still two large hands full of omentum remaining. To attack this a rubber water bag had been prepared (Figure A); externally inelastic, but

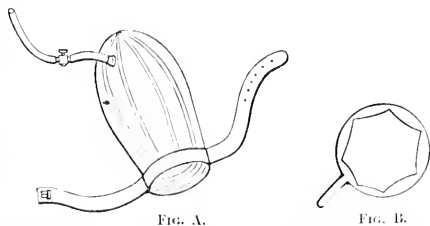


FIG. A.

FIG. B.

containing an elastic lining inclosing a space to which water or air could be admitted by a tube (B). To this was sewed a stout T bandage to secure it to the scrotum, and when once buckled in place it was pressed firmly down upon the pillars of the ring by thick wooden pads, which were held by turns of a rubber bandage. By means of the tube the pressure of a column of water of any desired height could now be

applied, but it was found that inflation by the lungs was sufficient at first. A few hours later the air was replaced by water pumped in with a Davidson syringe. This pressure was maintained fifteen hours, at the end of which time the hernia was completely reduced.¹ An examination the next day showed the ring large enough to admit four fingers at once. The patient is now wearing a truss the pad of which is four inches in depth, and is actively employed in the duties of his profession.

I have used this bag in a second case since, without success thus far; but there are complications, such as an incision at one time, laying open the sac by mistake for a hydrocele, which have produced an unusual amount of adhesion. The case is still under treatment.

The bag seems to possess great advantages over the bandage, as the pediculated form, so desirable, is preserved and strangulation avoided. The pressure is soft and evenly applied in all directions, and capable of being exerted with great force.

In cases where these methods fail I should recommend a prolonged trial with taxis under ether, preceded by manipulations intended to loosen adhesions in the ring which can be accomplished by the finger introduced beneath the invaginated scrotum.

I have found in the hospital records several cases treated successfully by Dr. Cabot in former years with the rubber bandage, with rubber air cushion, or with pigs' bladders.

RECENT PROGRESS IN THE THEORY AND PRACTICE OF MEDICINE.

BY A. L. MASON, M. D.

ANIMAL VACCINATION IN ENGLAND.

IN England vaccination is compulsory, but heretofore the public authorities have confined themselves to the use of human lymph. The alleged deterioration of the supply from this source, and the agitation of the anti-vaccinators, based chiefly on the danger of inoculating syphilis, led Dr. Cameron, M. P., to prepare a bill, to be presented to Parliament, which aims at the official introduction of bovine lymph. The conservative character of the Government Board may render this innovation difficult of accomplishment.

The consideration of Dr. Cameron's bill occupied several conferences of the Parliamentary Bills Committee of the British Medical Association, at the rooms of the Medical Society of London. Mr. Ernest Hart, chairman of the committee, presided, and the final meeting took place December 31st. Full reports of these meetings, of which the following is an abstract, are contained in the *British Medical Journal* and *The Lancet*, January 3d and 10th. The chairman, feeling that the time had come when a large census of medical opinion should be taken as to the propriety of introducing and encouraging the use of vaccine lymph, direct from the calf, suggested to the committee to invite a public expression of the views of those who were best qualified to judge of this important subject; and the result was to elicit numerous and weighty utterances from the most representative men. With but one or two minor exceptions, the speakers at the conference expressed themselves as favorable to the use of

animal lymph, almost the only objection urged to it being its alleged expense of application, the fallacy of which the chairman of the Parliamentary Bills Committee has already exposed in his report. Even the officials representing the Local Government Board had no objection to bovine vaccination; and it is certain, from what Dr. Ballard said, that the Local Government Board views it with no disfavor. It was not desired to supersede arm-to-arm vaccination, but only to provide for the renewal of stocks when a vaccinator finds them from any cause giving less efficient results, and to furnish the material where-with to vaccinate children whose parents have conscientious objections to humanized lymph. The favorable opinions of calf lymph expressed by men like Sir Thomas Watson, Dr. Warlomont, Mr. Ceely, Dr. Braidwood, Dr. Alfred Carpenter, Dr. Bristowe, Dr. E. T. Wilson, Mr. Greene, Dr. Drysdale, Dr. Wyld, and the other gentlemen who addressed the conference cannot but have their effect in pressing forward a reform which the Local Government Board seems to be now disposed reluctantly to take up.

In conclusion the chairman said, "The committee will have the duty imposed upon them of drawing from the report of all that has been said and done at this meeting the conclusions arrived at, and they will also be required to find what those conclusions are and to act upon them. I shall now make one or two observations as to what has occurred. I cannot but think that the whole course of the discussion has been very markedly to strengthen the conclusion that, in some form or other, it will be the duty of the government to arrive at a solution of the question, in what way and to what extent our system of vaccination may be strengthened by introducing animal vaccination as a source of improvement to the vaccine lymph. I myself am gratified, and I imagine the majority of this meeting are gratified, with the observations of Dr. Ballard and Dr. Stevens. We have heard the last observations of those gentlemen; and I am satisfied with them, because they appear to me to show that, at the conclusion of this conference, these gentlemen—who are not after all merely the official representatives of the government, but also men of particular, unique, and life-long experience in the matter—have arrived at the conclusion that the introduction of calf lymph is a thing not only permissible, but advantageous, and that it is only an open question in what manner that advantage may best be conferred. Dr. Ballard told us that he was of opinion, and had long been of opinion, that it was not only permissible for public vaccinators to improve their stocks, when they found the humanized lymph failing, by having recourse to animal lymph, but that he encouraged them to do so; and Dr. Stevens told us finally that he did not desire to be understood as disputing any of the conclusions and experiences of Dr. Warlomont on animal lymph, but only as doubting whether it would be possible to introduce it so generally as to meet the requirements of the population when that system was adopted, or whether any attempt to introduce it on a scale sufficiently large would not involve too great an expense. Those, of course, are questions which it peculiarly behooves the Local Government Board to consider, before entering upon a system such as that which has been discussed. I must say that, in the report which I had the honor of presenting to this conference as the basis of discussion, what was advised was not the introduction of

¹ The bag was prepared for me with great care and skill by the Davidson Rubber Co.

compulsory vaccination by calf lymph, but the introduction of a central station for calf lymph, which might be distributed as a means of strengthening the sources from which persons might be vaccinated; and in that I did not go to the extent of saying that every one should have the right of demanding to be vaccinated with calf lymph, but only that the public vaccinators should have adequate supplies of it."

SMALL-POX.

The occurrence of small-pox with a few fatal cases in the District of Columbia, in Philadelphia, and in Worcester makes the subject of vaccination of especial importance at the present time. Systematic vaccination has been resorted to in the District of Columbia to the extent of twenty-four thousand persons (January 31st), and is now in progress at Worcester. It is thought that vaccination and isolation will prove sufficient to avert an epidemic.

In this connection the following report from Bath, Eng., is of interest: "Between the occurrence of the first case of small-pox on July 23d and December 31st, being a period of five months and seven days, a total number of eighty cases were reported. The deaths amounted to eighteen, two of which had not, for special reasons, been removed. Of these deaths twelve were unvaccinated, and four had marks which were equivalent to no vaccination; of the remaining two there was no information. The outbreak occurred and has, with the exception of some half dozen sporadic cases, been confined within certain limits, and so far has not shown any tendency to spread beyond those limits. Nor have those sporadic cases proved the foci of infection which sanitary pessimists would expect; this is attributed to immediate isolation and disinfection. The same results might have been obtained in those streets and courts in which the disease has prevailed had the conditions been the same, but the comparatively total regardlessness of all sanitary precautions, both generally and socially, renders almost futile the effects of isolation and disinfection which have been and are being carried out in the districts affected by the disease, and inasmuch as the inhabitants of these places are of the poorest class, probably in want of proper food and sufficient fuel at this inclement season. So do we find that small-pox has, following its ordinary laws, entirely confined its attack to this class. Not one single case of small-pox among the upper classes has been reported; not one single case of the disease has been reported in the streets and squares and crescents, which are the residence of the upper class, and to which visitors resort."

YELLOW FEVER.

Dr. Joseph Jones, in an exhaustive paper on the Comparative Pathology of Malarial and Yellow Fevers,¹ draws the following conclusions:—

First. As destructive and extensive pestilences, resembling yellow fever, have destroyed the aboriginal inhabitants in former times, when they formed a numerous and comparatively dense population, we are justified in holding that the American continent has been in past ages subjected to wide-spread terrestrial, celestial, and climatic conditions which were hostile to human life.

Second. The experience of the past leads to the belief that such destructive combinations or conditions

may occur in the future, and cause wide-spread destruction uncontrollable by human means.

Third. Yellow fever has, since the advent of Europeans in the Antilles and in North and South America, prevailed at various periods, separated by no uniform intervals, with great violence, and during such periods its area has been widely extended, as in 1878.

Fourth. However perfect the sanitary arrangements and complete the quarantine regulations of cities situated within certain parallels of latitude, it is probable that in seasons of great epidemic influence human agency may fail in the circumvention or arrest of the American plague.

Fifth. In insular, tropical, and subtropical America, one of the most essential conditions for the increase of yellow fever is the accession and crowding of unacclimated persons, natives of the colder regions of America and Europe, in cities or on shipboard. Armies and navies are the great fields of its ravages.

The author then goes at great length into the history of all the yellow-fever epidemics which have visited New Orleans, with their relations to increasing population, climate, etc., and concludes that,—

First. The increase in the number and extent of the epidemics of yellow fever in New Orleans has been intimately associated with the accumulation of unacclimated human beings in the city, and with the increase of commerce and the consequent crowding, and the accumulation of filth and crowd poison in ships and in badly constructed and badly drained and policed habitations.

Second. By its geographical position; by its peculiar topography, situated upon a low alluvial, badly drained, swampy plain, surrounded by large bodies of water; by the exposure of an extended river bank, putrid, stagnant canals and marshes; by defective drainage, sewage, and police; and by its hot and moist climate, New Orleans has been peculiarly exposed to the ravages of yellow fever.

Third. No such marked differences exist between the climate of New Orleans and that of Havana and Vera Cruz as would warrant the assertion that yellow fever is always endemic in the latter two cities, and that at the same time it cannot originate *de novo* in the former. Whilst it is the wish of every true patriot to claim all excellences of position and health for the land of his choice and love, at the same time the future advancement of sanitary science and the highest interest of humanity demand that all causes of disease, whether existing in the soil or climate, should be honestly stated and fully weighed. In sanitary science, as well as in disease and the science of medicine, the proper remedies and preventives can only be fully appreciated by a comprehension of all the dangers and difficulties.

Fourth. Those who hold to the view that yellow fever never originates in New Orleans, but is *always imported*, must at least be forced by the past history of the great epidemics of this city to admit that its climate and situation are such as to admit of the easy lodgment and rapid propagation of the seeds of this disease.

Fifth. Every system which would look exclusively to the defense of New Orleans from pestilence by quarantine is vicious, and destructive at once to commerce and the best interest of the city, in that it leads to the neglect of those sanitary measures which will best promote the removal and eradication of the causes of dis-

¹ Proceedings of the Louisiana State Medical Society, 1879.

ease, and the removal of those physical conditions which promote the rapid spread of destructive epidemics.

Sixth. It may be possible to institute at once a just and enlightened system of quarantine and hygienic rules among the agents and in the vehicles of commerce, and an enlarged and progressive system of sanitation, embracing thorough drainage, abundant water supply, rapid and efficient removal of all excrementitious matter, and the proper elevation and construction of well-ventilated and thoroughly policed houses.

In a minute comparison of yellow fever with malarial fever, the author states that the peculiar phenomena of yellow fever, like those of acute phosphorus poisoning, are due to the nature of the specific poison, and to the character of the changes, which it is capable of exciting *primarily in the blood*, and secondarily in the nervous and vascular systems, and in the nutrition of the various organs.

The chief causes of death appear to be: (1.) The direct action of the febrile poison upon the blood and nervous system, depressing and deranging the actions of the one, and rendering the other unfit for the proper nutrition of the tissues. (2.) The suppression or alteration of the functions of certain organs, as the kidneys and liver, and the retention in the blood of the excrementitious matters normally eliminated by these organs. (3.) The structural alterations of the heart, and consequent loss of power in this organ. (4.) Profuse hemorrhages from the stomach and bowels.

(To be concluded.)

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. ROTCH, M. D., SECRETARY.

MARCH 8, 1880. DR. JAMES C. WHITE, permanent chairman, presided.

IRREDUCIBLE HERNIA.

DR. J. C. WARREN read a paper on the treatment of irreducible hernia. See page 271 of the present number of the JOURNAL.

DR. HODGES said a striking instance of irreducible hernia, which for dimensions might well be compared with the famous one of Gibbon, was for many years exhibited to the successive classes of the medical school by Dr. H. J. Bigelow, in the person of a man who earned his living as a wood-sawyer, and whose hernia must have included most of the movable abdominal contents. It extended below the knees, and was carried without any support. It gave a conspicuous straddle to his walk, but in reality disabled its possessor much less than has been supposed.

The subjects of this affection do not often present themselves for continuous treatment by surgeons. Apparently they get on remarkably well without apparatus other than a suspensory bandage, worn to prevent increase rather than to cure the disease. Dr. Warren's case was an exceptional one in size and an unusual illustration of successful reduction. Fortunately strangulation rarely occurs in irreducible hernia, chiefly because the inelastic character of the fibrous tissues of the rings disappears, as has been pointed out by Cruveilhier and Gosselin, and one of the chief factors in

strangulation is thus removed. Their omental character and partial reductibility make the attacks of inflammation to which they are liable a less serious accident than it would be if the intestine were a larger component part of the protrusion than it ordinarily is.

From the early days of surgery cases have been reported cured by means of long-continued rest, and in any instance which may be fairly termed irreducible the importance of time and confinement to bed cannot be overestimated, no matter what other adjuncts may be brought into requisition. By an irreducible hernia is meant one in which the major part is pretty firmly bound in its place by adhesions, and not such as, after a brief rest in bed, is returned spontaneously, or with little effort. There are some which, although the recumbent position may drain them of a portion of their contents, and make them smaller and more completely reducible than they generally are, must still undergo little change by any compressing measures applicable. Such an instance, recently seen in consultation by the surgeons of the Massachusetts General Hospital, had, by the death of the patient not long after his return home, afforded an opportunity for the examination of the parts involved. A mass of omentum, hypertrophied and of great density, equaling the two fists in size, bulged out from a constricted neck of still greater density, and not more than an inch in diameter. It would be difficult to conceive of the reduction of such a mass, or of its toleration within the peritoneal cavity if it had been possible to return it.

In 1852 attention was attracted in London to some cases of Mr. Bransby Cooper's, in which, by means of a spinal elastic bandage, an air-bag was bound down upon the irreducible tumor, and the whole apparatus having been further reinforced by buckled webbing straps, the air-bag was inflated through a protruding tube, with the gradual result of elongating the adhesions, inverting the sac, and accomplishing a complete reduction of the hernia. In certain cases a plaster-of-Paris cast of the partially protruded mass had been taken, and the further reduction facilitated by a pad constructed on the mould thus obtained.

The varied methods which have been successfully adopted must be practically limited in their application by the comparative infrequency with which the size of the hernia calls for treatment, on account of the discomfort it occasions, as well as by the indisposition and inability of patients to submit to the long confinement necessary to accomplish a satisfactory result.

DR. BRADFORD remarked that this method of compression had also been used in the treatment of enlarged knee-joints; he also said that Scarpa had treated hernia, by compression before the time of Maisonneuve, mentioning the case of a young lady with an umbilical hernia where the compression was made by Scarpa by means of a brass plate.

Sir Astley Cooper advises using a suspensory bandage lacing in front, and getting compression in this way. Mr. Maunder reports a case of irreducible hernia cured by rest in bed, without the cathartics and venesection employed by earlier surgeons. Dr. Bradford also said, "In regard to what Dr. Hodges says about the infrequency of these cases, I know of two women with umbilical hernia of such size as to confine them to bed, and to render doses of morphia necessary for the relief of the colic occasioned by them, and in these cases the treatment spoken of by Dr. Warren would be of great value."

DR. GREENOUGH said that it would be interesting to know whether a hernia existed at the time that the operation for varicocele was performed, a fact which he was unable to state, although when a medical student in Paris he saw the operation performed on this patient, the method employed being to isolate the tumor and then to apply Vienna paste.

DR. FIFIELD remarked that irreducible hernia must be divided into two classes, namely, temporarily irreducible and permanently irreducible, and that they could not be confounded. All irreducible hernia must belong to one or the other class. The important point was to distinguish between the two. Those of the first class were reducible by time, position, starvation, purgation, taxis, mechanical agencies acting from without. Those of the second class were not to be reduced by any agency short of actual dissection, and possibly not always by that.

It had been his fortune to have seen many hernia, both in the living subject and in the dead. And he could bear witness to the dense adhesions of omental and intestinal hernia to the sac (and to these may be added change of form in omentum), forbidding the efficacy of any mechanical appliances excepting the knife. Of the adhesion of intestine to the sac at the ring, it is recorded of an old French operator that he had found it to be so close that, despairing of passing finger, director, or knife under the stricture, he had boldly opened the intestine, and had divided both at a blow. Lawrence speaks of having found adhesion of intestine to sac so intimate that when he had finished the dissection one would have sworn that he had removed a tunic of the gut. To distinguish accurately between these two classes is beyond human skill. Hence one could not hold out a promise to a hernial patient of reduction of his irreducible hernia. Its accomplishment must be the act of fortune, not of judgment or skill. If the hernia be temporarily irreducible, although it may have existed in this state for years, it can be reduced in many ways. If it be permanently irreducible it cannot in any way be reduced.

Temporary irreducibility is the snare between strangulation and non-strangulation always spread for the diagnostician.

Dr. Fifield then made some brief remarks on the operation of Baron Sennin in temporarily irreducible hernia, namely: the rupture of either the external inguinal ring or of some of the inter-columnar fibres, by tearing them with the finger. He had once practiced this with success.

DR. REYNOLDS spoke of using this same method of continued gentle pressure in the reduction of inverted uteri, and suggested that there was a fair comparison between such cases and the hernia described by Dr. Warren. — DR. WARREN inquired if the inverted posture had been tried in these cases of inverted uteri, in connection with rest for a long period. — DR. REYNOLDS thought that it had not.

DR. C. D. HOMANS exhibited a unilocular cyst removed from the left broad ligament of a lady twenty-eight years of age by Dr. John Homans. The patient was married in 1869, and had had four children. The cyst had probably been growing for about seven years. The operation was performed in thirty minutes, the incision being two and one half inches long. There were no adhesions. The weight of the fluid was twenty-five and three fourths pounds, and it was clean and limpid. The weight of the cyst was eleven ounces.

There was no hemorrhage. The pedicle was tied and dropped into the abdomen. The patient is doing well.

DR. HODGES spoke of the ease with which spontaneous fracture may take place in old people and mentioned in illustration the case of an old gentleman of eighty years, in whom a fracture of the femur occurred, no one knew exactly when; the patient was otherwise healthy.

DR. GREENOUGH called the attention of the society to an improvement in the preparation of ointments, which consisted in using vaseline for a base instead of lard. He referred to the usefulness of mercurial ointment as a local application in certain forms of skin disease in which there is much infiltration. The efficacy of this ointment as a dressing is of course most marked in cutaneous affections of a syphilitic origin, but by no means confined to such. The tendency of the mercurial ointment to become rancid and in consequence irritating was an objection to its use, but by preparing it with vaseline instead of lard this difficulty is obviated. The result is a very smooth, elegant ointment of the official strength, a specimen of which he showed. Several other of the official ointments are manufactured in this way, such as the oxide of zinc, acetate of lead, citrine ointments, simple cerate, etc., and they all are very smooth, thoroughly mixed, and do not develop the fatty acids by being kept. He thought this form of the mercurial ointment would be found especially adapted for the purpose of treatment by inunction.

DR. WHITE inquired as to the relative readiness of absorption of lard and vaseline, and also how long these preparations with cosmoline and vaseline have been tried. — DR. GREENOUGH said that the absorption with the vaseline ointment in one case which he had noticed appeared to be rather more speedy than with the old mercurial ointment, but that the preparations had as yet been tested but a short time. — DR. WHITE said, in answer to a question as to whether vaseline becomes rancid, and as to what change takes place in it after keeping for some time, that we do not yet know enough about these petroleum compounds to say what will occur when they are combined with mercury and other substances.

PLACENTA DIMIDIATA.

DR. RICHARDSON showed the specimen, which consisted of two distinct placentae, one being about four and a half inches in diameter, the other three inches. The distance between the two measured six inches. From each ran two arteries and a vein. Near the junction of the two umbilical cords the arteries united; so that the true umbilical cord consisted of one vein and two arteries. Professor Hyrtl, who has written the best monograph on the placenta, has never seen but four cases of this rare form of placental development. In the case which he has chosen as an illustration of this form there are distinct arterial communications between the two placentae. In this case, however, there are no such vessels to be found. Each placenta has its own vessels, which unite and form two distinct cords, which again unite and form a single umbilical cord. Both placentae were of the so-called battledore variety, which is the usual shape observed in this rare form of placental development. The injection in this specimen was made by Dr. W. F. Whitney.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

T. M. ROTCH, M. D., SECRETARY.

NOVEMBER 29, 1879. Sixty-eight members were present, DR. CALVIN ELLIS in the chair.

GLAUCOMA.

DR. WILLIAMS made some remarks on a class of cases, namely, of glaucoma, which were apt to be overlooked by physicians, the correct diagnosis not being made until it was often too late to save the eye, and stated that an early recognition of the very evident symptoms of the disease was exceedingly important.

DR. E. W. CUSHING read a paper on Epidemics in Summer Hotels, which is reserved for publication.

DR. C. E. WING read a paper on Inversion of the Uterus, in which continued gentle pressure was the treatment recommended.

BONY FORMATIONS IN THE EYEBALL.

DR. B. JOY JEFFRIES exhibited three specimens of bony formation in the eyeball.

The first was removed by Dr. F. P. Sprague at the Massachusetts Charitable Eye and Ear Infirmary, from a woman aged thirty-three, who had lost the eye when a child, and wore an artificial eye over the remains of the stump. Recently this had caused much trouble, inflammation, and pain, but without giving rise to sympathetic trouble of the other eye. The remains of the eye were deep in the orbit, hardly noticed. The globe was angular and closely applied over such an irregularly-shaped, bony formation as at first to suggest a foreign body.

The second case was Dr. Jeffries's, a woman twenty-four years old, whose eye was lost when she was a child. The remains were only about half the size of a normal globe, tender and irritated, with sympathetic trouble in the other eye. A bony cup reached forward to the ciliary region.

The third case was also Dr. Jeffries's. A man now fifty-one, when a sailor, in 1867, hurt his eye with a piece of rope. The sight was gradually lost, with exacerbations of pain from time to time. His other eye had troubled him for the last year and a half, and he had marked sympathetic trouble, ciliary redness, photophobia, etc. His injured eye was partly disorganized, extremely sensitive, with great pain in the head, so much so that he doubted whether he should be able to undergo an operation, until he understood that ether would be given. The condition of the other eye, as was anticipated, continued critical, even after enucleation was done. A very solid mass of bone formation was found; spicular extended forward to the ciliary region. The eyeball was quite irregular in shape.

DR. JEFFRIES spoke in general of the formation of bone in the eye. He said that the structure histologically was true bone, though this was doubted many years ago. He believed that when the bone forms so as to come forward and implicate the ciliary region it is a potent cause of the dangerous sympathetic trouble. He regarded the removal of a stump as always indicated when the patient was to go away and be out of the reach of competent surgical assistance, since the insidious sympathetic trouble came when least looked for or expected.

DECEMBER 27, 1879. Eighty-one members were present.

DR. DAVID HUNT read a paper on Harvard University and Medical Reform.

DR. HAMILTON OSGOOD read an interesting paper on Medical Missionary Work in Japan, and showed surgical instruments in use by the Japanese.

OVIARTOTOMY.

DR. JOHN HOMANS showed three ovarian tumors recently removed by antiseptic ovariectomy. One was a unilocular cyst without adhesions; one a dermoid cyst, containing skin, hair, and bone; and one a multilocular cyst. The adhesions in the last two cases had been treated partly by ligatures with silk or catgut, and partly by Paquelin's thermo-cautery. The cases will be reported at length at some future time. DR. HOMANS remarked that the treatment of the pedicle by ligature and returning the stump to the abdominal cavity gave the most brilliant results, the recovery being almost immediate. He showed several temperature charts of cases of ovariectomy, and called attention to their great uniformity, the temperature showing a marked rise to a point between 101° and 103° F. during the first forty-eight hours, and then a fall to normal temperature on or before the fifth day following the operation. In several of his cases there had been absolutely no abdominal symptoms, no pain, tympanites, nor tenderness. He attributed recovery in the great majority of cases to the antiseptic precautions. There seemed to be no more risk in making an incision through the abdominal parieties under a spray of carbolic acid than in making an incision of equal length in any other region; and he thought that ovariectomy, in practiced hands, and done antiseptically, was one of the most successful surgical operations of the present day. He also called attention to the different conditions under which the abdomen was explored during an ovariectomy, and when abdominal section was done for the relief of intestinal obstruction. In the former case the collapse and removal of a large cyst leaves ample space for inspection and manipulation; while in the latter the intestines, distended with gas, crowd out of the opening almost into the surgeon's face, and greatly embarrass his operations. DR. HOMANS alluded to the splendid series of successes of Dr. Keith, of Edinburgh, who had had seventy recoveries consecutively, and has lost but three of his last hundred ovariectomies.

DR. WING asked if the pedicle in the third case was not rather short for the use of the clamp, stating that in a case which he had seen in New York the patient, although she recovered, had become a chronic invalid and opium eater, from pain and tension in the ovarian region, probably caused by the adhesions resulting from drawing the pedicle forcibly outwards, so as to apply the clamp.

DR. HOMANS said that he had also noticed a case of this kind.

— Broca recently discovered a fire in his room by means of localized thermometry, upon which he had that evening been engaged. The firemen could discover nothing, and were displeased at having been called, but Broca insisting that the floor should be taken up at the point at which the thermometer had indicated a comparative rise of temperature, the flame and smoke rushed out from a beam which was in process of slow combustion.

Recent Literature.

Pseudo-Hypertrophic Muscular Paralysis. A Clinical Lecture. By W. R. GOWERS, M. D., F. R. C. P. London. 1879. Pp. 66.

This valuable little monograph presents in a clear and striking form the features of this distressing and mysterious malady so far as they have been investigated, either by others or by the author himself.

The statements are based upon the analysis of two hundred and twenty cases, of which forty-four are now made public for the first time. A number of very instructive figures accompany the text.

Among other clinical facts which are dwelt upon is the extraordinary susceptibility of the male sex, in spite of the fact that the females of the same family, though not themselves affected, remain able to transmit the disease to their male issue.

"The character of limitation to males, and unilateral inheritance from the ovum only, the mother not being affected, but the mother's brother suffering, is seen also in some cases of hæmophilia, and perhaps in no other disease." The reviewer has been reminded by a friend that the same law covers the transmission of color-blindness, and one or two other pathological states.

"Of the two hundred and twenty cases analyzed, one hundred and two were apparently isolated, and one hundred and eighteen were grouped in thirty-nine families."

It is not, as a matter of fact, the increase in size of the muscles which is the pathognomonic feature of the disease, though it has given it its name, but the history and distribution of the muscular affection. "The condition of enlargement may pass into, and even be preceded by, diminution." Even the enlarged muscles are, the author believes, always weak.

Like most of the other writers who have investigated them, Dr. Gowers believes that the changes observed in the spinal cord are not the cause of the disease but secondary or accessory features; and he inclines to the view that it is really due to a "perverted tendency of development inherent in the germinal tissue of the muscular system." Structurally the tissue thus developed deserves the name of myolipomatous, and Dr. Gowers records a case of the formation of a similar tissue within the vertical canal (not in this disease, to be sure), showing that it is capable of developing of itself, apart from any nervous influence, or from any of the causes which might be supposed to excite the changes met with in ordinary cases of the disease.

With regard to treatment, but little new or encouraging is recorded: arsenic, cod-liver oil, and phosphorus seem to have had some influence in temporarily arresting the advance of the affection, and the value of systematic exercise is especially dwelt upon. The prognosis is better for girls than for boys.

J. J. P.

Notes on Diseases of the Testis. By SAMUEL O'BORN. London: J. and A. Churchill. 1880.

In this little work, comprising only one hundred and seventeen pages of twenty-eight lines each, the author has undertaken to describe the diseases of the testis.

To give an idea of the inadequate way in which the subject is treated, we need only point out that the chapter devoted to syphilitic sarcocele is limited in extent to six pages, in the course of which not a single authority is quoted. The style of the book is fairly exemplified in the following sentence: "The testicle may be affected by syphilis, as may any other organ of the body, those parts becoming affected which are the more weak, and consequently the less likely to withstand the syphilitic virus; for it is in those persons who, if affected with gonorrhœa, develop secondary disease of the testis, would, if affected with syphilis, develop subsequently syphilitic sarcocele, showing that the organ is weak, and necessarily liable to become affected."

Short as this book is, time devoted to its perusal can but be wasted.

Skin Diseases, including their Definition, Symptoms, Diagnosis, Prognosis, Morbid Anatomy, and Treatment. A Manual for Students and Practitioners. By MALCOLM MORRIS, Joint Lecturer on Dermatology at St. Mary's Hospital Medical School, and formerly Clinical Assistant, Hospital for Diseases of the Skin, Stamford Street, Blackfriars. With Illustrations. Philadelphia: Henry C. Lea. 1880.

This little treatise of three hundred and twenty pages is a well-meant effort to condense a somewhat extensive subject, and contains much that is of value. Its contents, however, consist of twenty-four separate chapters representing lectures, a most unsatisfactory arrangement for a text-book. It is very true that these are changed in form, and stripped of the verbiage which serves to pass the time during which isolated truths are crystallizing in the hearer's mind; but for all that, their origin is evident, and such an arrangement is unsystematic and unscientific. Thus, of the six classes into which the writer subdivides the diseases of the skin proper, Class I. Exudations, monopolizes fourteen chapters, in which we find scarlet fever, measles, variola, typhus and diphtheria, verruca necrogenica, framboesia, syphilis, and ulcers. Class II. comprises Vascular Affections; Class III. Neuroses; Class IV., Hypertrophies; Class V., Atrophies; Class VI., Neoplasms. The writer has certainly, however, given in a small compass a large amount of well-compiled information, and his little book compares favorably with any other which has emanated from England, while in many points he has emancipated himself from the stubbornly adhered to errors of others of his countrymen. He has actually separated prurigo, the disease, from pruritus, a symptom, although not yet fully alive to the fact that pruritus *scutellus* has nothing to do with lice, while pruritus from lice is peculiar to no age. Since he recognizes a chloasma "uterinum," we are surprised to see chloasma still retained as the synonym of the parasitic disease tinea versicolor. His adoption of the terms "fibroma" and "xanthoma" is an advance, but under the head neoplasms we have not been accustomed to seek for clavus, tylosis, verruca, and cornu cuticæum. Yet in spite of inaccuracies in classification and a somewhat non-conspicuous nomenclature, there is certainly excellent material in the book which will well repay perusal, and, as a whole, we recommend it, though rather to the practitioner than to the student.

Medical and Surgical Journal.

THURSDAY, MARCH 18, 1880.

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MODEL SCHOOL-HOUSES.

THERE certainly can be few matters of more vital importance to the physical welfare of the community than the sanitary condition of the public schools in our large cities. Aside from the fact (which is everywhere recognized by the profession, at least) that, notwithstanding all precautions to the contrary, these institutions constitute one of the most formidable agencies in the spread of contagious affections, it is not perhaps so fully appreciated on the part of the public to how great an extent their defects, in a hygienic point of view, are concerned in the causation of other forms of disease, often of a constitutional nature, and followed, sooner or later, by the most serious results. Any effort, therefore, which looks towards a reformation in the construction of buildings thus occupied should meet with the greatest possible encouragement from all enlightened citizens, and hence it is to be hoped that the recent competition for prizes for the best plans of model school-houses, offered by the *Sanitary Engineer*, and the report of the committee appointed to award these prizes may eventually be productive of much good. Now that the board of education in New York have seen fit, in their inscrutable wisdom, to dispense, in the future, with the services of a supervising architect of public-school buildings, any alterations to be made in the old ones, as well as the construction of new school-houses, are apparently to be left to the direction of the members of the board (who may or may not be the most competent persons for attending to such kind of work); it can, at all events, do no harm that they and similar bodies in other places should have the means of becoming acquainted with the most important requisites necessary for such edifices; and this the competition and report alluded to have now supplied to the public in a more prominent, forcible, and practical manner than has previously been done.

The committee of award in this competition was selected from men of the highest ability and standing, on account of their peculiar fitness for the position, and consisted of Mr. George B. Post, the architect, of New York; Dr. John S. Billings, of the National Board of Health; Hon. John D. Philbrick, late United States commissioner of education at the Vienna and Paris exhibitions; Professor William R. Ware, of the Massachusetts Institute of Technology; and Dr. Cornelius R. Agnew, of New York. According to the terms of the competition, it was demanded that the school building should accommodate eight hundred pupils, half of either sex; that it should be erected on a lot one hundred by one hundred feet, fronting north

and surrounded by buildings of average city height; that it should be of fire-proof construction, with separate entrances and class-rooms; that the class-rooms should accommodate from fifty-four to fifty-six scholars, with a separate desk for each one; and that there should be principals' and teachers' retiring-rooms, and one assembly-hall only. The special features which were considered by the committee in making their awards are as follows: (1) convenience of arrangement for school purposes; (2) security against fire and facility for egress; (3) distribution of light; (4) ventilation and heating; (5) drainage and other sanitary appointments.

They examined nearly one hundred plans altogether, and finally arrived at a unanimous conclusion in regard to their merits. Of the ten designs which secured the highest approval, that by Arthur T. Matthews, of Oakland, California, was awarded the first prize, of \$250, and that by Samuel F. Thayer, of Boston, the second prize, of \$125. Three other Boston architects were also among the successful competitors. The committee declare in their report, however, that none of the plans submitted were altogether satisfactory, but add that it is probably impossible, under the conditions imposed upon the competitors, to produce a plan which could be recommended in all respects as one to be followed in the actual construction of school-houses. These conditions were purposely made very difficult to fulfill in order the more forcibly to demonstrate how utterly inadequate and ill adapted to their purpose are most of the public schools in New York, where ordinarily two thousand children are crowded into a building erected upon a lot of one hundred by one hundred feet, and surrounded on all sides but one by dwellings of many stories in height, which are frequently hot-beds of contagion. Hence the committee are at pains to state that they do not recommend the plans to which they have given awards as being the best designs for a school building, but only as the best plans for a school building to be erected in a huge box, lacking one side and without a top, the sides of which box are about sixty feet high; which seem to be the conditions under which school buildings have been erected in New York, and in which from fifteen hundred to twenty-five hundred children have been crowded.

The description given by them of Mr. Matthews' plan, which was awarded the first prize, is in part as follows: "Light and air are supplied from a rear interior court, which communicates by two archways with the street, and thus insures a constant circulation of air throughout the interior of the building. As there are no openings in the side walls, there is no chance of fire or contagion being conveyed from adjoining houses, or of annoyance from neighboring nuisances. Above the second floor there are really two distinct buildings, and this would be another cause of security from fire, as well as a means of isolation. The very best light is also thereby secured, both for the assembly-room and for all the upper class-rooms. The assembly-room is located on the second floor, and much ingenuity is shown in utilizing its space to accommodate the pupils. The water-closets are placed

in the basement, which is objectionable. The classrooms are not too large, and are accessible."

The committee are of the opinion that a public-school building to be erected in a large and densely populated city should possess the ten following qualifications: (1.) At least two adjoining sides of the building should be freely exposed to light and air, for which purpose they should be not less than sixty feet distant from any opposite building. (2.) Not more than three of the floors should be occupied for classrooms. (3.) In each class-room not less than fifteen square feet of floor area should be allotted to each pupil. (4.) In each class-room the window space should be not less than one fourth of the floor space, and the distance of the desk most remote from the window should not be more than one and one half times the height of the top of the window from the floor. (5.) The height of a class-room should never exceed fourteen feet. (6.) The provisions for ventilation should be such as to provide for each person in a class-room not less than thirty cubic feet of fresh air per minute, which amount must be introduced and distributed without creating unpleasant draughts, or causing any two parts of the room to differ in temperature more than two degrees, Fahrenheit, or the maximum temperature to exceed seventy degrees, Fahrenheit. This means that for a class-room to contain fifty-six pupils twenty-eight cubic feet of air per second should be continuously furnished, distributed, and removed during school sessions. The velocity of the incoming air should not exceed two feet per second at any point where it is likely to strike on the person. (7.) The heating of the fresh air should be effected either by hot water or by low-pressure steam. (8.) The fresh air should be introduced near the windows; the foul air should be removed by flues in the opposite wall. (9.) Water-closet accommodation for the pupils should be provided for on each floor. (10.) The building should not occupy more than half the lot. Special attention is called to the necessity of sufficient light in the school-rooms, and it was on account of defects in this essential feature that the great majority of the plans sent in for competition were rejected.

In concluding their report the committee express the hope "that those interested in the sanitary welfare of New York will give their attention to this problem, which, to be properly solved, will require some legislation, and a change in the present methods of selecting school sites and of erecting school buildings." It is very much to be wished that the attention directed to this important subject by the recent competition and the excellent report of the committee of award may act as leaven in the public mind, so that in process of time such a revolution may be wrought in these matters as to make every single school building what it ought to be, a model in all its arrangements.

— Dr. F. P. Foster now edits the *New York Medical Journal*, vice Dr. Hunter, whose increasing practice compelled him to resign the editorial chair.

MEDICAL NOTES.

— According to the *Philadelphia Medical Times*, the regular profession in Camden County, New Jersey, has been very much exercised of late. Some time ago the county erected an insane asylum, and appointed a committee to manage it. This committee, not being well posted in medical matters, suddenly appointed a homœopath as superintendent. This of course isolated the institution from all the benefits of regular medical skill, and from all the great insane asylums of the United States. After a six months' trial the experiment was decided to be a failure, and a regular physician was placed in charge. The homœopath, who is said to have been a person of more than average ability, stated to the board, in his defense, that he had administered the homœopathic treatment, *similia similibus curantur*, to a person with epilepsy, until the patient became so bad that he had a thousand fits in six weeks. Then, by resorting to regular applications of chloroform and ice to the spine, the fits were stopped.

— In the *Medical and Surgical Reporter* we read that two Baltimore physicians, Drs. Clagett and Walls, were sued for alleged malpractice, damages ten thousand dollars, and the case has been recently tried. It related to fracture of the arm. Dr. Walls explained its nature and the treatment adopted so clearly that at the conclusion of his testimony the counsel for the plaintiff arose and said, "The plaintiff takes pleasure, as does his counsel, in saying that this suit was brought under a misapprehension of the facts, and he is so impressed with the doctor's free, full, and candid explanation of the whole case that he authorizes his counsel to apologize to the doctor, and to enter a *vol. pros.* in the case."

— In a letter to the *Philadelphia Medical Times* of February 14th, Dr. Fothergill makes a sharp reply to English criticisms upon his remarks concerning the social position of practitioners in that country. He calls the matter "a tempest in a tea-pot," and complains of unfairness on the part of the editor of the *British Medical Journal*.

— Dr. Laurence Turnbull having claimed priority in the administration of ethyl bromide, Dr. R. J. Levis, of Philadelphia, who is making large use of this ether, shows, in a paper in the *Philadelphia Medical Times*, that Nunceley, of Leeds, England, experimented with the anæsthetic in 1849, and in 1865 frequently administered it to patients undergoing surgical operations.

— Sir William Gull began his medical life as a bottle washer in the drug-room of Guy's Hospital. His father was a laborer, and tilled a small plot of ground adjoining the hospital.

NEW YORK.

— A member of the American Public Health Association has just presented to the legislature a memorial, signed by Dr. Willard Parker, Howard Potter, the Rev. Dr. Bellows, William E. Dodge, A. A. Low, Dr. Cornelius R. Agnew, Theodore W. Dwight, Peter Cooper, Abram S. Hewitt, Chancellor Crosby, and

other influential citizens, recommending the establishment of a state board of health. After mentioning the fact that New York is almost the only State in the Union which has no public registration of births, marriages, and deaths, and that in only three or four of its cities is there provision for any sort of a record of these, the benefits which would arise from the existence of an efficient state board are set forth. The methods which it is proposed to adopt comprise popular instructions and explanations, the publication of brief reports on the leading sanitary questions of the day, and the skilled investigation of those subjects which particularly affect the public health. The cost of such a board is estimated at five thousand dollars per million of the population.

The value of a correct registration is well illustrated in a case which is now attracting considerable attention. A German lady, after having given birth to two children, a boy and a girl, in New York, where her husband became a naturalized citizen, returned to her native land. She now writes to the New York registrar of vital statistics for copies of the birth certificates of her children, as, unless these can be produced, one of them is in danger of being drafted into the imperial army, and the other is unable to marry, because the German authorities announce that they have no proof that the former was born in America, or that the latter *was ever born*. Another similar instance has also come to light. A family to whom a daughter was born in New York, and who have since gone to Austria to reside, have written for the birth certificate of the child, as they are desirous of sending her to school, and she cannot be admitted without this. Dr. Nagle, the deputy registrar of vital statistics, says that scarcely half the births in the city are registered, an oversight which in after-life may cause much trouble and annoyance to the children of foreigners naturalized here.

—Dr. Nagle reports that during the year 1879 two hundred and fifty-five deaths in New York were directly attributable to intemperance, the immediate cause of death being classified as follows: Fracture of the skull, two; congestion of the brain, nine; nephritis, forty-two; delirium tremens, eighteen; alcoholism, seventy-one; and pneumonia, nineteen. Of the individuals thus dying, one hundred and five were natives of Ireland, eighty-four of America, thirty-five of Germany, ten of England, four of France, and one of Scotland.

—The Commencement of Bellevue Hospital Medical College was held at the Academy of Music on March 3d, and there were one hundred and forty-two graduates. The address to the class was made by Mr. Chauncey M. Depew, and the valedictory address by William C. Stone, of Massachusetts.

—At the second meeting of the Academy of Medicine in February, a paper was presented by Dr. Henri Nachtel, of Paris, on Medical Night Service as it is now in Operation in Paris and other European Cities. Prof. T. Gaillard Thomas also read a paper, his subject being The Anatomy, Physiology, and Pathology of the Female Perinaeum. Both papers at-

tracted unusual attention on the part of the profession, and a special committee, with Dr. J. W. S. Gouley as chairman, was appointed to investigate the former subject, and report at an early date as to the practicability of establishing a night medical service in New York. At the first meeting of the Academy in March, Dr. Henry D. Noyes exhibited a case of blepharo-plasty, in which the eyelid was formed by a piece of skin transferred from the chest, after which Dr. C. E. Billington read a paper entitled, Forty Attested Cases of Diphtheria, with Remarks on Diagnosis and Treatment.

—The bill of Mr. Bergh to prevent vivisection has been reported adversely by the judiciary committee of the Assembly at Albany, and the report having been agreed to by the house the bill is killed. This desirable result has no doubt been brought about in great part by the personal exertions of Prof. John C. Dalton, and by the remonstrances which were presented to the legislature on behalf of the New York State Medical Society, the Medical Society of the County of New York, the New York Academy of Medicine, the New York Medical and Surgical Society, the New York Pathological Society, the Albany Academy of Medicine, the Buffalo Medical Association, the Rochester Medical Society, the Brooklyn Anatomical and Surgical Society, the Elmira Academy of Medicine, the College of Physicians and Surgeons, Bellevue Hospital Medical College, the Medical Department of the New York University, the Albany Medical College, the Medical Department of the University of Buffalo, the Long Island College Hospital, and the College of Medicine, Medical Department of Syracuse University.

—At the last meeting of the County Medical Society, Dr. C. R. Agnew exhibited a simple audiphone which a patient of his had constructed, and which had proved much more efficient in this case than the more elaborate gutta-percha ones. It consisted merely of a Japanese fan bent to the required shape, coated with shellac, and bound with a metallic rim. The doctor was not prepared to say how it might answer in other instances.

ST. LOUIS.

—Missouri is again making its contribution to the medical ranks. On the 2d of March the College of Physicians and Surgeons of Kansas City graduated seventeen young men. On the same evening the College of Physicians and Surgeons of St. Louis held its first commencement, conferring the degree of M. D. upon five aspirants. March 4th the Missouri Medical College gave diplomas to one hundred and fifteen graduates. The valedictory address was delivered by Dr. G. M. B. Manghs. The address was so much admired that at the request of the students it will be published in pamphlet form. March 5th, the St. Louis Medical College graduated forty-one of its scholars. The large fees of this college and the severity of its course diminish its numbers, but it is certainly endeavoring in good faith to raise the standard of medical education in the West. Dr. J. T. Hodgen delivered the

valedictory, in which he stated that more than one half of those being graduated had been three years in the college. Upon examination we learned that eleven had attended three full winter, spring, and summer courses, nine months in each year; twenty-two had attended three winter courses of the college, and five had been practicing previous to entering the college.

The college has adopted the following plan, conformity to which is obligatory upon all entering it: There shall be a graded course of three full winter sessions of five calendar months each; admission to the second and third years of the course to be obtained only upon examination in the subjects of the previous year or years. Fees for the course of instruction necessary for admission to examination for a degree, \$275, namely, matriculation fee \$5, and fees of three years \$90 each. The graduation fee is abolished.

—On the 4th of March the Alumni Association of the St. Louis Medical College held its annual banquet. A number of happy responses to toasts were given, among which may be mentioned one by Dr. John Green to Student Life, one by Dr. William McCandless to Woman, and one by Dr. Case to the Class of 1880.

MEDICAL ADVERTISING.

—“Nor give certificates recommending mineral waters, patents, or medical preparations, or the like.” (New Code of Ethics of Massachusetts Medical Society.) In obedience to the rule cited above, should not the members of the society, whose names appear in such advertisements as are on pages 6 and 7 of the JOURNAL of March 11th inst., cause their names to be removed therefrom at once? INQUIRER.

LITERARY NOTES.

—Walsh's Physician's Handy Ledger seems to be one of the most convenient books of the kind in the market. On two pages of this ingenious ledger may be recorded the visits to an entire family for one year, — their nature, the charges therefor, the gross amount due, and amounts to be credited. The Physician's Call Book, which accompanies the ledger, is equally useful.

—Early Medical Chicago, by James Nevins Hyde, M. D., is a very readable and interesting historical sketch of the first practitioners of medicine in Chicago, and includes the present faculties and graduates, since their organization, of the medical colleges of that city. The book bears evidence of much labor, is well written, handsomely gotten up, and illustrated with engravings of leading medical men and college buildings; a very valuable possession to those interested in the history of medicine in the United States.

—The Regulations for the Government of the United States Marine Hospital Service, issued by the Government Printing Office under the supervision of Dr. J. B. Hamilton, is a neat pamphlet of 146 pages, with index. It presents the regulations for the government of the marine hospital service,

the collection of hospital dues, and application of the funds thus resulting for the relief of sick and disabled seamen. These rules went into force on the first of January, 1880. The pamphlet, moreover, gives all possible information concerning the character of the service, its organization, relief stations and districts, duties of officers, purveyors, and stewards, boards of discipline and inquiry, transportation of sick seamen, and much other interesting matter.

—We acknowledge receipt of the Transactions of the state societies of Illinois, Pennsylvania, and New Hampshire for 1879. They contain papers of marked interest. We note especially the remarkable historical obituary of the late distinguished ovariotomist, Washington L. Atlee, of Pennsylvania. His early struggles, the obloquy cast upon him by such of his fellows as condemned ovariotomy (and at one time they were a majority), his courage and perseverance, and his own story of his gradual but thorny progress in the face of bitter opposition to his operation, form one of the most stirring and absorbing medical sketches we have ever read.

In the New Hampshire Transactions the eloquent paper on Medical Ethics, by Dr. George B. Twitchell, of Keene, nephew of the well-remembered Dr. Amos Twitchell, is a timely argument in favor of a proper code of ethics for the regulation of the conduct of physicians.

Disclaim.

SEA-SIDE ETHICS: A REPLY.

MARCH 10, 1880.

MR. EDITOR, — Yesterday afternoon, for the first time, I saw the article on Sea-Side Ethics, and recognized the letters quoted as mine. I visited the patient several days in Manchester, in June, 1878, but did not seek the case. My letters were in reply to his, and I have not seen the gentleman since June 23, 1878, though as he lives in Roxbury and has his place of business in Boston, I could easily have done so if I had been actuated by the sentiments attributed to me in the aforesaid article.

I am sure the members of our profession whose friendship I have had for the past twenty-five years know I am not a pirate.

I inclose two letters received by me twenty minutes after the reading of your article, and I should like to have you publish them.

Very sincerely yours,

HALL CURTIS.

GREENSLOPE, ROXBURY, March 8, 1880.

TO DR. HALL CURTIS, Boston, Mass.

MY DEAR SIR, — My attention has been called to an article in the Boston Medical and Surgical Journal of March 4, 1880, headed Sea-Side Ethics, which has doubtless fallen under your notice before this, and, as it relates solely to you and to me, seems to call for an explanation from me to you.

The writer says, “The portion of correspondence now copied fell into the hands of Mr. A.’s family physician.” I wish to contradict this statement, and in explanation to say, that at the time I called my family physician (July 1, 1878) I informed him of my attack

in June at the sea-side, and of my calling you, and of your treatment and advice; the latter I showed him. His only comment then was, "I do not agree with him."

I have had no occasion, that I recollect, to call my family physician, nor have I had any other medical advice but yours since July, 1878, until January 2, 1880, at which time I again had an attack—similar to though much more severe than the one I had at the sea-side, in June 1878. My family physician was then called, and I was under his treatment until the latter part of February.

About January 18, 1880, in conversing about my case with my family physician, he asked me to let him see the prescriptions and advice given by you in June, 1878, and I handed them to him as an entirety, supposing he wished to use them professionally (as he would have called you in consultation, could he have seen you in person), and did not for a moment suppose he would be so far guilty of committing a breach of confidence as to use the correspondence to charge you in the first sentence of his communication with having transgressed the "Golden Rule;" and although in the same sentence he refers to you as an *unintentional* sinner," before he closes his communication he charges you with being an "*intentional* sinner," which, allow me to say, I *do not*.

I very much regret *now* that I allowed my family physician even to *see* the communications, and trust you will do me the justice to believe I would not have done so, had I for a moment supposed they would be used against *you*; and I can only add that I have done what I could to vindicate your cause in a letter to my family physician, a copy of which I enclose, and of which you are at liberty to make such use as you may think best. Very truly, GEORGE WOODS RICE.

GREENSLOPE, ROXBURY, March 8, 1880.

TO DR. B. E. COTTING, ROXBURY, MASS.

MY DEAR DOCTOR.—My attention has been called to an article in the Boston Medical and Surgical Journal of March 4, 1880, headed *Sea-Side Ethics*, in which mention is made of a prominent Boston physician who passed his summer in the year 1878 near by ———, for "*pleasure and profit*;" and copies of certain prescriptions and letters written by the aforesaid physician are quoted which were addressed to one whom I know to be a patient of yours, for the reason that the prescriptions were given *to me* and the letters quoted were addressed *to me*, and *both* are now in my possession. Now, as these prescriptions and letters have never been out of my possession, except when *you* asked me to let you take them, about January 18, 1880 (at which time you were attending me professionally for an attack which, I have reason to believe, from the article in question you supposed to be a severe cramp in the hypochondriac region), I am not left in doubt as to who the *author* of the communication is; and as I have always treated you, both as my friend (as I well know you to be) and as my medical adviser, with all frankness and candor, I *do*—sire to do so now, and to say to you that I consider the use you have made of the prescriptions and letters which *you* asked to borrow (as I supposed for *professional purposes only*) as *indefensible*, and am astonished that my good physician should have used *me* and *my case* to make an unjustifiable attack upon one of his own profession, who, from my acquaintance with him, *I am* satisfied intended no breach

of "code or professional rules," as he continued the medical advice *only* at my request, and not with any view to his *own profit*. You say, "The portion of the correspondence now copied *fell* into the hands of Mr. A.'s family physician." *This is not so*; it was requested by you of me, and you were bound to treat it, as I had every reason to believe you would, *in confidence*, and you have placed me by your communication in a very unpleasant and unjust position as regards the "prominent Boston physician." Let me, first, correct a statement made by you, near the beginning of your communication, where you say, "The second day he volunteered a call." *This is not so*, as he made the second day's visit at *my* request. You lay great professional stress upon his course, and make an unjust charge against the Boston physician because he continued to give me professional advice after it became known to him that I had been treated by my family physician after my return from the sea-side. Let me say that the *only* treatment which I recollect to have received from you, when called July 1st, was the injection of morphine subcutaneously, and there seemed to be no better course left to me *then* than to continue to take the advice of one who I think (as you seem to) was "*so much interested*" in my case as the prominent Boston physician was. As you borrowed of me, at the same time with the before-mentioned papers, the prescription of another Boston physician (not spending his summers at the sea-side), whom I had consulted at his own office for a similar attack, just previous to my calling in the physician at the sea-side, why did you not call him to account in the same article for having given me professional advice without consulting with you, *when he knew* that you were my family physician? *Professional jealousy* seems to me to be the basis of this unjustifiable attack, and has led you to betray the confidence of one who, from long acquaintance with you, had every reason to expect very different treatment. Has this monster "*professional jealousy*" attained such growth that the sick are not to be treated, when temporarily out of the reach of their family physician, by a Boston physician spending his summer at the sea-side until he consults the family physician either by mail or telegraph? From the tenor of the communication one certainly has a right to draw such an inference. If your communication falls under the eye (as it doubtless will) of the prominent Boston physician, without any explanation from me, could I reasonably expect to receive medical advice from him, were I needing such advice while stopping at the sea side? I certainly should not expect it, and in justice to myself shall write the Boston physician an explanation of the case, and send him a copy of this letter.

Very truly, GEORGE WOODS RICE.

EFFECTS OF THE ADVOCACY OF THE PROPOSED MEDICAL LAW.

MR. EDITOR.—The following, as one of the effects of the advocacy by members of the profession of the proposed law to regulate the practice of medicine in this State, may interest some of the readers of the JOURNAL.

The Boston Post of March 12th, in an editorial advocating the petition for the admission of homeopathic practice into the City Hospital, which the city government of Boston will soon be asked to consider, has the following:—

"If homœopathy meant empiricism or superscientific practice, it would be the duty of the city to exclude it from its institutions. . . . The allopathists do not maintain any such thing. In their movement for the establishment of a medical board they were willing that the homeopaths should have a representation according to numbers, a concession which of itself furnishes a very strong argument why the forthcoming petition should be granted." M. M. S. S.

EAST BOSTON ETHICS (NEW CODE).

MR. EDITOR, — Dr. A. informed me that he had visited an interesting case that evening. The patient had been seen that morning and the day before by Dr. B., but he was told that the latter had been discharged; consequently he gave his opinion and prescribed. I informed Dr. A. that I was the physician in charge, and had not been notified that any change was desired. As Dr. A. did not suggest a cure for my "wounded feelings," I told him to go on with the case. Two days have passed, and neither the family nor the man who called Dr. A. have notified me that I am not wanted. Is Dr. A.'s course in conformity with Section IV. of the code, when it speaks of "rules of honor and courtesy"? ETHICS.

MEDICAL ETHICS.

BY JAMES O. WHITNEY, M. D., FAWTUCKET, R. I.

A FEW years since, being in conversation with a medical gentleman of New York regarding this topic, he said, "Medical ethics, — what are they but the rules that govern gentlemen applied to our profession?" Clearly this is as good a definition as can possibly be given in general terms, and one who proposes to be a *gentleman* will instinctively observe them, yet no doubt it is wise to have rules in detail.

The writer of Sea-Side Ethics, in the JOURNAL for March 4th, had a clear case of violation of the rules as printed for the Massachusetts Medical Society, and it was his duty to have brought the offender to trial.

I once delivered with forceps the patient of another, also an adherent after-birth, at his request. A year lapsed, and not being paid I suggested this fact to the one I had aided out of a vexatious and dangerous case. The reply was, "Oh, I guess it is not worth your while to make out a bill." The idea was to give me to understand that the patron did not pay his bills. However, I at once sent the bill, and was paid, being informed also that Dr. — was paid immediately on the patient's recovery. The author of Sea-Side Ethics says, "It reveals the most extraordinary conduct on the part of a prominent physician, brought up, and for many years mingling with, the most eminent and honorable members of the profession." I think his case reveals the inherent man; if with all these surroundings he did so demean himself, what would he not do if left untrammelled? I never have seen anything in the conduct of the man I aided to lead me to think his undertaking to defraud me of a fee was exceptional, but many things to confirm the impression that he would repeat the offense. Perhaps the writer of Sea-Side Ethics holds with the suggestion made in an edi-

torial in the JOURNAL upon this topic, not long since, that rules are not enforced by the societies. This had a practical illustration in this State in 1878. Charges were filed and examined by the board of censors. The accused admitted them, yet the report to the society was, "Not sustained."

LETTER FROM PHILADELPHIA.

BOGUS MEDICAL COLLEGES.

THE prestige of Philadelphia as a great medical centre, and the reputation of her well-known schools has suffered greatly for many years by the action of unprincipled men, who set up pretended universities in order to sell diplomas granting degrees *in absentia*, or for merit (!), attendance at the college not being compulsory. This disgraceful fact is now generally understood and properly appreciated throughout Europe, as well as this country, and the holder of a Philadelphia diploma must therefore expect to have it scanned very closely when he goes among strangers. The University of Pennsylvania has been especially victimized by establishments calling themselves "the Pennsylvania University" and "the University of Philadelphia, Pennsylvania," the proprietors of which established agents in all the great centres of civilization for the sale of Philadelphia diplomas. The strangest part of it all is that the colleges and the medical profession have appeared to be utterly helpless, being entirely unable to stop the traffic. If, after a world of trouble, a legislative committee were made to look into the case, and abundant testimony secured (such as selling diplomas to ignorant negroes and to minor children), even if the committee reported in favor of rescinding the charter, then the parties would either obtain in the courts a stay of proceedings, or else would allow that charter to go by default, and simply take another one from their pockets (bought cheap from some defunct college), and go on as before, only a little more cautiously for a time. The crime against society is such a flagrant one, and is so plainly opposed to the best interests of the social life of the community, that the public press has volunteered to come to the assistance of the profession, and lend its powerful influence towards removing this reproach. The mayor of the city, Hon. Wm. S. Stokely, has also interested himself in the matter, and whenever letters are received from abroad (which of late has been less frequent than a few years ago) making inquiry as to the status of these bogus institutions the desired information is always sent, and the letter and its reply are duly published in our daily papers.

Owing to the enterprise of one of our morning papers, the *Public Record*, another diploma-shop has been dragged reluctantly from the obscurity it appeared so eminently fitted to adorn, and has had its modest and retiring disposition outraged by an exposure of its methods to the public, thus giving them a good deal of gratuitous though unsolicited advertising. A few days ago, two young men, being attracted by the prospectus of the college (!), called upon the dean, the Rev. T. B. Miller, M. D., etc., in order to ascertain the requirements for a degree. He informed them that the diploma for a doctor of medicine would cost about one hundred dollars (and that, having three charters in his possession, they could select the one they preferred);

they need not attend the lectures, and could begin to practice right away. The latter possibility was assured to them by a certificate signed by the dean, for which they paid twenty-five dollars, which was also the first installment upon the price of the diploma. They also had an amusing lecture on how to write a prescription, by the entertaining professor, who also gave one set of tickets for lectures that were supposed to have been delivered the last course, which had just closed. The young Æsculapiuses then left, promising that the professor should hear from them again the next morning; which promise they faithfully redeemed. One being the city editor and the other a reporter of the *Public Record*, they published in the morning edition of the paper a full exposé, which excited a good deal of comment, and which since has been widely copied into other journals. The most unpleasant part of the affair is that the three men who appear prominently in connection with this discreditable business are all ministers in good standing, belonging to an orthodox Christian denomination, and all occupying pulpits in this city. A committee of this religious body has been investigating the conduct of these men since the exposure, but has not yet reported its conclusions. The dean has resigned from the institution, but will probably be held accountable before the courts. The following is one of many illustrations of the manner of working these establishments:—

Living in this city is a man named William B., who is a mental unfortunate, and his family state that while he was an inmate of the Pennsylvania Hospital for the Insane they obtained for him a diploma from "The Philadelphia University of Medicine and Surgery." He was a student at the university when it was on Ninth Street, near Spruce, and afterwards his mind became impaired, but his relatives, having paid the institution seventy-five dollars, thought they might as well have the diploma, and sent for it and got it.

This diploma was signed by W. Paine, and is an exact copy of those issued by ex-Dean Miller's institution.

ACADEMY OF NATURAL SCIENCES.

At the last meeting of the Biological and Microscopical Section of the Academy of Natural Sciences, Dr. Carl Seiler continued his illustration of microscopic methods. The speaker took up the subject of injecting with colored fluids for the purpose of throwing into bold relief the courses of the blood-vessels. The only colors which had thus far been very successfully used were blue and red, of which Prussian blue and carmine, respectively, were the bases. Opaque mineral colors are not good, as they render the vessels non-transparent, and obscure all the neighboring structures.

Dr. Seiler exhibited sections under the microscope prepared from the lungs of cattle affected with pleuropneumonia, cut from specimens kindly furnished by Dr. Gadsden, which showed the peculiar alterations undergone by the lung tissues in the course of the disease.

Mr. J. A. Ryder called attention to a most extraordinary and hitherto unknown type of sponge, from the Chesapeake Bay, whose position in the animal kingdom, as far as he was able to predicate from the single specimen in his possession, was quite unique. It was found to possess features met with in no other known species. The surface was covered with prominent delicate, transparent funnels, which led into cavities appar-

ently lined with a single layer of cells. There were no fibres, no spicules, but instead the animal was composed of cavities whose walls were structureless membranes. Its position in the system will be below any other known sponge except the curious *Physemata*, described by Professor Haeckel, and about which there has been so much dispute.

WEATHER AND HEALTH.

The winter of 1879-80 has been with us the mildest remembered; and the record of the weather for the past ninety-one years shows that the present winter is the warmest we have had during that period. The average temperature of the winters during that long time was 31.67°, while the average temperature of the past winter was as high as 38.65°. It would seem that such warm weather during the winter months would be injurious to health, but the statistics of deaths for the months of February, 1879 and 1880, prove that such is not the case this year. During that month last year it rained but twice, the other storms being snow; in the same month this year it rained on six different days, the amount of water falling being nearly double what it was the year previous.

The temperature during that time was, on an average, nine degrees warmer than during the corresponding time of the previous year, yet in 1879 the number of deaths was 1446, while in 1880 the number was 1211. The warm weather has had an effect on vegetation. Dandelions, trailing arbutus, and kindred plants are in full bloom, and trees are beginning to bud.

In contrast to general expectation, the open winter, with its warm, damp weather, has not increased the death-rate; but, on the contrary, according to the tables prepared by the registrar of the Health Board, the deaths in this city during the twelve weeks between the last of November, 1879, and February 21, 1880, reached 3296, while for the same period last year they amounted to 4602, showing the deaths for this winter to have been 606 less than last year.

CARELESS USE OF ETHER.

A case illustrating the careless manner in which anesthetics may be administered occurred a few days ago. A lady took ether for some operation at a dentist's office, and shortly afterward started to go home. Being still under the stupefying effect of the ether, she stepped into a business college, and feeling very tired sat down, and was soon fast asleep. Waking up very much frightened, about two o'clock in the morning, she made an outcry and was soon liberated by the watchman, who had inadvertently locked her in. She was taken to the police station, and then restored to her anxious friends. Not long ago, a gentleman who had been taking nitrous oxide gas, in order to have some teeth attended to, started away before he had fully recovered from the anæsthetic, and fell down the steps, injuring himself considerably. In surgery the rule is never to leave the patient unattended for at least an hour after giving ether, but this does not appear to be the invariable practice among dentists.

Another honor has been conferred upon Professor Gross. The board of trustees of the Pennsylvania College of Dental Surgery has just elected him president of the board, in which capacity he presided at the recent Commencement of this, the second oldest dental college in the United States.

REPORTED MORTALITY FOR THE WEEK ENDING MARCH 6, 1880.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Deaths under Five Years	Percentage of total Deaths from				
				The Principal "Zymotic" Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.
New York.....	1,085,000	541	217	14.79	20.70	4.62	1.66	.37
Philadelphia.....	301,380	335	109	14.03	8.66	5.97	.89	1.79
Brooklyn.....	564,400	215	91	16.28	16.28	6.98	4.65	.93
Chicago.....	—	193	87	25.39	18.13	13.99	2.08	1.56
St. Louis.....	—	120	45	10.83	13.33	1.67	.83	—
Baltimore.....	393,796	140	60	20.71	7.86	11.43	5.00	2.14
Boston.....	365,000	159	54	11.25	16.98	6.92	.63	1.26
Cincinnati.....	280,000	89	36	21.35	12.36	5.62	4.49	6.74
New Orleans.....	210,000	87	27	12.64	10.34	3.45	—	—
District of Columbia.....	170,000	88	37	7.95	27.27	—	1.13	2.27
Buffalo.....	—	44	16	11.36	18.18	4.54	2.77	—
Cleveland.....	160,000	74	33	20.27	9.46	8.11	5.41	—
Pittsburgh.....	145,000	68	30	22.06	26.47	13.24	1.47	2.94
Milwaukee.....	127,000	41	22	29.27	9.76	19.51	2.44	4.88
Providence.....	102,000	42	17	33.33	11.90	2.38	30.95	—
New Haven.....	60,000	20	7	15.00	20.00	—	—	—
Charleston.....	57,000	24	4	16.67	16.67	—	—	—
Nashville.....	37,000	12	3	8.33	16.67	—	—	8.33
Lowell.....	54,000	14	5	28.57	14.28	14.28	—	—
Worcester.....	53,000	23	9	17.39	47.83	4.85	—	4.35
Cambridge.....	50,400	16	3	12.50	6.25	12.50	—	—
Fall River.....	49,000	24	10	16.67	8.33	—	12.50	—
Lawrence.....	38,600	27	13	11.11	11.11	11.11	—	—
Lynn.....	34,000	19	6	15.79	10.53	15.79	—	—
Springfield.....	31,800	16	3	25.00	12.50	18.75	6.25	—
New Bedford.....	27,200	14	4	14.29	21.43	—	7.14	—
Salem.....	26,500	12	3	—	16.67	—	—	—
Scarsville.....	23,500	9	3	11.11	33.33	—	11.11	—
Chelsea.....	21,000	8	2	25.00	—	—	12.50	—
Taunton.....	20,200	7	2	—	—	—	—	—
Holyoke.....	18,400	13	7	15.38	7.69	—	—	—
Gloicester.....	17,300	8	3	37.50	—	25.00	12.50	—
Newton.....	17,300	4	1	25.00	—	25.00	—	—
Haverhill.....	15,350	5	1	20.00	20.00	—	—	—
Newburyport.....	13,500	6	1	16.67	—	—	—	—
Fitchburg.....	12,600	4	—	25.00	25.00	—	25.00	—
Eighteen Massachusetts towns.....	136,910	54	19	9.26	18.52	5.55	1.85	—

Two thousand five hundred and seventy-five deaths were reported; 990 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 421, consumption 414, lung diseases 404, diphtheria and croup 170, scarlet fever 70, typhoid fever 33, diarrheal diseases 32, measles 31, whooping-cough 30, cerebro-spinal meningitis 21, erysipelas 16, malarial fevers 11, typhus fever four, small-pox three. From *measles*, New York 13, Philadelphia six, Chicago five, New Haven three, Brooklyn two, Cleveland and Fall River one. From *whooping-cough*, New York 10, St. Louis and Cleveland three, Philadelphia, Boston, District of Columbia, Pittsburgh, and Charleston two, Brooklyn, Chicago, Cincinnati, and New Orleans one. From *cerebro-spinal meningitis*, New York four, Philadelphia and Chicago three, Cincinnati two, St. Louis, Baltimore, Buffalo, Cleveland, Lowell, Chelsea, Holyoke, Haverhill, and Newburyport one. From *erysipelas*, New York six, Philadelphia and Brooklyn two, Chicago, Baltimore, District of Columbia, Milwaukee, Charleston, and Worcester one. From *malarial fevers*, St. Louis four, Brooklyn three, New York two, Chicago and New Orleans one. From *typhus fever*, Philadelphia three, Buffalo one. From *small-pox*, Philadelphia two, Worcester one. One hundred and sixty-nine cases of measles, 31 of diphtheria, 29 of scarlet fever, two of typhoid fever, and one of whooping-cough were reported in Brooklyn; diphtheria 30, scarlet fever four, in Milwaukee; diphtheria 21, scarlet fever nine, in Boston; scarlet fever six, diphtheria three, in New Bedford. The death-rate of whites in District of Columbia was 19.61, of colored 41.8. Small-pox has entirely disappeared from Baltimore. In Norfolk, diphtheria was prevalent in February.

The total number of deaths reported was nearly the same as for the previous week, of deaths under five somewhat more. Lung diseases, diphtheria, and cerebro-spinal meningitis were more fatal, measles and small-pox less so. In 37 cities and towns of Massachusetts, with an estimated population of

1,025,560 (population of the State about 1,690,000), the death-rate was 22.47 against 21.26 and 20.22 of the previous two weeks, with a somewhat decreased rate of mortality from typhoid fever and whooping-cough.

For the week ending February 14th, in 146 German cities and towns, with an estimated population of 7,739,491, the death-rate was 27.5 against 26.9 and 25.7 of the previous two weeks. Four thousand and ninety-one deaths were reported; 1780 under five; acute diseases of the respiratory organs 622, pulmonary consumption 599, diphtheria and croup 143, typhoid fever 80, scarlet fever 70, whooping-cough 57, peripneumonia 32, measles and *röteln* 25, typhus fever one, small-pox (Bochum) one. The death-rates ranged from 15.0 in Wiesbaden to 45.8 in Frankfurt-on-the-Oder; Königsberg 26.9; Dantzig 30.9; Breslau 29.6; Munich 38.7; Dresden 22.2; Berlin 28.5; Leipzig 26.7; Hamburg 27.9; Hanover 19.4; Bremen 22.4; Cologne 29.7; Frankfurt 22.8; Metz 40.4. For the same week Vienna 28.8; Paris 37.8.—small-pox, diphtheria, typhoid fever, and lung diseases being very prevalent.

For the week ending February 21st, in the 20 English cities with an estimated population of 7,499,468, the death-rate was 26.0 against 31.0 and 37.0 of the previous two weeks. Three thousand seven hundred and forty deaths were reported. Lung diseases still further declined to 6.63, but exceeded the corrected weekly average by 213; whooping-cough 239, scarlet fever 120, measles 72, fever 51, diarrheal 44, diphtheria 18, small-pox (London) 13. The death-rates ranged from 12.2 in Brighton to 37.6 in Plymouth; London 28.7; Bristol 24.9; Birmingham 22.3; Liverpool 21.3; Manchester 26.3; Leeds 21.4. In Edinburgh 22, Glasgow 26, Dublin 38 (small-pox, six deaths). In the 20 chief Swiss towns scarlet fever, diphtheria, small-pox, and typhoid fever were the prevalent diseases; lung diseases continued to cause excessive mortality.

The meteorological record for the week in Boston was as follows:—

Date.	Barom- eter.	Thermom- eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.				
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.			
Feb. 29	29.675	53	64	39	100	62	63	75	SW	W	NW	20	20	20	R	O	C	—	.56			
March 1	30.033	36	42	31	53	39	52	48	NW	NW	NW	10	20	7	O	F	F	—	—			
" 2	30.338	31	39	25	75	38	68	60	C	SW	SW	0	13	5	C	F	C	—	.08			
" 3	30.144	42	53	27	78	47	92	72	S	W	NW	4	23	17	H	O	R	—	.10			
" 4	29.715	54	62	44	85	51	73	70	W	W	NW	5	9	9	C	F	F	—	.36			
" 5	29.397	52	72	42	100	50	51	67	SE	SW	NW	5	23	26	R	C	C	—	—			
" 6	30.081	33	45	30	70	70	70	70	N	SE	S	14	8	4	O	O	O	—	—			
Week.	29.912	43	72	25				66	Northwest.												18.30	1.10

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM MARCH 6, 1880, TO MARCH 12, 1880.

McELDERY, H., captain and assistant surgeon. Having reported in person at these headquarters, assigned to duty at camp at White River, Colorado. S. O. 19, Department of the Platte, March 5, 1880.

BROWN, P. R., captain and assistant surgeon. Assigned to duty at Fort Hamilton, New York harbor. S. O. 39, Department of the East, March 11, 1880.

MORSELEY, E. B., captain and assistant surgeon. Granted leave of absence for one month, to take effect when relieved by Assistant Surgeon McElerry. S. O. 19, C. S., Department of the Platte.

LIST OF CHANGES IN THE MEDICAL CORPS OF THE NAVY DURING THE WEEK ENDING MARCH 13, 1880.

PASSED ASSISTANT SURGEON H. E. AMES detached from the navy yard, Washington, and ordered to the U. S. S. *Saratoga*, vice Passed Assistant Surgeon A. F. Magruder, detached and ordered to the navy yard, Washington, D. C.

PASSED ASSISTANT SURGEON ROBERT WHITING ordered to the iron clads, Brandon, Va., vice Assistant Surgeon R. Ashbridge detached and placed on sick leave.

SIXTH DECENNIAL PHARMACOPEIA CONVENTION.

The following is a complete and corrected list of the delegates so far received by me:—

From the Massachusetts College of Pharmacy: Prof. G. F. H. Markoe, Ph. G., Samuel A. D. Sheppard, Ph. G., Thomas Doliber, Ph. G.

From the Philadelphia College of Pharmacy: Prof. John M. Maisch, Alfred B. Taylor, Prof. Joseph P. Remington.

From the Louisville College of Pharmacy: Prof. Emil Schaffer, Prof. C. Lewis Diehl, Vincent Davis.

From the Maryland College of Pharmacy, Baltimore, Md.: *Delegates*, William S. Thompson, Louis Dohme, Joseph Roberts, *Alternates*, Charles Caspari, Jr., Dr. J. F. Moore, Dr. Robert Lautenbach.

From the Medical Society of District of Columbia: Prof. David R. Hagner, M. D., Prof. Thomas Antisell, M. D., Emeritus Prof. James F. Morgan, M. D.

From the National Medical College of Columbia University, Washington, D. C.: Prof. W. W. Johnston, M. D., Prof. D. W. Prentiss, M. D.

From the Medical Department of Georgetown, D. C.: Prof. W. H. Ross, M. D., Prof. S. C. Busey, M. D., Prof. C. H. A. Kleinschmidt, M. D.

From the National College of Pharmacy, Washington, D. C.: Mr. W. S. Thompson, Prof. Oscar Oldberg, Mr. R. B. Ferguson.

Medical Department of University of Pennsylvania: Prof. Theodore G. Wornley, M. D., LL. D., Prof. Horatio C. Wood, M. D.

Massachusetts Medical Society: Dr. Robert Amory, of Brookline, Dr. Robert T. Edes, of Roxbury, Dr. Edward S. Wood, of Cambridge.

Bellevue Hospital Medical College: Dr. E. G. Janeway, Dr. A. A. Smith, Dr. F. A. Castle.

College of Pharmacy, New York: *Delegates*, Charles Rice, P. W. Bedford, Frederick Hoffmann. *Alternates*, H. J. Menninger, Paul Balluff, E. P. Nichols. Vacancies to be filled by president of college.

College of Physicians and Surgeons, Medical Department of Columbia College, N. Y.: Prof. Edward Curtis, M. D.

Dartmouth Medical College, Hanover, N. H.: Prof. H. M. Field, M. D.

Connecticut Medical Society: Prof. C. A. Lindsley, Yale Medical Department, A. Woodward, Franklin, Conn., C. W. Chamberlain, Hartford, Conn.

Rush Medical College of Chicago: Dr. W. S. Harris, Dr. J. S. Knox, Dr. J. H. Etheridge.

Philadelphia Medical Society: Henry H. Smith, M. D., Richard J. Douglass, M. D., J. Howard Taylor, M. D., State University of Iowa, Medical Department: P. J. Farnsworth, M. D.

Iowa State Medical Society: Dr. John North, Dr. P. J. Farnsworth.

JAMES E. MORGAN, M. D.,

No. 905 E Street, N. W.

WASHINGTON, D. C., February 26, 1880.

THE NATIONAL BOARD OF HEALTH has called a convention of all who are engaged in the work of registration of vital statistics for cities or States, and of others who are interested in the subject. The convention is to meet in Washington on the 6th of May next. The object of the meeting is to bring about a uniformity in the registration of vital statistics.

THE BOSTON DENTAL COLLEGE held its commencement on the 3d inst. at Parker Memorial Hall. After the exercises the class received their friends at Old Fellows' Hall, where the graduates made the president of the college, Dr. I. J. Wetherbee, a present of The Mock Trial, one of Rogers' groups. Twenty persons received their diplomas, and six more who passed the faculty will receive their diplomas when the period of their pupillage is complete.

E. P. George received the prize of a Johnston's dental engine, offered by Messrs. Hood and Reynolds for the best final examination, and A. F. Townsend, of the undergraduates, that of a case of Varney's packers, for best examination in anatomy and physiology and chemistry. Sixty-five students have been connected with the college the past year. A spring term for clinical work and study opens the 22d inst., under L. C. Bryan, D. D. S., demonstrator in charge. E. CHENERY, *Dean*.

APPOINTMENT.—Dr. George Steadman has been appointed associate medical examiner for Suffolk County.

BOOKS AND PAMPHLETS RECEIVED.—Ueber die Todesursachen nach Verbrennungen. Von Dr. L. von Lesser, Privat-Dozent für Chirurgie in Leipzig. (Reprint from Virchow's Archiv, 1880.)

Lectures.

A CLINICAL LECTURE ON SOME POINTS IN THE LIFE AND DIAGNOSIS OF CARCINOMA OF THE MAMMARY GLAND, BASED UPON A STUDY OF ONE HUNDRED CASES.

DELIVERED AT THE PHILADELPHIA HOSPITAL.

BY SAMUEL W. GROSS, M. D.,

Surgeon to the Hospital.

[From notes by Henry C. Boenning, M. D., Resident Physician.]

GENTLEMEN, — In the female wards there are four remarkable examples of carcinoma of the breast, which I shall bring before you this morning. After demonstrating their individual characteristics, I will devote the remainder of the hour, possibly exceeding the allotted time, to the consideration of certain points in the general pathology of carcinomatous tumors, and contrast them with the peculiarities met with in the non-carcinomatous neoplasms, with the view of establishing the differential diagnosis between these two great classes of new formations. The results at which I have arrived are based upon my private notes of one hundred cases of carcinoma, and upon one hundred and forty cases of the non-carcinomatous tumors, of which thirty-six are original. In order that we may understand one another thoroughly, let me premise that the term carcinoma, which I shall employ, interchangeably with cancer, to express a definite structure, is applied to an infiltrating atypical epithelial neoplasm, which is characterized, clinically, by local infection of the adjacent tissues and associated lymphatic glands, and by its marked tendency to general dissemination, and, structurally, by a cavernous fibrous stroma or framework, the meshes or alveoli of which are occupied by solid nests, plugs, or cylinders, composed of loosely heaped multiform epithelial cells, which are suspended in a serous fluid, without the intervention of a cementing intercellular substance. The non-carcinomatous tumors, on the other hand, embrace true adenoma, which is also derived from the lacteal glands, but which, unlike carcinoma, does not infiltrate the stroma, as well as fibroma, sarcoma, and myxoma, which are derived from the periglandular connective. Lipoma, chondroma, angioma, and neuroma are so rarely met with that, in speaking of the non-carcinomatous growths, I wish to be understood as referring only to adenoma, fibroma, sarcoma, and myxoma.

CASE I. Harriet L., aged forty-seven years, the mother of three children, the youngest of whom is fifteen years of age, states that she menstruated regularly up to one year ago, when the menopause occurred; that she is not aware of the occurrence of cancer among her ancestors or relatives; and that there has never been a discharge from, nor an eruption upon, the nipple. Five years ago she accidentally discovered a hard, painless lump, of the size of a small marble, beneath the nipple, which was movable under the skin. This lump increased so slowly that it required four years and a half, or until July, 1879, to attain the volume of an egg. In August it became the seat of sharp, cutting pains, which materially interfered with her sleep. About the first of September the tumor began to increase rapidly, and the entire breast was soon invaded by the disease. The pain grew worse; the nipple "got angry," and began to retract, and

several nodules made their appearance in the overlying skin. About the first of October, the integument was discolored; the entire gland was fixed to the pectoral muscle; a small, hard nodule was discovered in the right breast to the inside of the nipple, and the glands in both axillæ were found to be enlarged. During the past two months the progress of the disease has been rapid, and the suffering has been so great as to require large doses of opium.

To-day, — January 14, 1880, — you will observe that the disease is gradually spreading over the entire anterior surface of the chest. The left breast stands out prominently as a bossed, hard, hemispherical mass, as large as a child's head. The skin is tense, shining, and polished, everywhere attached, the seat of a purplish or bluish-red discoloration, and infiltrated by not less than fourteen flat, lenticular, or rounded nodules, which vary in size from a pea to a hazel-nut. In addition to these nodules the mamma itself is bossed, the largest projection, which is seated at its upper and inner periphery, being of the volume of a small orange, covered by a net-work of arborescent capillaries, and soft and elastic to the touch. Two weeks ago it gave way at a small point, and emitted about a tablespoonful of blood. The nipple is retracted to a level with the areola, and the sulcus is surrounded by a ruffle of elevations or tubercles. The skin between the breast and axilla is also occupied by small nodules, and the lymphatic glands of the axilla are converted into a densely hard, nodulated tumor, as large as a hen's egg, and closely adherent to the side of the chest. The glands below and above the clavicle are likewise converted into carcinomatous tissue.

Leaving the left side, the skin of the bosom, or the space between the two breasts, is seen to be occupied by numerous large tubers, some of which are discolored. The right mamma is only about one third as large as the left. It is still movable on the pectoral muscle, but it is firmly attached to the brawny skin, which is livid over the prominent bosses. The nipple is drawn in and surrounded, like its fellow, by a ruffle of nodules, and the subcutaneous veins are rather prominent. The glands of the right axilla form an adherent tumor almost as large, and equally as dense, as that in the left armpit. The supraclavicular glands and one below the clavicle are also involved.

As yet, despite her suffering, there are no very marked signs of interference with the functions of the organs essential to life. She is paler than she was a month ago, and her appetite is not very good. As nothing can be done in the way of permanent relief, we are making her as comfortable as possible by keeping her gently under the influence of morphia, and byunctions with stramonium ointment. In addition to these remedies she gets tonics and the best diet that the house affords.

CASE II. Eliza C., aged fifty-five years, the mother of two children, ceased to menstruate fourteen years ago, and is not aware of a family history of cancer. About two years ago, while washing the right breast, she accidentally noticed a firm, fixed, and painless growth, as large as an English walnut, two inches above and to the right of the nipple. She remained in this condition for twelve months, when the skin around the base of the mamma became ulcerated, and discharged a thin and fetid fluid. Excessive pain of a darting and cutting nature manifested itself at

the same time, and has continued ever since, with remissions in severity. She states that the original tumor gradually disappeared, and that small lumps, "like peas," made their appearance in the skin to the inner side of the affected breast, and extended to the opposite gland nine months ago.

The entire anterior surface of the thorax, this morning, looks as if it had been transformed into an irregular fungous mass, covered here and there with drops of blood and yellowish pus. On closer inspection, however, the red and prominent nodules and bosses are seen to be free from the ordinary appearances of fungus, their surface being, for the most part, merely excoriated or fissured, while some are covered by crusts. To the touch they are firm and somewhat elastic and tender. Varying in size from a small shot to an orange, they are multiform, convex on both surfaces, and inseparably connected with the chest. The discharge is profuse and has a sickening odor. Some of the nodules show distinct evidences of cicatrization of the superficial ulcers in the form of a thin epithelial covering, while one is sloughing off. The original breast and tumor are converted into a large, red, thin, adherent cicatrix. Of the left breast nothing remains except its lower half with the deformed nipple. Two small nodules of carcinoma are seated in the skin over the summit of the left shoulder, and are quite independent of the main mass. The supraclavicular glands of the right side are contaminated, and a cluster of hard glands, as large as an egg, is present in each axilla. The woman's general condition is excellent. With the exception of protecting the parts from friction with the clothing and overcoming tenderness and stench by an application composed of five grains of chloral hydrate to the ounce of petroleum ointment, which fulfills the indications capitally, nothing is being done.

CASE III. Elizabeth H., aged fifty-one years, the mother of six children, states that she ceased to menstruate at the age of forty-eight, and that her mother died of cancer of the breast. Two years ago she fell from a height of five feet, and struck her right mamma against the edge of a mowing machine. Three weeks subsequently she accidentally noticed a painless lump, as large as a hickory-nut, which was seated deeply in the gland, and the nipple was slightly drawn in. In about four months the nipple began to discharge a thin, reddish fluid, and one month later the breast became the seat of sharp, darting, stinging pains, which in the course of six weeks were so severe as frequently to keep her awake at night. At the end of ten months the glands of the axilla were observed to be enlarged, and the primary growth had attained the size of a hen's egg. Two months later, the breast having in the mean while almost doubled its volume, the glands above the right clavicle and along the posterior border of the sterno-cleido-mastoid muscle began to be affected, and a nodule appeared in the skin of the upper sternal region. At this time the breast and axillary enlargement were treated by painful caustic applications, through which the greater part of the tumors sloughed away. In fifteen months from its first appearance the disease had disseminated itself, in the form of small nodules, in the skin, over the greater part of the right chest, and appeared as a tuber in the left breast, near the nipple, and also infiltrated the glands of the corresponding axilla. Two months later spontaneous ul-

ceration ensued in the greatly enlarged sternal nodules, in the left breast, and in the left axilla.

Her general health has failed greatly within the last six months. Her appetite is very poor; she is frequently nauseated, and vomits after eating; and she experiences great pain in both breasts, in the right side of the neck, and in the right arm, which is somewhat swollen.

You will observe that the right mamma and a portion of the axilla are replaced by a huge, irregular, deep, funnel-like ulcer, with everted, indurated edges, showing, here and there, evidences of cicatrization, and a granulating surface, which bleeds easily on changing the dressings. The patient states that about two months ago the surface was covered with a blackish slough, which emitted a very offensive odor, but which ceased when the dead tissues were cast off, at the end of eight days. The mass over the sternum consists of two large, hard, and red tubers above, and of a superficial ulcer below as large as a silver dollar. The outer half of the left breast is converted into a densely hard tumor, which is ulcerated around and to the outside of the nipple, the latter of which is partially destroyed. The skin is infiltrated, below and to the outer side, by flattened plates of carcinomatous material. The glands of the left axilla are converted into a dense, round tumor, of the volume of a small apple, and the skin is superficially ulcerated, the edges of the sore being excessively hard and livid. The integument of the inner border of the left mamma, around the sternal growth, and over and below the right clavicle, is occupied by numerous shot-like and lenticular deposits, a few of which are as large as a filbert. The supraclavicular glands and the glands beneath and over the right sterno-mastoid muscle are converted into secondary tumors. The ulcers are being dressed with an ointment composed of five grains of chloral hydrate and a drachm each of extract of belladonna and extract of stramonium to the ounce of cosmolime; while internal medication is limited to the exhibition of opium to relieve pain, and the tincture of the chloride of iron with quinia to maintain her strength.

CASE IV. Mrs. McC., aged forty-five years, tells us that she is the mother of six children, the youngest of whom is five years of age; that she still menstruates; that there is no history of cancer in her family; and that, fourteen years ago, she accidentally noticed a lump, as large as a filbert, which moved only with the gland, and was seated at the lower portion of the axillary border of the right mamma. It developed so slowly that its growth was scarcely perceptible for three years, when it became painful and began to increase and involve the entire gland. For some years — just how many she cannot tell — it has been decreasing in size, and for the past six months has been the seat of constant, severe drawing pain, which is sometimes sharp and lancinating. Her general health is excellent.

A comparison of the two breasts shows great diminution of the affected one, it being probably not more than one sixth as large as its fellow. It is converted into a densely hard, puckered mass, in which the nipple is buried, and is immovably fixed to the pectoral muscle. There are no secondary nodules in the skin, as in the previous cases, nor is that structure discolored. The glands of the corresponding axilla constitute a stony, nodular tumor, of the volume of an egg, which is adherent to the side of the chest.

Although hard sarcomas and contracting fibromas have been confounded with carcinoma, the latter affection is marked by clinical characters which correspond so exactly with its minute structure that the diagnosis between it and other mammary neoplasms is readily determined by the experienced surgeon without a resort to the microscope. In the first three patients, the local dissemination of the disease, as determined, first, by the formation of secondary nodules in the skin and in the pectoral muscle, the latter being indicated by the deep adhesions or fixation of the original tumor; secondly, by extension to the opposite breast; and, thirdly, by the conversion of the associated lymphatic glands into carcinomatous tumors, is quite sufficient to stamp the true nature of the affection. In the fourth case, the deep adhesions and lymphatic involvement likewise point to scirrhus, although the primary tumor deviates from the ordinary type.

In order that you may understand to which of the varieties of cancer these cases belong, I must explain that they all come under the classification of fibrous or connective tissue carcinoma, which is equivalent to the clinical term scirrhus, and which embraces several divisions. Thus, in ordinary scirrhus the stroma preponderates over the collections of cells. In simple carcinoma the proportion between the cells and stroma is about equal, so that it stands midway between ordinary scirrhus and soft carcinoma. In the third form, which is known as atrophying, cicatricial, or withering scirrhus, the nests of cells are merely represented by fatty or granular detritus, or by rows of single cells contained in delicate, elongated, or fusiform clefts between the very abundant thick, tendinous, or sclerosed bands of fibrous tissue. The first three tumors I place in the class of simple carcinoma, which my experience teaches me differs from ordinary scirrhus in the following particulars: its cut surfaces do not become concave on section; its consistence is not so hard; its growth is more active, and its progress is more rapid, so that it attains a much larger bulk; and, finally, it is especially liable to regional dissemination, and to secondary involvement of the opposite breast. In regard to these three cases, I may say that they are remarkable in that the nodular infiltration of the skin seldom extends over the middle line of the thorax, and that both breasts are not often affected. In former days they would have been called lenticular cancer by Schuë, and pustular or disseminated scirrhus by Velpeau. In the second case, the changes which are met with in atrophying scirrhus are only needed to convert it into the cuirass form of cancer of Velpeau. The fourth case, which is one of withering scirrhus, is exceptional in occurring so early in life. It is said to be usually met with after the age of fifty-five, and to be the least malignant variety of cancer. While it is true that its course is more chronic, my experience with twelve cases is that it develops rather earlier in life, that it evinces signs of local infection and of glandular contamination incomparably more frequently than ordinary scirrhus, and that it is just as sure to terminate finally by general dissemination as the other forms. In one case of seventeen years' duration, which I have reported, there were secondary growths in the pleura, lungs, mediastinal glands, diaphragm, and kidney.

With the view of establishing a differential diagno-

sis between the carcinomatous and the non-carcinomatous neoplasms of the breast, which, after all, is what the surgeon most desires to do, I will now call your attention to the prominent points in their general pathology, as derived from the study of one hundred personal cases of the former, and one hundred and forty cases of the latter. And first as to certain conditions, or antecedents, in regard to the age of the patient and the functional activity of the reproductive organs, which are supposed to influence their development:—

CARCINOMATOUS TUMORS.

NON-CARCINOMATOUS TUMORS.

Age of Occurrence.

Appear, on an average, at the forty-eighth year. Three fourths develop after the age of forty, and never before the twentieth year. Hence, in impubertal girls the idea of carcinoma may be discarded.

Appear, on an average, at the thirty-third year. One third develop after the age of forty; one in six and one third before the twentieth year; and one in twenty before the establishment of menstruation.

Social Condition.

Ninety per cent. of the patients were married, and ten per cent. were single. Of the former, eighty-eight per cent. had borne children, and twelve per cent. were sterile.

Sixty-one per cent. were married, and thirty-eight per cent. were single. Of the former, eighty-six per cent. had borne children, and fourteen per cent. were barren.

Menstrual Function.

Sixty-five per cent. were menstruating when the growth was first observed.

Ninety-three per cent. were menstruating when the tumor was first noticed.

The generally received opinions in regard to breast tumors are that the development of the simple ones is favored by celibacy, sterility, disordered menstruation, and a nervous or hysterical disposition, while the carcinomatous growths are influenced by pregnancy and the menopause. Without going fully into the subject, I will merely say that these statements appear to me to be unfounded. A comparison of the table will show that an almost equal number of women in each class had borne children, and that the apparent differences in the menstrual function and the social state may be explained by the fact that fewer women, the subject of the non-carcinomatous neoplasms, are to be expected to be married in consequence of their comparatively early age, while more, for the same reason, are menstruating. I may further say that in this class ninety-three per cent. were regular as to the catamenial function, and only three per cent. were hysterical. Hence I conclude that these points are scarcely worthy of consideration in the differentiation of tumors of the mamma. In regard to age, I will add that the simple neoplasms develop earlier in life, because the unknown causes which excite tumor formation act upon an organ which preserves its structure and nutrition unimpaired, while later in life, when the mamma is losing or has lost its structural perfection, carcinoma shows itself, because the obsolescent lacteal glands proliferate in an atypical way. Hence, in the development of new growths, the condition of the component elements of the mamma at different periods of life is to be considered rather than any influence that may be exerted upon it by the state of the genitalia.

Hereditary predisposition, injury, and previous disease are also supposed to favor the development of the carcinomatous neoplasms; and this looks plausible, if we exclude trauma, which preceded the formation of both classes of tumors in an equal proportion, that is, in one case out of every nine. Thus heredity was traceable in one case out of every twelve and a half

of the carcinomatous, and in none of the simple growths. Mastitis, or a lump left after parturition, appeared to be the exciting cause of cancer in one case out of every twenty, while it did not precede the appearance of the other tumors. Eczema or psoriasis of the nipple or areola antedated carcinoma in one case out of every fifty, while it was met with only in two cases out of one hundred and forty of the non-carcinomatous neoplasms, and these were examples of adenoma and cystic sarcoma.

Leaving the presumed causes, of which really we are in the dark, let us now examine the clinical features, which alone are valuable in framing a diagnosis:—

Situation.

Most common at upper and outer margin, and not infrequent near the nipple.

Usually at the upper and inner circumference. Rarely near the nipple.

Outline.

Irregular, slightly tuberos, knotted or knobby, frequently discoid, and merged into the surrounding tissues.

Round, ovoid, rarely discoid, lobed, bossed, or nodular, and distinctly circumscribed.

Consistence.

Uniformly densely hard and inelastic throughout, except in rare instances of combination with an involution cyst, when there is a limited spot of fluctuation. As an exception, may be firm and elastic, or even soft and fluctuating.

All are firm or hard at first, and frequently elastic; but not a few are soft later. Many are of unequal consistence, when they have existed for some time, in which event they are hard at some points, and soft, or even fluctuating, at others.

Multiplicity.

Several tumors are present in the same breast in one case out of every fifty.

Several tumors present in the same breast in one case out of every sixteen and one half.

Volume and Rate of Growth.

Never reach the dimensions of the simple tumors, and usually smaller than the breast which they have substituted. Grow continuously and comparatively slowly, and are quite liable to shriveling of the stroma, particularly when they occur late in life.

May attain a huge size. Frequently increase by fits and starts; grow comparatively rapidly; and do not, except in rare cases of fibroma, undergo cicatricial atrophy.

Mobility.

Move with the gland of which they form a part, and cannot be isolated. Attachments to the skin and chest are common and frequently extensive.

Slide and roll under the fingers, and move freely within the mamma and on the adjacent parts; or if there be attachments, which are exceptional, they are limited.

Relations to Breast.

If the tumor develops within the substance of the mamma, the latter is substituted by it, and its structure is destroyed. When it begins at the periphery, the gland is always finally invaded.

Now and then attached to the breast by a pedicle; but the gland is usually pushed to one side, spread out, or atrophied, and rarely completely invaded.

State of the Nipple.

The nipple is permanently retracted and fixed in one case out of every two (fifty-five cases), and is often infiltrated.

The mamilla, in one case out of every twenty (seven cases), is displaced, buried, or sunken, by the growth of the tumor beyond its level. Hence it is mobile and not truly retracted, and is free from infiltration.

Discharge from Nipple.

A thin, sanguinolent discharge is met with in one case out of every eleven and one ninth (nine cases); but it is never copious.

A discharge, usually of a mucoid nature, is met with in one case out of every eleven and three fourths (twelve cases); and the escape of bloody fluid favors the idea of vascular vegetations in dilated ducts.

Superficial Veins.

The veins are prominent in one case out of every fifty (two cases).

The superficial veins are enlarged and tortuous in one case in every eight and three fourths (sixteen cases).

Condition of the Skin.

The skin, even when the tumor is not larger than a hazelnut, provided it be superficial, is dimpled and adherent. In large tumors it is adherent, thinned, or discolored, or rigid and brawny from specific infiltration, in one case out of every five (twenty-one cases), and the seat of secondary nodules in one case out of every six and two thirds (fifteen cases).

The skin is smooth and natural when the tumor is of moderate dimensions, but thinned and stretched or discolored in one case out of every five and three fifths (twenty-five cases), or adherent to a limited extent in one case out of every eight and one fourth (seventeen cases), when the tumor is voluminous. It is never dimpled, nor the seat of secondary growths.

Deep Adhesions.

The tumor is fixed to the pectoral muscle or thorax in one case out of every seven (fourteen cases).

The tumor is adherent to the subjacent tissues in one case out of every seventeen and one half (eight cases).

Both Breasts Affected.

The other breast is invaded in one case out of every thirty-three (three cases), but never before infection of the skin and lymphatic glands.

The opposite mamma contains a similar growth in one case out of every twenty (seven cases), but without antecedent skin or glandular involvement.

Ulceration.

Ulceration ensues, comparatively early, in one case out of every five and one fourth (nineteen cases). The edges of the sore are everted, thick, and indurated, and adherent to the hardened base. It never attains the size met with in the simple tumor, does not fungate, nor does it cicatrize to any great extent.

Ulceration, or limited gangrene, of the stretched and thinned integuments occurs, late in the disease, in one case out of every five and three fifths (twenty-five cases). It is generally attended with the protrusion of a pedunculated fungus, which is not attached to the sides of the ulcer, the edges of which are smooth, even, and not discolored or infiltrated. The base is usually composed of vegetations, and it now and then heals.

Lymphatic Glands.

The axillary lymphatic glands are enlarged and hard, when the patient first comes under observation, in rather more than one case out of every two (fifty-five cases), and in one fifth of these the glands of the neck are also involved.

Enlargement of the axillary glands is met with in one case out of every twenty-eight (five cases), but it is due almost solely to irritative changes, and they are not hard. The supraclavicular glands are never enlarged.

The points in favor of carcinoma are, therefore, non-development before the age of twenty, greatest frequency after the fortieth year, irregular shape, almost uniformly densely hard and knobby feel, immobility in the gland, attachments to the skin and deeper structures, solitary origin, comparatively small volume and slow growth, retraction of the nipple, infiltration of the lymphatic glands, invasion of the skin by small nodules, non-enlargement of the subcutaneous veins, limited ulceration, without any tendency to fungous protrusion, and the thickened, indurated, and everted edges of the ulcer.

The diagnosis of the non-carcinomatous tumors is based, on the other hand, upon their occurrence in every sixth case before the age of twenty, their greatest frequency before the fortieth year, their multiplicity in one breast, their peripheral situation, their rounded or ovoid and bossed outline, the firm consistence of the smaller and the unequal feel of the larger, their mobility in or on the gland and the adjacent tissues, their comparatively rapid growth and bulky size, the natural appearance of the skin, the enlargement of the subcutaneous veins when they are voluminous, their tendency to ulcerate and protrude late in the disease, and the absence of adhesions between the fungus and margin of the ulcer, and their freedom from retraction of the nipple, nodules in the skin, and taint of the associated lymphatic glands.

There are many interesting and highly instructive features in the symptoms of both classes of tumors

which I might, had I the time, discuss with profit; but as I have considerably overrun my hour, I will limit my remarks to two points.

Among the more prominent signs of carcinoma are those which indicate local infection of the surrounding tissues, and a knowledge of the date of their appearance will prove serviceable in deciding the question of an operation. Nodules may be looked for in the skin in fourteen months, the contaminated lymphatic glands of the axilla may be detected in fifteen months, ulceration may be expected in seventeen months, and deep adhesions take place in twenty-one months. These figures denote the average date; but I have known infiltration of the skin, pectoral muscle, and glands, and ulceration, to occur as early as four months, and to be postponed, on the other hand, for several years. Glandular involvement, indeed, may show itself as early as the first month, or even before the primary tumor can be felt; and from the fact that the glands are buried in the fat of the axilla, thereby evading early detection, I believe that their invasion antedates that of the skin. Be this as it may, if you are about to operate on a case in which there is nodular infiltration of the skin, you should be prepared to open the axilla and search for infected glands, even if they cannot be distinguished from without.

Finally, I desire to state that I am no believer in the constitutional origin of carcinoma, and that I am convinced that we will obtain good results after operation if we can only secure cases in which the disease is limited to the gland itself. Even when the skin over the breast is infiltrated to a slight degree, and the lymphatic glands of the axilla are not too seriously involved, I believe that we may prolong life, if not obtain a radical cure, by extirpation. To do this, however, you must discard the operation as you usually see it performed, and remove the entire gland, with all its coverings, by a circular incision, dissect away the pectoral fascia, and clean out the axilla. In other words, do not aim to secure a covering for the wound, but practice thorough excision.

Original Articles.

HINTS UPON THE TREATMENT OF PARALYSIS IN EARLY LIFE.

BY HENRY G. DAVIS, M. D.

I WILL not attempt to discuss the various causes of this particular affection, or to rehearse in detail its symptoms, mode of attack, parts most liable to suffer, or its special pathology. Such a course would be foreign to my purpose, as my intention is merely to give some hints in regard to the treatment of that class of paralytic troubles that are in the majority of cases purely functional when they present themselves for treatment. In using the term "functional paralysis" that condition only is meant where the paralysis remains after the cause is apparently removed.

Before proceeding farther, allow me to draw attention to a marked difference in the tendency to recovery unaided by treatment between adults and infants when similarly attacked with paralysis of one or more limbs. This difference is not recognized, yet it is so marked in our experience that it very materially controls our special course of treatment.

An adult paralyzed, when the cause is removed, begins to use his muscles in accordance with his former habit, and his recovery may be rapid. On the other hand, if an infant becomes afflicted in a similar manner, it is very seldom that it recovers the use of all the muscles affected. The reason why there is this difference appears to be this: The adult *before* his attack has a perfect use of his muscles; he has formed the habit of moving certain muscles for the accomplishment of certain purposes; this is so much a habit that he is not conscious of exercising any act of volition. This habit has been so confirmed by constant exercise previously that when he is ready to make a trial of his muscles they are brought into action in the same order and in the same manner in which they had been trained before his paralysis. The force of habit controls his efforts, and he attempts to move his limbs as formerly. In the child, however, a very different state exists; in his efforts he is neither guided by his reason nor by the force of habit. He is not capable of making any systematic movements of the paralyzed muscles from habit or reason.

In the paralysis of infants, the attack is at so early an age that they have not formed any habit in locomotion. Hence, when the cause is removed, they are like infants, but without any nervous influence, as it were, compelling them to move their limbs. In these cases the patient should be put under a regular system of education, training him to direct through the will the nervous influence to particular muscles. The patient has lost the way or the process by which he can by an act of the will move any of the affected muscles.

It is for the purpose of calling the attention of the profession to this particular point that I am induced to offer a few remarks.

The mode of treatment which I have been led to adopt is very simple, and my experience in the treatment of a number of cases has taught me to place confidence in its efficiency.

The first effort should be to associate the mind of the patient with some particular action of the paralyzed limb, and concentrate the will upon the movement of some particular muscle. These movements must be made first by the surgeon's assistance, the mind of the patient being for the time kept constantly directed to the parts. This can be more readily accomplished if the corresponding motions of a sound limb can be made at the same time, associating the movements of the muscles of the paralyzed limb with those of the well one. Let us take, as an example, a child that has been paralyzed for some time in one of the lower limbs; there is absolutely no power whatever on the part of the little one to move the affected member. The child is placed in front of the operator, the well limb is exposed to the knee, and the little one is shown how the patella can be made to move by his making certain efforts. When he has been so trained that he can always contract the muscles of the well limb that are inserted into the patella, and has received the idea that it is done by an act of his own will, then the paralyzed limb can be placed by its side, and his attention directed to a similar and simultaneous effort to draw up the patella, while at the time of his effort the surgeon raises the limb in unison with the other. This should be repeated until the muscles of both limbs will contract simultaneously and by the action of the will of the patient.

This voluntary action of a muscle paralyzed encourages and aids its growth much more rapidly than any mode of simple passive exercise. It is effected by the same law that increases the size and power of a muscle that is in a normal condition, namely, a natural exercise or use of it. As I have before intimated, if both the lower limbs are similarly affected, the difficulties in the way of a speedy cure are somewhat greater, requiring more time and patience, but the principle of treatment remains the same.

The length of time required to effect a cure varies, of course, with the circumstances attending each particular case, as the age of the patient, the length of time since the attack, the aptitude of the child to follow instructions, the success of the surgeon in controlling his attention. The time required to restore a useful limb will also depend upon the amount of atrophy of the muscles. It matters not to what extent muscles have wasted, as this does not prevent a recovery. If it can be perceived that the muscles are influenced in the least by the will of the patient in his efforts, a restoration is quite certain. A medical friend in New York stated to me a case of paralysis of the deltoid muscle occurring in early childhood, which serves to illustrate this, in rather a remarkable degree, and it has been corroborated in my own practice. The patient had suffered, as has been said, from early childhood. During this time the loss of motion was constant. There was not the slightest trace of muscular substance; there was nothing but the integuments covering the locality where the muscle should have been. By treatment the muscle was fully restored.

So confident am I of the success of this particular method of treatment of functional paralysis by the education of the will that I think it can be fairly assumed that if it fail, after a persistent, patient, and systematic trial, there must be some organic lesion, either of the nerves supplying the muscle of the part, or of one of the nervous centres.

This was the condition of a boy, nine years of age, who came under my care for paralysis of the right lower limb that had existed since infancy. In this case not the slightest connection could be found between the brain and the paralyzed limb, not even by electricity or strychnia. This case is the only one in which I have failed of producing a favorable result. Electricity causes contraction of the muscles, without the influence of the will. If the will is not educated to send nervous influence from the brain, the patient remains the same so far as a voluntary use of the muscles is concerned. Friction causes a flow of blood to the part, and thus increases nutrition, but it is in a great measure of the cellular substance, and not of the muscular fibre.

Unless the connection between the will and brain of the patient is established, and the muscles respond to the will, what possible ultimate benefit can be expected when the electric current is stopped or passive rubbing ceases?

As soon as these unnatural stimulants cease there is a tendency to retrogression, unless *during the process* the lost connection of the brain or will with the muscles is restored. By enabling the patient to send the nervous influence to a muscle, and thus exercise it, the fibre of the muscle is increased much more rapidly than the cellular tissue.

In order to illustrate this point more fully, I may be permitted to refer to a case, at the same time

taking advantage of the opportunity to go somewhat minutely into the method of treatment employed in the case: A boy, four years of age, was placed under my care, who was paralyzed in the right lower limb when eighteen months old, at a time of life when the correct habit of walking had not been fully formed. He had no use of the muscles of this limb, except a slight power over the toes, which is not an unusual feature in these cases. As far as an ability to make any coordinated motions, such as are to be noticed in the complex effort of walking, there was none whatever. The muscles and nerves were there, yet from the entire neglect and disuse of them for the long period mentioned the brain had practically ceased to regard them as a part of the system. I seated him in a chair, and went through with a systematic course of training in the manner before detailed.

The flexors and extensors were first operated upon, and the movements were made in common with similar movements of the sound limb, the attention of the patient being directed at the same time towards making an effort to aid the action of the paralyzed muscles. After considerable trouble I succeeded in effecting a movement of the rectus femoris, so that it plainly twitched under the eye. Subsequently I arrived at a stage in the treatment which warranted me in allowing him to stand and bear the weight of his body, cautiously, upon the unsound limb. While in this position he soon became able to flex and extend the limb, and take his first lesson in self-progression. He finally became able, by dint of a considerable amount of voluntary effort, to take a few steps. This he could do tolerably well (with the aid of a crutch, of course) as long as his whole, undivided attention was directed to the proper performance of the act; but if his mind were drawn off, even temporarily, from its purpose, although he might continue the attempt at locomotion, the paralyzed limb would remain motionless. This was a uniform result, and by watching his countenance it could be known when he would fail to move his limb. This result is mentioned to show that although he had acquired the power he had not the habit.

This shows in a marked degree how essential is the influence of the mind in restoring motion to paralyzed muscles. The sequel of this case was very satisfactory, and serves to illustrate the necessity of long-continued and persistent education in order to confirm the habit, until it becomes, as it were, involuntary. When such a habit of walking is formed in the child he can safely be said to be cured.

As an encouragement to the effort of educating the will to control properly the muscles in these cases, I may state that a child, after paralysis, if left to himself, will generally, nay, almost unavoidably, acquire an awkward habit of walking, which he will probably retain through life.

If a child recovering so as to be able to stand upon one limb, with his hands upon a chair, is noticed, when he wishes to move he pushes the chair, and then hops upon the well limb, dragging the other. If anything catches the sole of his shoe in this effort, so that he cannot drag his limb, if he is ingenious he will lift the limb by the pelvis, so as to overcome the obstacle. Then, as soon as he has found out how to bring the knee back of the centre, as in using an artificial limb, he will begin to use it for walking; and this style of locomotion he may retain through life, when, if he had been properly trained, he might have recovered the

ordinary grace of movement. In these cases there is not absence of all connection between the brain and the paralyzed muscles, but a want of knowledge of how to affect them, or how to communicate with the muscles. The great difficulty, after all, is to find or continue some movement or process by which the patient shall bring his will to act upon the paralyzed muscles. The function of the brain is restored apparently in these cases, but knows not how to use its power.

In certain cases of paralysis a deformity follows by the contraction of some muscles. In these cases the paralysis is overcome when the limb is restored to its normal position. A boy came to me from Connecticut in this condition, who recovered the use of his muscles as soon as the deformity was remedied. A young lady came to me from Iowa, aged sixteen, with dislocation of the femur upon the dorsum of the ilium, turning her foot so that she walked upon the side where it was fixed. She had lost all use of those muscles that were necessarily unemployed. After the hip was reduced and the foot brought into place, she recovered entirely the use of the muscles of the foot and a perfect control of the limb. I could add any number of illustrations from patients treated, but let these suffice.

I will state two cases to show that a long existence of the paralysis does not always interfere with a rapid recovery:—

A young lady from Troy, New York, came under my care, with paralysis of both lower limbs since early life. They were strapped with irons both inside and outside of each limb, extending from the pelvis to the sole of her boots, with a contrivance at the knee for rendering them inflexible. She walked with crutches, swinging both limbs forward, and the irons being stiff she could bear her weight upon them as upon two artificial limbs. When the irons were taken off the ankles would come to the floor, so lax were the ligaments. I removed all apparatus, and commenced training her to use the muscles. Being an intelligent girl and anxious to get well, she made every effort to accomplish what I desired. In three weeks, while resting upon her crutches, she could take up either limb and move it forward, as in the act of walking, and eventually recovered so as to walk without any artificial support.

Another lady, from Springfield, Mass., aged twenty-eight, had been unable to use her right leg for twenty-six years; she had upon her limb irons, as in the other case. The treatment was the same as in the case above. It was several days before I could perceive that the patella was moved in the least; when first noticed it resembled more the faintest contraction of an artery than that of a muscle. From the progress of the case it was evident that the weakness of the contractions was owing to the almost perfect absence of muscular fibre, and not to the want of nervous influence. The last information I had from her was that she could walk the street by the aid of a cane without any artificial support to the limb. The paralyzed part in this case was well nourished, being thickly covered with adipose tissue, yet apparently destitute of muscular fibre.

The simple increase of the size of a limb by various modes of passive exercise does not afford the least evidence that there has been a gain of muscular power.

It is believed that enough has been said upon the matter of educating the will as the foundation of

all real success in the treatment of paralysis, more especially infantile, to direct to its consideration the thoughtful and serious attention of our medical brethren. If my experience, running through a long period, in the treatment of these and kindred difficulties is worth anything, I in all modesty believe it is entitled to a fair and impartial trial in conscientious and trustworthy hands.

I do not wish to be understood, from the preceding remarks, to assert that no other method succeeds, but that the mode advised has proved in my hands the most direct, rational, speedy, and satisfactory.

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RECENT PROGRESS IN THE THEORY AND PRACTICE OF MEDICINE.

BY A. L. NASON, M. D.

VALVULAR LESIONS OF THE HEART.

PROFESSOR AUSTIN FLINT¹ concludes a lecture on cardiac lesions with the following summary of practical points:—

(1.) Cardiac murmurs may represent lesions which, if unaccompanied by symptoms referable thereto, enlargement of the heart not co-existing and the heart sounds normal, are to be considered as innocuous. The prediction of grave consequences, under these circumstances, is unwarrantable, inasmuch as they may never occur. Such lesions do not claim medical treatment, nor any extraordinary precaution; and it is desirable that the fact of their existence be withheld from patients, if this can be done with propriety.

(2.) Patients with valvular lesions are liable to suffer from functional disorders of the heart, arising from causes which have no pathological connection with the lesions. It is highly important to recognize, clinically, this accidental coincidence, in order to exercise a correct judgment as to the prognosis and treatment.

(3.) Various morbid conditions, other than functional disorder of the heart, may be accidentally associated with valvular lesions and more or less cardiac enlargement. These associated morbid conditions may be, in a great measure, responsible for symptoms and effects which seem to denote an advanced stage of the cardiac disease, whereas the latter may occasion but little inconvenience, provided these accessory, co-operating conditions can be removed.

(4.) Valvular lesions involving either obstruction or regurgitation, or both combined, and having led to considerable or even great enlargement of the heart, under favorable circumstances as regards associated morbid conditions, are often well tolerated indefinitely. There is less reason for a hopeful prognosis, in respect of tolerance, when there is considerable aortic insufficiency than in cases of aortic obstructive lesions, and those which occasion obstruction or regurgitation at the mitral orifice. The danger of sudden death from aortic regurgitation is lessened by coexisting mitral insufficiency.

(5.) In cases of orthopnea and general dropsy dependent on mitral obstructive or regurgitant lesions and enlargement of the heart, digitalis and active hydragogue purgation, repeated from time to time, not only

¹ Concluded from page 276.

often afford notable relief, but there is reason to believe that life is sometimes thereby much prolonged.

BAMBERGER ON BRIGHT'S DISEASE.¹

Bamberger has collected from the post-mortem room of the General Hospital at Vienna, during the last twelve years, 2430 cases with the anatomical diagnosis of Bright's disease. The division into interstitial and parenchymatous nephritis he does not attack in principle, but he differs from it on practical grounds, as numerous transformation forms and mixed forms exist; and he divides the whole series of cases into primary and secondary forms of Bright's disease.

The number of secondary cases amounts to 1623. Their symptoms were almost regularly so concealed by the fundamental disease that they were not diagnosed at the time, but they progressed with the ordinary symptoms, and many times even on their side they masked the fundamental disorder. Hypertrophy of the heart was found in this form, after excluding valvular disease, emphysema, endarteritis, and aneurisms, only in 3.3 per cent. The frequency of the relation to primary diseases is shown in the following table:—

PRIMARY DISEASES.	Acute.	Chronic.	Atrophic.
Tubercle, phthisis, and scrofula	47	257	77
Valvular disease of the heart	19	117	86
Pregnancy and puerperal process	80	56	16
Diseases of the urinary-excretory organs	11	72	51
Suppurative processes	42	77	10
Alcoholism and cirrhosis of the liver	16	68	33
Carcinoma	13	55	35
Emphysema of the lungs	6	51	28
Typhus	42	14	2
Syphilis	4	29	16
Scarlatina	18	—	—
Intermittent fever	1	9	3

It is to be remarked that in many of the cases here recorded it is certainly not a secondary form of Bright's disease which is to be dealt with.

To the primary form of Bright's disease Bamberger assigns the remaining 807 cases, of which 67 are described as acute, 357 as chronic, 383 as atrophic. It does not appear from the figures that this form is more frequent in men than in women. Cerebral hemorrhage occurred in 83 cases (2 acute, 29 chronic, 52 atrophic) not always combined with hypertrophy of the heart or endarteritic processes; inflammation of the brain substance in 28 cases, of the membranes of the brain in 10 cases, pneumonia (mostly croupal) in 163, recent pleurisy in 57, dysentery and extensive catarrh of the intestines in 109, general dropsy in 215 (33 each in the acute and chronic forms of Bright's disease, only 19 per cent. in the atrophic form). Pericarditis occurred 91 times; in acute Bright's disease twice, in chronic 30, in atrophic 55; endocarditis in 31, myocarditis in 5. Hypertrophy of the heart is noted 344 times, never in the right heart alone, 175 times in the left heart alone. Eccentric hypertrophy of the whole heart, always with more considerable participation of the left half, occurred 142 times (3 acute, 51 chronic, 88 atrophic); the right hypertrophy is frequently explained by the coincident emphysema. Eccentric hypertrophy was found on the left side only 107 times (4 acute, 38 chronic, 65 atrophic); simple hypertrophy 76 times (4 acute, 27 chronic, 45 atrophic); in 65 the

left side only was affected. Dilatation without hypertrophy occurred 19 times, the left side being affected in 3 cases only. Bamberger, after criticising the opinions held by others as to the causes of hypertrophy of the heart, accepts as its cause an increase of the mass of blood due to the diminished excretion of water through the kidneys. Even in primary cirrhosis of the kidneys a latent stage must be assumed, with diminished elimination of urine, on account of what is found anatomically, and because, according to Bamberger, it would be inexplicable whence the organism derives the excess of water under which it suffers, if it had not previously collected it. The pressure increasing with the mass of blood causes the left-sided hypertrophy; more blood also, and under greater pressure, passes into the venous system, first causing a dilatation of that system, but finally leading also to dilatation and hypertrophy of the right heart. Simple hypertrophy must, according to Bamberger, always be accompanied by dilatation; but as the mass of blood in the course of the disease may again become considerably diminished, the dilatation may in the same proportion disappear, whilst the hypertrophy must necessarily continue.

THE RELATIONS OF CARDIAC HYPERTROPHY TO RENAL DISEASE.

Dr. Robert Saundby² in a careful review of the various explanations of the cardiac hypertrophy in Bright's disease, says that since the time of Bright there have been four original explanations brought forward, and all other writers on the subject have adopted some one, or a combination, of these various theories. Traube, to whom we owe the observation of the hard pulse of Bright's disease, regarded the destruction of a large capillary area in the kidneys as necessarily causing so much obstruction to the circulation that, aided by the imperfect elimination of water, the blood pressure in the aortic system must rise and cardiac hypertrophy follow. Bamberger objected to this that the hypertrophy begins in the earlier stages of Bright's disease; moreover, it is present in chronic parenchymatous nephritis, in which no destruction of capillaries has occurred.

The next original explanation was that given by Dr. George Johnson, who pointed out the excessive thickening of the muscular walls of the renal arterioles, and suggested that the obstruction to the circulation offered by a state of tonic spasm in these vessels would explain their own alterations, the rise of blood pressure and the cardiac enlargement.

The third explanation is that which we owe to Sir William Gull and Dr. Sutton. They rediscovered the vascular changes described by Dr. Johnson, but drew attention more especially to the thickening of the fibroid tissues. They regard these vascular changes as primary and essential, the increased blood pressure and cardiac hypertrophy being their consequences, while the kidney disease is but a local expression of a general degeneration of the arterioles and capillaries attended by atrophy of the adjacent tissues. Although we may admit that when established these vascular changes do obstruct the circulation, and thus might be determining causes of cardiac hypertrophy, according to Thoma the fibroid thickening occurs in dilated vessels, so that the normal calibre is only exceptionally reduced. But in addition we have the fact that in a considerable proportion of cases of granular kidney cardiac hypertrophy

¹ Volkmann's Sammlung klin. Vorträge, 1879, No. 174. London Medical Record, February 15, 1880.

² The Birmingham Medical Review, January, 1880.

is found unaccompanied by the vascular changes. According to Ewald, this occurred in 4 out of 20 cases, and Dr. Saundby has been able to confirm the statement in about the same proportion of cases (2 out of 10). Finally, in chronic parenchymatous nephritis the occurrence of cardiac hypertrophy is not infrequent, but the vascular changes are quite exceptional.

The latest explanation we owe to von Buhl. He believes that the cardiac and renal changes proceed *pari passu*; the hypertrophy is to be attributed to the self-increased activity (*selbststeigende Thätigkeit*) of the heart. Myocarditis occurs very early, which may cause no alteration, atrophy, or hypertrophy of the organ, most frequently the latter. Relative stenosis of the aorta, as observed previously by Bamberger, with hypertrophied left ventricle, is thought by von Buhl to explain the increase of blood pressure in the aortic system. The relative frequency of myocarditis is admitted, also the stenosis of the aorta, in some cases, but not in all. Ewald has measured the circumference of the aorta above the valves in twelve cases, and found it to vary between 12.1 and 5.7 cm., the average being 7.6 cm., while the normal circumference, according to Bouillaud, is 6.3 cm., so that we cannot attach very much importance to it as a cause of cardiac hypertrophy.

Dr. Saundby, having failed to find any of these explanations quite satisfactory, returns to Bright's suggestions, that either the altered quality of the blood affords irregular and unwonted stimulus to the heart immediately, or that it so affects the capillary circulation as to render greater action necessary to force the blood through the distant subdivisions of the vascular system. Both these explanations rest upon the supposed impure state of the blood. Dr. Todd first pointed out the frequent coexistence of granular disease of the kidney with gout. Olivier has drawn attention to its occurrence among workers in lead. Dr. Johnson states that the disease is common in persons who "eat and drink to excess, or who, not being intemperate in food or drink, suffer from certain forms of dyspepsia without the complication of gouty paroxysms." He says that "renal degeneration is probably a consequence of the long-continued elimination of products of faulty digestion through the kidneys." The late Dr. Murchison was persuaded of the relation borne by contracted kidney to persistent lithæmia. Professor Semmola, of Naples, maintains the view that Bright's disease is a consequence of the blood dyscrasia resulting from suppression of the respiratory function of the skin. Dr. Saundby's own observations indicate the probability that prolonged and habitual dyspepsia is in many cases a precursor of this disease. Since, therefore, during the greater part of its course this affection does not lead to any diminution of the renal secretion, there is ground for believing in a blood dyscrasia depending upon other causes.

Dr. Saundby is of the opinion that the impure state of the blood acts as Bright suggested, by affording an unwonted stimulus to the heart immediately, and that this leads to a hypertrophy proportionately compensatory for the loss of renal secreting substance; that myocarditis is the cause of dilatation, and the subsequent hypertrophy takes place, as Buhl indicates, from over-nutrition and increased work from the greater capacity of the ventricle; that the rise in blood pressure is not a cause of the cardiac hypertrophy; and, moreover, that neither the state of the heart, nor the renal condition

and the blood impurity combined, are able to effect any increase in the tension of the aortic system.

But the high-pressure pulse of Bright's disease is a constant and now universally admitted fact. Traube asserted, not without reason, that he could diagnose granular kidney by the pulse alone. But a great step was taken when Mahomed proved that this rise in the blood pressure precedes the occurrence of albuminuria, the development of which he watched at the termination of scarlatina. Here there is no question of structural change in the heart or arterioles; the sole condition present is that of faulty elimination, due to the morbid state of the skin. When to this constipation is added, the blood pressure rises, blood crystalloids appear in the urine, and, if not averted by a sharp purge, albuminuria follows. Moreover, Dr. Mahomed has recorded cases of high arterial tension, sometimes accompanied by albuminuria in young dyspeptic patients free from cardiac hypertrophy, and Dr. Saundby has published similar cases. In both it is suggested that in these young persons we may have to do with the condition which gives rise to granular kidney later in life.

Dr. Murchison says, "So often have I observed albuminuria associated with hepatic disorder, which has disappeared completely and permanently when this has been set to rights, that I have little doubt that we have in the liver a cause of albuminuria to which attention has not hitherto been sufficiently directed. The pathology of the albuminuria in these cases may be similar to that of certain cases of diabetes already referred to, the liver having too much work to do, and permitting some albumen to pass through in a form which cannot be assimilated; or possibly there may be some defect in the destructive functions of the liver, in consequence of which the albuminous matter, instead of being converted into urea, does not even reach the stage of lithic acid. It is possible that in many of the cases now referred to the albuminuria may indicate an early stage, not yet described, of the contracted or gouty kidney; yet it is certain that the symptoms may persist or recur during many years without any other symptom of renal disease, and with but little impairment of the general health."

Finally, Dr. Saundby thinks that as the rise in blood pressure precedes all structural changes, and as the theory of vaso-motor action is inconsistent with the augmented secretion of urine, we may assume an increase in the capillary resistance as the other factor, which, combined with the augmented cardiac energy, determines the characteristic pulse of Bright's disease.

Dr. Saundby suggests the following practical conclusions:—

(1.) In chronic Bright's disease the augmentation of the cardiac function is compensatory to the renal defect. This view confirms the propriety of the practice of administering digitalis in these cases. But as far as possible elimination should be favored by the skin and bowels, while the diet should consist of elements containing as small an amount of urea-forming substances as the general condition of the patient may warrant.

(2.) The high-tension pulse indicates a high degree of toxæmia and relative failure of the kidneys. As the toxic material in the blood stimulates the heart (Israel and Grawitz) and probably the kidneys (Heidenhain) without raising the blood pressure, polyuria or even albuminuria may precede any change in the state of

the pulse. Careful examination of the urine is therefore of the greatest importance for detecting the earlier stages of the condition which leads to granular degeneration of the kidneys.

Hospital Practice and Clinical Memoranda.

ON CERTAIN UTERINE DISPLACEMENTS.

BY CLIFTON E. WING, M. D.

THE following cases will serve to illustrate the varied and at times severe symptoms occasionally accompanying certain uterine displacements, which are not at all uncommon, but which are often either not recognized by the physician when he makes his local examination, or considered so slight as to be of little or no importance, and not sufficient to account for the pains and aches of which the patient perhaps complains. They will also show the relief of symptoms to be afforded in many of these cases by a proper use of uterine supporters. Few physicians at the present day fail to recognize, on uterine examination, a well-marked instance of flexion or version, or a pronounced example of prolapse; but the cases I refer to are those where the uterus, retaining nearly or quite its proper axis in the pelvis, sinks lower than the normal position, yet does not descend so far as to constitute the "prolapse" of the general practitioner. That sometimes a uterus will be found so low in the pelvis that the cervix is far back in the hollow of the sacrum, resting, as it were, upon the floor of the pelvis, and yet the patient suffer little or no inconvenience, is without a doubt true; but that in other cases a much less degree of "sagging" will give rise to severe symptoms is equally the fact. The same is true of other uterine displacements. For example, every now and then a patient comes along with a perfectly marked retroversion which does not incommode her in the least, yet the physician who should reason from a case or two of this kind that retroversio uteri never caused trouble would be sadly in error.

CASE I. Mrs. T., aged twenty-five, consulted me at the request of her brother, a physician, and gave the following history. She had been married within a year. Never pregnant. Menstruation, which appeared at the usual age, is always regular, but accompanied by excessive pain. She dreads its appearance, always takes to her bed at once, and is often forced to resort to anodynes, which, however, never give her complete relief. The flow lasts five or six days, and is normal in amount. The pain is most severe the first two days, but she is obliged to remain quiet the whole time, else the pain increases. Leucorrhœa not a troublesome symptom. Between her menstrual periods she has some backache at small of back "when she gets tired." Can walk a mile or more, but not without backache afterward. Micturition normal. Slight tendency to constipation, for which she occasionally takes medicine. Appetite good, and general condition excellent. She states that she was formerly treated for "stricture of the uterine canal," which she was told was the cause of her pains when unwell. The uterus was dilated with tents at short intervals extending over a number of months, but she did not derive the expected relief, and now for a long time has had no treatment.

On examination, a uterine probe, a common sound, and lastly a Peaslee sound (the largest ever used) were successively passed to the fundus without meeting with noticeable obstruction. There was marked tenderness of the interior of the uterus; for some time even the most careful use of the probe causing severe pain, which lasted for hours. The whole organ was congested, swollen, and enlarged, and occupied the position previously referred to; that is, it was low in the pelvis, the cervix tending toward the concavity of the sacrum, the normal axis being retained.

There were two conditions present, either of which might account for the dysmenorrhœa. One was the inflamed, tender state of the interior of the uterus; the other, the position of the organ. Either condition might produce the other. An inflamed endometrium would be likely to induce an afflux of blood to the whole organ, increasing its weight, and thus its tendency to sink in the pelvis; while a uterus from any cause occupying a low position is liable to a chronic hypostatic congestion, which not only may, when increased by the monthly flow of blood to the parts, be of itself a sufficient cause of dysmenorrhœa, but, as would be supposed, is often followed after a while by a congested, and later a tender, inflamed condition of the uterine cavity. Which condition was the primary one in this case could not be determined.

For a while the patient was treated with local applications to the interior of the womb, made at intervals of about a week, in order to see if the use of a supporter might be avoided. In some of these cases such treatment suffices. As the local irritation is alleviated the congestion abates; the organ, diminished in size and weight, recovers its normal position without further aid, and the patient is relieved. I have known several marked instances. Often, however, this treatment alone will not bring about the desired result. In this case the effect was not satisfactory, although there was perhaps some slight decrease in the pain at the periods, and after a fair trial I advised the resort to a supporter, and fitted one. The patient soon found that her backache was less troublesome, and that she was able to be about on her feet without getting quickly tired out, as formerly. The applications were continued for a while, until they ceased to give much pain and the uterine cavity was no longer especially tender to the touch of the sound, and then stopped.

The patient lately came back to report. She had had less suffering when unwell than ever before, some of her periods being free from all severe pain, but for the last two periods there had been pain the first day. The pessary which she had worn for months had chafed a little at one spot, and I recommended her to go without it for a short time on this account. There was some return of the intra-uterine tenderness, which will need a little attention. She finds that now, even when without her supporter, she suffers less with backache than before she wore it, but I have advised her not to attempt to dispense with its use permanently yet. Eventually, she will probably be able to do without it.

Stricture of the uterine canal is not infrequently diagnosed as a cause of dysmenorrhœa, when in reality no "stricture" exists. When there is an inflamed condition of the lining of the womb the calibre of the canal is often much diminished by the coincident swelling, and in cases of displacement leading to hypostatic congestion the consequent œdema and swelling of the uterine tissues often leads to the same

narrowing of the uterine canal, which is most readily detected with the sound in the neighborhood of the os internum, that being normally the narrow part. But to treat such cases as though this secondary condition were the prime cause of the troubles present does not seem rational.

Again, when the examiner finds difficulty in passing a sound, he is very apt to jump to the conclusion that a stricture is present, when perhaps such is not the case, and the fault is his own. Where the old-fashioned cylindrical speculum is used (and no one at the present day would base a diagnosis of stenosis of the uterine canal upon difficulty in passing the sound by the touch alone, and without the use of any speculum), it is, in many cases, an impossibility for any one to be at all sure whether a stricture is present or not; for, owing to the fact that the uterine canal is not in a line with the speculum when the latter is introduced into the vagina, but often nearly at right angles with it, a sound cannot always be readily passed through this speculum into a normal uterus. The valvular specula are rather better in this respect, but may lead to error in another way, as I have several times seen. Unless carefully managed, the end of that blade which lies along the anterior vaginal wall may very easily be pressed against and be made to indent the anterior wall of the uterus, so as to obstruct the uterine canal to a degree that the sound will not readily pass. The Sims speculum shows its superiority here as elsewhere, but its proper use necessitates the aid of a trained assistant.

CASE II. Mrs. N., aged thirty-six. Married at eighteen. Mother of four children, youngest four years old. Has had her present troubles particularly since the birth of her last child, but suffered somewhat before. Had several miscarriages between her first and second children, and with some of her confinements had marked relaxation of the pelvic ligaments, getting much relief at these times by wearing a broad belt buckled very tightly about the pelvis. Menstruation began at thirteen. Always regular each three weeks. Time of flow, six days. Amount normal. No dysmenorrhœa, except slight discomfort first twenty-four hours. Of late years has kept her bed when unwell, by advice of physicians. She formerly had much "bearing down" on walking. Has not had it of late, "simply because she has not walked any distance for four years." When she is on her feet any length of time she has severe pain in her bowels, which is relieved in a measure by hot applications to the abdomen. No backache. At one time suffered much with her head and neck, but does not at present. Cannot walk up and down stairs without subsequent distress, and now never attempts to do so, always making use of an elevator which has been put in the house for her benefit. Her husband tells me that when they were at the sea-side during the summer, she, by actual count, spent sixty-eight days of the time in bed; but being a woman of great energy, when at home she rides out nearly every day, and manages to shop by always sitting as much as possible when in the stores. Her previous attendant thought a supporter might perhaps give her some relief, and called another physician in consultation about the matter; but the consultant advised against a pessary, owing to the tenderness discovered on examination.

In this case the same malposition was found. There was a rupture of the cervix uteri, with eversion, and the womb was larger than usual from subinvolution.

While there was quite marked tenderness of the womb itself, which the displacement alone might account for, there was no tenderness of the surrounding tissues, and the organ was freely movable. Under such circumstances a supporter is not contra-indicated, but it is the proper thing to try. Tenderness involving only the uterus, and not extending to the neighboring parts, is no impediment to the use of a supporter; for, properly applied, the latter does not touch the womb.

A pessary was fitted, and the patient cautioned not to expect too much, as nothing could be promised in such a case, and advised to keep rather quiet for the present. She reported in a few days, perfectly delighted, and saying she felt young again. She had astonished her servants by running up and down stairs, and her friends by honoring them with evening calls on foot. The evening after the supporter was applied she spent at the theatre. Moreover, she did not suffer from her indiscretion. Her improvement has continued, and lately she withstood a physical and mental strain, consequent upon sickness and death in her family, which she declares would have completely broken her down but for her greatly improved condition.

CASE III. Mrs. C., aged twenty-four. Married at eighteen. Two children, six and four respectively. Two miscarriages, the last two years ago. Menses at fifteen. Always regular. Time of flow seven to ten days. Amount large. Has always had more or less dysmenorrhœa. Better in this respect after her first child, but worse again after her second. Has had uterine symptoms ever since her first child, but has been much worse since her last miscarriage (two years ago), since which she has spent most of the time in her bed. Has constant severe backache, pains in each side and down her limbs. "Is almost crazy" with her head. Unable to sleep, although using anodynes. Nervous, discouraged, and hysterical. Looks haggard and worn out. When she is unwell, and also when she attempts to keep about on her feet, has very severe pain in the right side, which she has been told comes from the ovary. Has also been told that she would never carry a child to term if she became pregnant.

She has been under the care of a homœopath, who applied a pessary, which she shows, and which is so poorly shaped that it could not be of benefit. It soon gave her pain, and she had it removed. Failing to get relief, she was induced to enter as patient an institution whose claims for support are frequently brought before the public by its philanthropic friends. Here she was religiously kept in bed during her stay. That there was an abnormal position of the womb was apparently made out by her attendants, but the plan of treatment which they wished carried out was a decidedly curious one, namely, once or more each day she was to get upon her knees in bed, bury her head in the pillow, elevate her body as high as possible,—thus standing on her head, so to speak,—and remain in this position as long as she could. She tried the method but once; for finding that the head symptoms were anything but benefited by it, she positively declined to try it again. After a stay of five months in the hospital (kept in bed all the time), she was told that her case was a chronic one, and that the institution was not intended for such. She returned home, supposing that her troubles were incurable, and wholly discouraged. I was asked to see the patient by the physician who was next called to her, and requested by him to take the case.

The examination showed much the same condition as in the other cases, except that there was marked tenderness of the right utero-sacral ligament, as is not very uncommon where these ligaments are for a long time overstretched. This condition would account for the pain in the side, which had been attributed to the ovary. It caused some trouble in the fitting of a comfortable supporter. From the first the patient was urged to leave her bed and keep about the house. At the third visit she was found sitting up and playing the piano, and in a few weeks was able to come to my office for what attention was necessary, and to take charge of her household affairs. She has worn her supporter with comfort. I have not been able to discover any condition which would prevent her from carrying a child to full term if she should become pregnant, nor any reason why she should not.

In this case, as in the previous one, there existed rupture of the cervix uteri, with eversion. No attention was paid to the condition, however, as I feel convinced from observation of very many cases that the importance of this lesion has been very much overestimated, and that except in a small minority of cases it does not call for treatment.

CASE IV. Mrs. S., aged twenty-eight. Married at eighteen. No children. One miscarriage the year after marriage at about the third month, following a sea voyage, during which she was very ill with seasickness. Menstruation began at sixteen. Before the miscarriage always regular. Time of flow nine days. No pain. Since the miscarriage she has been very irregular, flowing too frequently, and has had severe dysmenorrhoea each time. She has constant backache, "beating down," had feeling in head, etc., etc., in short, marked uterine symptoms, which are all increased at the time of her periods. She has been under medical care since she miscarried (now over eight years ago), at first with "regulars," and not having got relief, of late with "irregulars." Each doctor seemed to treat the case differently from the others, but no one helped her. Her first physician (the one who attended her when she miscarried) told her to wear a supporter, and supplied her with a vaginal bag, which she introduced into the vagina and distended with air. This soon caused pains and tenderness, in fact, increased her sufferings, and after a few days was discarded. Since that time no one has mentioned a supporter to her.

During the past five years she has had constant nausea, with occasional vomiting. This trouble has been increasing, so that for over a year she has not been three days without vomiting, which has not unfrequently taken place "a dozen times a day." Her appetite is poor, and she eats "little or nothing." Is somewhat anæmic, but not emaciated. She feels "used up," and for the past four months has kept her bed, and for the last three months of the time has had constant slight uterine flowing. Is unable to sleep, even with medicines. In this state of affairs she called in a member of our society, who, seeing the nature of the case, asked me to see the patient and treat her. Both the lady and her husband were exceedingly anxious to have children. The uterus was found subinvolved, and its position as in the other cases reported. There was a slight discharge of blood from the os uteri, rather increased by the use of the sound. I made an astringent application to the uterine cavity to check the flow temporarily, and fitted a supporter.

Within a few days the patient was about the house.

The supporter needed alteration from time to time, but within six weeks the lady was able to come to town to my office for the necessary attention, and to go about visiting the stores. *She had neither nausea, vomiting, nor flowing from the time the pessary was applied.* Menstruation was perfectly normal for two months. A week after it should have appeared for the third time she came to see me, saying that for about ten days she had had slight nausea each morning, but nothing like as severe as that which she had suffered from so long. She stated that her appetite was very good, and that she had an almost uncontrollable desire for certain dishes, mentioning lobster-salad, which she had not eaten before for years. I expressed the opinion that she was probably pregnant. I met her a few days ago. It is now three months or more since she menstruated, and she has little doubt of her condition. She reported herself as feeling better than for years.

The sudden and complete relief of such severe nausea and vomiting as were present in this case, simply by the use of a supporter to lift the uterus, is interesting and suggestive.

Slight nausea and vomiting, referable to uterine conditions other than pregnancy, are not very rare, and these symptoms, when coincident with a displacement, are often at once relieved or ameliorated by keeping the uterus in its proper place.

Now in the first months of pregnancy, when reflex symptoms are most common, the enlarging womb, until by its growth it lifts itself out of the pelvis, occupies a lower position than usual. If in the non-pregnant woman such severe symptoms as were present in this case can be completely relieved by lifting the womb, — regarding the low position of the early pregnant uterus as a possible factor in the causation of nausea and vomiting, — it does not seem unreasonable to suppose that in certain cases, particularly those where the sinking of the organ is exaggerated, the proper use of a supporter may prove an efficient agent in affording relief from this distressing and at times dangerous complication. It seems to me that the subject, although mentioned here and there, has not received the attention which it merits. Certainly the experiment of a supporter is worthy a trial in those cases at least where otherwise a provoked miscarriage would be resorted to. It is needless to add that the pessary should be used with skill and care.

Reports of Societies.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

THE TREATMENT OF THE PLACENTA IN ABORTION.

APRIL 12, 1879. DR. LYMAN stated, as bearing upon the recent discussion as to the propriety of immediate removal of the placenta or delay until severe symptoms demanded interference, that he had been called on the 13th of March to a patient who was aborting. She was perfectly comfortable, and there was not a drop of blood escaping, but the ovum was partly extruded. Emmet's forceps were applied without difficulty, and it was thought that the whole placental mass was removed. This process was followed by profuse hæmorrhage, requiring tampon. On the first of April severe hæmorrhage recurred; the forceps

were again employed, and a mass of placental tissue as large as an almond was extracted. The bleeding then ceased. — Dr. FIFIELD said he had known an abortion to occur at the third or fourth month, followed by entire relief for many months, to be succeeded by another pregnancy and another abortion, when both placenta were thrown off together. Many years ago he had had a patient who discharged a small, perfectly fresh placenta which had been retained six weeks after a miscarriage which had been otherwise complete.

Dr. MINOT said he thought it was usually easy to explore the interior of the uterus with the finger, and remove any remains of the ovum which might be adherent, in cases of hæmorrhage following abortion. The woman should be etherized and placed upon her left side, with the knees well drawn up. The uterus should be firmly depressed by the left hand of the operator applied externally behind the pubes, the right hand introduced into the vagina, and the forefinger (sometimes two fingers) passed into the cavity. Unless the patient be etherized the rigidity of the abdominal walls is often so great that the uterus cannot be felt by the hand externally, or be sufficiently depressed to bring the cavity within reach of the exploring finger. When the woman is very fat, it may be difficult or impossible to reach the cavity of the womb with the finger, and it then becomes necessary to search for the retained growth with forceps; but this is rarely the case.

Dr. LYMAN said that in his experience it was not such an easy matter to press the uterus down so as to be within easy manipulation unless the hand were introduced into the vagina. This is not always stated. Of course, with the hand in the vagina, the finger, if properly managed, should go easily enough to the fundus if the os be sufficiently opened.

THE USE OF ERGOT.

MAY 10, 1879. Dr. WELLINGTON, referring to a recent discussion in the society upon the treatment of the placenta in abortion, suggested that ergot, according to his own experience, was well worth trying. Time after time he had got the mass away in that manner after two or three doses. The action of the drug upon the uterus was well known and recognized. It is given in the unimpregnated state of the organ to lessen its size, or to stop hæmorrhage. In one case, indeed, the remedy seemed to have no effect, as the placenta remained in the womb for a fortnight. It was afterwards discovered that the patient had been taking the fluid extract of cubebs. Dr. Wellington remarked that ergot had not received its due recognition in the late discussion. — Dr. LYMAN said he had not spoken slightly of ergot. He was formerly more in the habit of using it than now, however. Everything which came away well was ascribed to the effect of ergot, but subsequent cases did as well without it. The point of his remarks in the discussion was upon the question of interference by the placental forceps and other means, procedures which his late experience, as detailed at the last meeting, had not favored. — Dr. HODGSON stated that his experience with ergot was not entirely in accordance with that of Dr. Wellington. The quality of the drug may not always be what it is expected to be, but aside from this, though given in full doses, he had found its ac-

tion uncertain even at term. Still, his reliance had been either upon the ergot, or time without the ergot.

EPITHELIOMA OF THE CERVIX REMOVED BY CURETTE AND SCISSORS.

Dr. BOARDMAN reported the case, which came under his observation in the previous March. The history of the case presented no remarkable features except an almost entire absence of symptoms, the patient having complained for some time merely of a leucorrhœa which had occasioned some annoyance. Upon examination, the disease was at once recognized as epithelioma, and from its obviously circumscribed condition the operation for its removal was advised. Anteriorly there was about a quarter of an inch of the vaginal portion free from disease, and posteriorly about half an inch. The cervical canal was also free down to the level of its junction with the vaginal portion. The patient was not seen again until the last of April. During the interval she had severe hæmorrhage with grumous discharge for four weeks. Examination showed that a portion of the diseased tissue had come away, so that the above-mentioned limits could be very accurately determined. In order to save the healthy membrane for the formation of a new cervix, the operation, done on the first of May, was performed with the curette and scissors, the diseased tissue being removed piecemeal until what remained appeared to be healthy to the sight and touch. The result of the operation gave the reason for reporting the case, for it was found that the more usual method of procedure advised for such a case, namely, amputation by means of the galvano-cautery wire or the *écraseur*, would not have proved efficient for the entire removal of the disease, since there were found three separate tongues of this tissue, which reached to a considerable distance upwards into the supra-vaginal portion, beyond the level which would be included by amputation.

Dr. SINCLAIR said that he agreed entirely with Dr. Boardman as to the method of treatment, as there was nothing equal to the touch in detecting the site and extent of the diseased tissue. He thought, however, that there would be a recurrence of the disease in the case described. He had had two or three similar cases during the past year, in all of which the disease had recurred and in one of which it had already ended fatally. He did not think the operation hastened death, which occurred about five months after the first and one month after the second operation.

Dr. HOMANS observed that he could not see why it was more sensible to remove a part of the cervix than a part of the breast in cases of cancer of that organ. Even where the whole breast is amputated, most patients die within two or three years afterwards, although in exceptional cases there may have been no recurrence during a life prolonged twenty or even forty years. Dr. Homans said he applied these remarks to all forms of cancer, the comparative immunity from return in cases of cancer of the lip being principally owing to the fact that in these the disease is discovered and removed so early.

Dr. BIXBY mentioned the case of a patient who after the process of gouging followed by the application of nitric acid, went three years in comparative comfort and freedom from pain and hæmorrhages. These ultimately recurred, and were again relieved in the same way. At the last hæmorrhage preceding her death there was very little of the uterus remaining.

DR. LYMAN remarked that very many of the cases of epithelioma of the cervix with much hemorrhage will be benefited by almost any sort of interference with them. A very healthy-looking patient from Sax-onville presented one of the most extensive specimens of this disease he had ever seen. After a series of very severe hemorrhages, the ulcerated cavity of the cervix was packed with cotton-wool saturated with subsulphate of iron, and the patient went home. Six weeks later her physician stated that she had not been so well for years, and up to that time there had been no recurrence of the hemorrhage. More recently two other and similar cases had been treated with the same good result. Though not curative, the treatment prolongs and renders comfortable the life of the patient.

DR. BOARDMAN observed that Braithwaite, of London, recommends the application of the subsulphate or the perchloride of iron as the best agent, giving immediate though temporary relief to the more urgent symptoms, a result which he himself had observed in one instance.

DR. LYMAN remarked that the stenosis which follows is to be taken into account, even if the operation be successful.

DR. MINOT reported a case of

URGENT VOMITING IN PREGNANCY.

The patient was a young married lady, previously in good health, who had aborted, without obvious cause, in October last, at about the eighth week of her first pregnancy, having had no vomiting and up to this time but little nausea. March 7th, being again about eight weeks pregnant, she began to be troubled with occasional vomiting, which increased in a few days so as to become very annoying, and was soon accompanied by excessive salivation. The cervix and os uteri seemed healthy to the touch; tongue clean; pulse natural; urine contained no albumen. By March 15th the stomach would retain no food, and the patient was nourished by enemata of milk and beef tea, half a pint of each alternately every four hours; each enema also contained half an ounce of brandy. These were well retained, and were continued without interruption, day and night, during the remainder of the treatment. A quarter of a grain of morphia was injected under the skin at night, and a soft rubber ring pessary was placed in the vagina, so as to press gently up behind the cervix, with the view of supporting the uterus under the violent pressure caused by the vomiting. Any excitement, even an accidental loud noise in the room, would cause urgent retching and rejection of anything which happened to be in the stomach. Several times the patient went forty-eight hours without swallowing anything but water. The elbows became excoriated by the pressure caused by her position while vomiting, and had to be protected by pads of cotton. The pulse gradually rose to upwards of 130 in the minute; there was much emaciation, prostration, loss of sleep, and depression of spirits. The salivation became extremely annoying.

March 20th, Ridge's food was tried in small quantities every hour. This was well borne, and on the 22d she retained a pint of it during the day; but on the 23d it was rejected, and even the enemata were partly returned unaltered. The patient's condition being considered critical, Dr. Wyman, of Cambridge, was asked to see her in consultation, with a view to the

induction of abortion. It was decided to wait, and the next day there was some improvement. The treatment was kept up, and patient continued to do well. March 28th she began to chew beefsteak. April 3d the vomiting and salivation had ceased, and she took a fair diet. Pulse 96. She drove out. The enemata were discontinued.

April 25th the patient took cold, and coughed a great deal. This seemed to bring about a return of the vomiting and salivation, which soon became as severe as before, and the patient's condition was again very discouraging. The same treatment was employed, with the addition of five drops of a solution of atropia (one grain to the ounce) and ether spray to the abdomen. The morphia was given in suppositories. There was but little improvement up to the present time.

[Dr. Minot subsequently reported that the patient began to amend on May 14th. She continued to improve, and was nearly well on the 24th, when, after a drive, she had a chill and a return of the vomiting. The symptoms, however, were less severe than before, and by June 1st there was permanent relief. On the 9th she took a short walk, and from this time she remained well. Quickening occurred May 22d; June 10th the womb could be felt above the pubes.]

So far as treatment had any effect in this case, benefit seemed to be chiefly derived from the rest to the stomach and the nourishment afforded by the enemata, to the morphia at night, and to the cautious feeding with Ridge's food, which was done by a skillful nurse. Some comfort was given by ether spray to the epigastrium, but there was no real advantage from its use. The atropine was used with a view to control the salivation, with less success than was hoped, but still with some apparent benefit.]

DR. C. P. PUTNAM referred to the case of a patient suffering from the vomiting of pregnancy. The lips of the cervix were not ulcerated, but were marked with reddish streaks. The symptoms were very much relieved by the application of the tincture of catechu on cotton. At the same time two or three drops of the tincture of nuxvomica were administered, which might possibly have contributed to the improvement.

DR. BOARDMAN mentioned the reported cases of the successful employment of enemata of chloral and of continued pressure at the epigastrium for the relief of the constant and serious vomiting of pregnancy.

DR. J. J. PUTNAM exhibited

A FIBROID TUMOR OF THE UTERUS,

which he had removed on the day of the meeting from a patient who had died of gangrene of the lungs at the Danvers Hospital. The tumor was multiple, the largest portion being of the size of a child's head at birth, with a small and distinct pedicle. There was also a fibroid polypus, with a distinct pedicle, in the uterine cavity.

PATHOLOGICAL CHANGES IN SEPTICÆMIA AND PYÆMIA.

DR. E. G. CUTLER presented a paper upon the above subject, which was read at the annual meeting of the State Medical Society. In addition, Dr. Cutler stated that septicæmia is due to the absorption of decomposed products. The reason why Dr. Chadwick's cases improved was because the process of absorption was arrested by the antiseptic injections, and the process of cure, indicated by the symp-

toms of the disease, enabled to go on to a successful issue. In septicaemia the initial chill may as likely be absent as present, and intercurrent chills never occur in pure septicaemia. The temperature, at first high, as the disease progresses reaches the normal point, or may even sink below it, while the pulse and respiration increase in rate. In pyaemia, on the other hand, with each pyaemic focus there is a chill and a corresponding elevation of temperature. In pyaemia, if you can reach the source of infection, you may be able to arrest the symptoms. A man, for example, received an injury. It was necessary to amputate the thigh. He did well until the fourth day, when symptoms of general infection supervened. The patient was etherized. The surgeon slit up the femoral vein and pulled out the thrombus; the same was done with the artery. Then the symptoms disappeared, and the patient recovered. It is impossible to tell from all of Freund's cases whether they are all septicaemia, pyaemia, or septicopyaemic. Hueter, in his surgery, gives a case as follows: A woman had abortion, and the cervix was ruptured. Four weeks after delivery she had pyaemia and died. Behind the broad ligament was a focus. A wash in such a case would do no good. The two diseases run into each other frequently. The clinical history is not always sufficiently marked for a diagnosis. Mr. J. Hutchinson considers inflammation of the skin as not uncommon in pyaemia, which is further characterized by icterus, sudamina, bulke, little hemorrhages with a pustular centre, occasionally a scarlatinial rash. At an autopsy which occurred two months before, in a case of spontaneous pyaemia, large bullae were observed.

Dr. Bixby said he had seen quite a number of cases of death from septicaemia after ovariectomy. These were characterized by dry tongue, great debility, rapid, weak, and small pulse, the absence of localization of the disease within the organs, the invariable absence of even the slightest evidence of peritonitis, a perfectly flat abdomen. The operations in these cases have been various; in some instances complicated, in others simple. In one case a cyst of the broad ligament, free from adhesions, had been removed by a small incision with perfect ease under antiseptic precautions. In one single instance, that of a case of papilloma of the ovary, where the operation was more complicated, a local affection manifested itself in the form of great enlargement of the cervical glands. Dr. Bixby was disposed to think, from his observations of septicaemia, that there was a difference between this affection and pyaemia, from the fact that there had been in nearly all these cases less tendency to multiple abscesses.

Dr. FIFIELD asked Dr. Cutler to state the broad grounds of distinction by which the two diseases, pyaemia and septicaemia may be recognized.

Dr. CUTLER referred Dr. Fifield to the last edition of *Bilroth* as containing the clearest answer to the question. In the main, the distinctions were these: Both are general diseases. In septicaemia there is absorption of decomposing matter. In pyaemia there is the absorption of matter, together with bacteria, from a wound, or from foci in the immediate vicinity of a wound. In the former the symptoms are those of general waste, changes of decomposition in vital organs. In the latter there are a good many metastatic abscesses, or a good deal of pus, in the bones, brain, etc.

Recent Literature.

Urinary and Renal Diseases. By WILLIAM ROBERTS, M. D. Physician to the Manchester Royal Infirmary, etc. Third American from the third revised and enlarged English Edition. Philadelphia: Henry C. Lea. 1879. Pages 631. Illustrated.

We have here the third edition of this highly esteemed work, the second edition of which was published in 1872. The changes comprise accounts of Russell and West's method of estimating urea, of the filaria discovered in cases of chyluria, by Dr. Lewis, and of the author's method of estimating albumen. The views of Sir W. Gull and Dr. Sutton on antero-capillary fibrosis in Bright's disease are briefly set forth, as also the researches of Dr. Dickinson on the pathology of diabetes. Dr. Roberts's treatise continues to be a most valuable guide to the students of clinical medicine.

The North American Review for April has for its leading article a paper entitled *McClellan's Last Service to the Republic*, which covers the whole period of McClellan's military career, from the flank movement to the James to the battle of Antietam. It is intended to vindicate the general against the charge that he was over-cautious and unnecessarily slow in his movements, and contains many statements of an interesting character. Sir Francis Hincks contributes a paper on the Relation of Canada with the United States. The author's principal object is to show that the recently enacted Canadian tariff is not an act of retaliation against the United States for their refusal to establish reciprocal free trade between the two countries in products that are natural to both. Canada, he says, is desirous of renewing the reciprocity treaty, and is ready to concede all reasonable demands. The Rev. David Swing writes about the Failure of the Southern Pulpit. According to him, the Southern pulpit is without influence on public opinion in the South, whereas it might be, and ought to be, a great engine for the moral and material regeneration of the people. The discussion of the Third Term question, begun in the February number of the *Review*, is continued in the present number by the Hon. George S. Boutwell, who insists that, whatever may have been the practice and the teaching of "the fathers" with respect to a third term, circumstances make it in the highest degree expedient that General Grant be again elected to the presidency. Charles Stewart Parrell sets forth the reforms in the laws of land tenure which are advocated by himself and his political associates, under the heading, *The Irish Land Question*. The Book Notices are by Mr. Edward Cary.

—Dr. Charles W. Earle thus disposes of the "cinchona cure" for drunkenness: "I do not say that not a single person to whom this drug has been administered has stopped the use of liquors; but I do say that not one with whom I have come in contact has, and in many cases its use has rekindled an old desire which by resolution and education had been nearly conquered. I do not say that in every case following the administration of this nostrum injury to the patient has come; but I do say that in every case which has fallen under my observation this has been the result."

Medical and Surgical Journal.

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THE ARGUMENT OF THE COUNSEL FOR THE SOCIAL SCIENCE ASSOCIATION BEFORE THE JOINT LEGISLATIVE COMMITTEE ON PUBLIC HEALTH.

WHATEVER may be the fate of the draught of the proposed act to regulate the practice of medicine in this State, at present under consideration by a committee of the legislature, there can be but little doubt that sooner or later some steps will be taken in this direction. Some of our readers evidently still entertain serious misgivings as to the wisdom of the present measure, and others perhaps would distrust any measure likely to be made law. We find the arguments in behalf of the proposed act very forcibly and eloquently given by Mr. Pillsbury, the able counsel of the Social Science Association, and hope those interested in the question will read his remarks before the legislative committee, from which we venture to make a few brief abstracts, without indorsing every phrase which may have been used, only regretting that want of space puts it absolutely out of our power to do them and the subject greater justice.¹

Mr. Pillsbury defines the bill as one to regulate admission to the practice of medicine. — that, and nothing more; and then goes on to say: The one thing which it seeks to accomplish is that when a person goes before the public as a common practitioner of the healing art he shall be endowed with a fair moral character, and shall know something of his business. It endeavors to guard personal rights, and to provide against ill-defined or arbitrary power. The purpose of the petitioners is to obtain some statutory regulation of admission to the practice of medicine, not statutory regulation of the practice itself. They have no design to abridge individual freedom of choice or of opinion. They desire that all shall be allowed to practice medicine as they like, provided they come to that work with fair and reasonable qualifications for it. Nothing is farther from the purpose of the petitioners than to interfere with personal rights. From time immemorial the legislature, for the protection of the public, has found it necessary to impose some restraint upon the right to exercise various callings, as you know. This bill relates to one which touches the health and the lives of the people more nearly than any other; and, in the name of a quack-ridden community, the petitioners ask you to lay upon this also such salutary restraint as the exigency demands.

I deny that there is anything in the bill which can

¹ For reference, the draught of the bill may be found in our issue for February 19th.

be properly characterized as discrimination. In so far as it raises any distinction between individuals or classes, there is a reason for it. The sufficiency of the reason is a matter of which you are to judge.

There is no question of schools here, for all the so-called schools are united upon it. The reason why certain medical societies have been described in the bill as the sources to which the appointing power may go in selecting the members of the board of registration is because these societies have exercised, under the authority of the State, for a period of years, the power to examine and approve their members, both as to character and qualifications, before admission. There is now, so far as those societies are concerned, some guarantee of the fitness of their members to practice medicine and to perform the duties pointed out by the first section of the bill. If the guarantee is not sufficient, the provision can be modified as seems best.

Comment has been made that the board, or a majority of it, is likely to consist of regular physicians. That is a wholly gratuitous and unwarranted assumption. If the proportionate representation indicated in the bill gives them a majority in the outset, the assumption that they will always continue to have a majority carries with it the assumption that neither the eclectic nor homœopathic societies are ever going to increase materially in their membership. The members of these societies do not believe this, nor do they object to this provision of the bill. They believe that respectable physicians of all schools, and of no school, if such there be, will work together to eradicate the evils against which the bill is directed. And have you the slightest reason in the world, gentlemen, to suppose that respectable men, acting under the sanction of an oath and under official responsibility, will undertake to approve or reject any person simply because he comes from a school whose practice they do or do not recognize as the best? Moreover, you will find that the board cannot ascertain and cannot know, until they have examined the applicant, whether he is allopath, homœopath, eclectic, or neither the one nor the other. If that is so, and we think the language of the bill is such as to make that clear beyond question, how are they going to discriminate, even if they would?

A word, now, as to the first clause of section four: —

"Any person who, at the time of the passage of this act, is a member of any society described in section one may practice medicine without further license so long as he remains a member of either of said societies."

I have already stated the reasons for which the present members of the societies are placed upon this footing, in my observations upon the first section of the bill; that there is some existing guarantee of their character and learning, they having been subjected to examination already, under the authority of law, by the societies themselves. They have been gauged by those most interested to ascertain their true capacity. We submit that it is a sufficient guarantee, and that this distinction cannot be reasonably objected to. You will note, also, that it applies only to those who are in the societies at

the present time. Hereafter not even this distinction will exist, but all comers will stand alike, regardless of their affiliations; and the licenses of members of the societies are subject to revocation, if occasion arises, equally with all others.

The tenth section might seem foreign to the purpose of the bill, but it is really one of its most important provisions. As the law is now interpreted, any person who styles himself a physician is a physician to all legal intents and purposes. That, Mr. Chairman and gentlemen, is substantially the law of Massachusetts to-day. Some reference has been made to the existing state of the law, and I desire you to note this carefully; all you need to make yourself a physician, under the law of Massachusetts, is to say so. Call yourself a physician, and you immediately are one, with all the rights, privileges and powers that attach to that vocation.

Under the statutes of Massachusetts — and I wish I had time to go into them in detail — many important powers are bestowed upon physicians. Duties are prescribed to be exercised by them which touch not only the property, but the health, the liberty, and lives of citizens. The power to issue certificates of the cause and manner of death is one; the power to certify for commitment to insane asylums is another, and so on. And who are they who are to exercise these functions? Any of these people who practice as physicians; any one who sticks up a sign calling himself doctor, — he, if cloaked however thinly with outward respectability, is legally as well qualified for the exercise of any of these powers as any other; and the result, in the one particular matter of death certificates, to which this tenth section has reference, is the concealment of a vast amount of iniquity. You have a letter here from perhaps the most experienced prosecuting officer in Massachusetts, who now holds the office of attorney-general, who has been engaged in the administration of criminal justice for twenty years, and who knows whereof he speaks. He has told you something about this, and I beg you to attend to what he says. Any one of these impostors and charlatans, however ignorant and vile, — and I don't intend to stigmatize any one who does not deserve it, — any one of them may issue a death certificate upon which the body of a murdered man, a strangled babe, or an aborted fetus may be smuggled away and concealed. Now I will produce one case — just one — to illustrate the law under which we live, to show you what a physician is in Massachusetts by law, what he may do by law, what he may be punished for doing, and for what he may not be punished. I will not go into the street for it. I will not ask you to take any man's word for it, neither of physician nor patient. The doctor is in his grave, and all his works have long since followed him thither. It is the case of the Commonwealth *v.* Samuel Thompson, in the sixth volume of Massachusetts Supreme Court Reports, page 134.

Samuel Thompson was the author and finisher of the "Thompsonian" system. He had the misfortune to be indicted for murder, in Essex County, in January, 1809, in a case which arose in his practice as a

physician. I will read to you briefly from the official report of his case. It is to-day the only authoritative exposition of the law of Massachusetts upon this subject [reading]: —

"On the trial, it appeared in evidence that the prisoner, some time in the preceding December, came into Beverly, where the deceased then lived, announced himself as a physician, and professed his ability to cure all fevers, whether black, gray, green, or yellow; declaring that the country was much imposed upon by physicians, who were all wrong if he was right. He possessed several drugs, which he used as medicines, and to which he gave singular names. One he called 'coffee,' another 'well-my-gristle,' and a third, 'rameats.' The deceased, having been for several days confined to his house by a cold, requested that the prisoner might be sent for as a physician. He accordingly came, and ordered a large fire to be kindled to heat the room. He then placed the feet of the deceased, with his shoes off, on a stove of hot coals, and wrapped him in a thick blanket, covering his head. In this situation he gave him a powder in water, which immediately puked him. Three minutes after he repeated the dose, which in about two minutes operated violently. He again repeated the dose, which in a short time operated with more violence. These doses were all given within the space of half an hour, the patient in the mean time drinking copiously of a warm decoction, called by the prisoner his 'coffee.' [Some similar evidence is here omitted.] On Monday he appeared comfortable, but with increasing weakness, until the evening, when the prisoner visited him, and administered another of his emetic powders, and in about twenty minutes repeated the dose. This last dose did not operate. The prisoner then administered pearl-sh mixed with water, and afterward repeated his emetic potions. The deceased appeared to be in great distress, and said he was dying. The prisoner then asked him how far the medicine had got down. The deceased, laying his hand on his breast, answered, 'here,' on which the prisoner observed that the medicine would soon get down and unscrew his navel; meaning, as was supposed by the hearers, that it would operate as a cathartic. Between nine and ten o'clock in the evening the deceased lost his reason, and was seized with convulsions, fits, two men being required to hold him in bed.

"After he was thus seized with convulsions, the prisoner got down his throat one or two doses more of his emetic powders, and remarked to the father of the deceased that his son had got the 'hyps' like the devil, but that his medicines would fetch him down. The next morning the regular physicians of the town were sent for, but the patient was so completely exhausted that no relief could be given. The convulsions and the loss of reason continued with some intervals, until Tuesday evening, when the deceased expired."

This man was indicted for murder. The court ruled that he could not be convicted of murder. Thereupon [reading]: —

"The solicitor general strongly urged that the prisoner was guilty of manslaughter, because he rashly and presumptuously administered to the deceased a deleterious medicine which in his hands, by reason of gross ignorance, became a deadly poison.

"The prisoner's ignorance is in this case very apparent. On any other ground consistent with his innocence it is not easy to conceive that on the Monday evening before the death, when the second dose of his very powerful emetic had failed to operate, through the extreme weakness of the deceased, he could expect a repetition of these fatal poisons would prove a cathartic, and relieve the patient; or that he could mistake convulsion fits, symptomatic of approaching death, for a hypochondriac affection.

"But on considering this point, the court were all of opinion, notwithstanding this ignorance, that if the prisoner acted with an honest intention and expectation of curing the deceased by this treatment, although death, unexpected by him, was the consequence, he was not guilty of manslaughter.

"It is to be exceedingly lamented that people are so easily persuaded to put confidence in these itinerant quacks, and to trust their lives to strangers without knowledge or experience. If this astonishing infatuation should continue, and men are found to yield to the impudent pretensions of ignorant empiricism, there seems to be no adequate remedy by a criminal prosecution, without the interference of the legislature, if the quack, however weak and presumptuous, should prescribe with honest intentions and expectations of relieving his patients."

Gentlemen, such is the law. Samuel Thompson went free, and, for aught we know, in the language

of the story-books, lived happy ever after. The "astounding infatuation" has continued and increased, even, to an extent that attracts hither these reckless adventurers from all parts of the country and from foreign countries, until to-day the city of Boston, in which you sit, is believed to furnish asylum and subsistence to more such than any other community of its size on the face of the earth. They wax fat, and snap their fingers in the face of justice. And in this condition of things we ask you to interfere; not to forbid any citizen from employing any medical adviser whom he chooses to call, but to give us some assurance that when, in time of distress, we invoke the aid of the public practitioner of the healing art, we may not find lurking in his robe a rapacious and ignorant knave.

The argument continues with a very concise and telling exhibition of the inconsistency and absurdity of those who object to the bill as an invasion of individual rights, an interference with personal liberty; states in regard to the ignorant charlatans, against whom the bill is aimed, that the legislature is asked only to require that before these persons shall hold themselves out to the community as practitioners of medicine, not that they shall be as learned, successful, competent, and honest as any other practitioner, but that they shall be of fair repute, and shall have acquired some real knowledge of their art, of the anatomy of the human frame, the position and functions of the various organs of the body, and the nature of disease. When they have done that, the fence is down and the field open; and closes with the following just remarks:—

The bill is not for the physicians; it is for us. The community is overrun with medical mountebanks and impostors, concealing their ignorance and rapacity under high pretensions, and seeking, among the ignorant, the credulous, and the helpless, whom they may devour. The highways and by-ways of our cities are infested with their lurking places, and the public journals are broken out with their advertisements like a plague. The ebb-tide of quackery from our neighbor States is setting back upon us, and the number of these charlatans in our midst increase day by day. We ask you to stay this tide. Perhaps the law will not accomplish all that is hoped for it, but it will accomplish something. To some extent all legislation must fail of its purpose, but some things you can secure. You cannot give the sick man wisdom wherewith to choose his physician; but you can stay the hand which he invokes, unless that hand is guided by enlightened intelligence. You cannot by statute make a good or a learned man; but you can strip the mask from the pretender and the knave. This is the purpose of the bill, and in doing this the people whose interests you have in charge will approve your judgment and uphold your hands.

—The masquerade ball lately given at the New York Academy of Music by the Purim Association, in aid of the Mount Sinai (Jewish) Hospital, netted the very handsome sum of \$18,585.80 for that institution.

MEDICAL PRACTICE ON THE STAGE.

In Boucicault's *How She Loves Him*, which has recently been revived at Wallack's Theatre, New York, there is much over which a medical man may enjoy a hearty laugh, as it contains some very amusing satire on the various "pathies" at present in vogue; though it must be confessed that the regular profession comes in for a good-natured rap or two also. The scene is principally laid in the vicinity of the "United Pautopathic Sanatorium (Limited)," at a sea-side resort, and the play is brought to a conclusion in that remarkable institution, where the hero of the piece, delightfully enacted by Mr. Wallack, feigns to be "in the last stage of an unknown disorder," in order to secure a reconciliation with his wife, from whom he has been separated on account of a misunderstanding. This fearful disease, he tells his better half, when she finally comes to visit him in his last hours, is called "pluribus-sternum-elephantorum;" but it is very well characterized by Diogenes, a sharp-tongued but very faithful old Irish servant (a character which is assumed with distinguished success by Mr. Boucicault himself), as "wife-on-the-brain." In one of the earlier scenes, the husband says to a friend, "Give me your candid opinion on my personal appearance." "You look as if you had taken something which had disagreed with you," he replies. "That's it,—I took a wife. Study me; I deserve to be exposed in a bottle at an anatomical museum, labeled, 'Practical result of six months' steady matrimony on an able-bodied subject.'" The healing art is represented by "Sir Jericho Maximum," of the regular profession, "Dr. Minimum," homœopath, "Dr. Skwertz," hydropath, and "Dr. Sparks," electropath; and one of the most laughable scenes of the play is an absurd consultation between these various medical lights. During the course of this, one of them asks, "Ought we not to support nature?" "Oh, no," replies Sir Jericho (a character designed to hit off some of the peculiarities of the great London practitioners), "our business is to support the apothecaries." The different treatment advised by each is thus concisely described by the patient: "Down with him," says Sir Jericho Maximum; "Up with him," says Dr. Minimum; "Drown him," says Dr. Skwertz; "Blast him," says Dr. Sparks.

The first to visit him is Dr. Minimum, who, after taking the pulse, remarks, "Finding that there is no fever present, I shall be obliged to make some fever, and will therefore exhibit aconite and belladonna, with a little pulsatilla, which will, no doubt, do the work. Put three drops of this phial in a pint of water, and take a teaspoonful every Wednesday night. You must have faith, you see, my dear sir: and faith, by the way, is the only remedy which we of the homœopathic persuasion ever prescribe in allopathic doses."

On hearing of his serious illness, the wife asks if he is really in danger. "Danger!" is the reply, "I should say that he was in the greatest possible danger. Why, there are *four doctors* with him at this very moment." To give her an idea of his alarm-

ing condition, the patient says to her, when she reaches his bedside, "I am a shell filled with the most explosive materials, and liable to collapse at any moment. All the doctors say that my fuse is very short." Notwithstanding the apparent hopelessness of the case, however, he makes a complete recovery in the most extraordinarily short time, much to the astonishment of the four M.D.'s, and the curtain falls upon a happy reconciliation, brought about by means of the ruse adopted and so entertainingly carried out.

MEDICAL NOTES.

—The *Medical Press and Circular*, in an editorial on Pathological Fog, says the recent fogs of London have worked much harm. "Bronchitis, emphysema, laryngeal affections, and a long train of kindred evils have received an impetus which will be felt for years to come. Many an invalid of the next decennium will have to date his invalidism from January or February, 1880."

—We clip the following from the *Ohio Medical Recorder*: "Dr. J. P. Thomas, of Pembroke, Ky., publishes in the *Philadelphia Reporter* a remarkable case of opium poisoning. An infant, three days old, was given by mistake one third of a grain of morphine. The doctor saw the case three hours after, but could not induce vomiting. The patient could not swallow; the sphincter ani was so relaxed that injections were useless, and the doctor's hypodermic syringe was broken. The infant was wrapped in cloths wrung out of hot coffee. Seven hours after taking the morphia, respiration entirely ceased. Artificial respiration was resorted to, after which voluntary respirations continued for some time, only again to cease and again to be established artificially. This was kept up for over forty-eight hours, and ended in the recovery of the patient. The doctor is to be congratulated on his success, and the family on having such a doctor."

—Dr. Kerr (*British Medical Journal*) gave five minims of nitrite of amyl by inhalation in a grave case of uterine hemorrhage. The flow ceased at once and permanently, and the patient was restored from a state of collapse. Dr. Wm. F. Jenks, of Philadelphia, administered ore-drop doses of the nitrite in puerperal eclampsia, and found it almost instantly arrested the paroxysms. He gave it at the approach of a convulsion. Contrary to Kerr, however, he found that its use was followed by extreme hemorrhage and a general relaxation of a previously contracted uterus. Nevertheless, we believe, if the uterus be protected by ergot and ice, that the nitrite of amyl would prove a most desirable and efficacious weapon against eclampsia.

—Before the Société de Médecine of Paris, Dr. Mercier recently demonstrated an easy and practical means of disposing of small vesical calculi. It consists in making the patient lie on his belly; the calculi then fall by their own weight into the anterior portion of the bladder. The patient is now directed to

rise slowly to his hands and knees. In this position he micturates, and the calculi, which have not yet had time to return into the cul-de-sac behind the prostate, are carried away in the stream of urine.

—The *Obstetric Gazette* says that "Dr. Levy, of Munich, gives the results of microscopic examinations as to the condition of the spermatozoa at different intervals after coitus in the case of sixty women who were under treatment for sterility. In fifty-seven out of the sixty, catarrh of the uterus was present. In all these cases only a small number of spermatozoa could be detected within the uterus, and they had all become motionless after the interval, at the outside, of five hours after coitus. In healthy women, on the other hand, the author found that the movements of the spermatozoa within the uterus continued for at least twenty-six hours. Thus the important effect of an altered character of the uterine secretion, in its destructive influence upon the spermatozoa, is demonstrated. Levy believes that when the secretion is healthy the spermatozoa can make their way into the uterus in spite of flexions or stenosis. He draws the inference, with respect to the use of tents or mechanical dilators for the cure of sterility, that, since these measures are liable to set up uterine catarrh, anti-catarrhal remedies must afterwards be used if the dilatation is to have any effect in promoting conception."

—Says the *Medical Record*, "Owing in part to dissatisfaction at the management of the London University, it is said that efforts are being made to establish a university in London which shall take in all the medical schools under its general jurisdiction."

—"Dr. F. Powers, of Westport, Connecticut, says that a woman about sixty years old entered a drug-store in the town, a short time ago, and called for forty-five grains of morphine. The druggist weighed it out. She then called for a glass of water, put the drug in it, and swallowed the whole. The anxiety of the druggist was somewhat relieved by her saying that she had taken morphine for forty years, and that forty-five grains was now her regular dose."

—We learn from the *Harvard Register* that the statement going the rounds of the papers to the effect that one half of the students of Harvard are suffering from disorders of the heart, as the result of smoking and coffee-drinking, is utterly false, and has no foundation whatever. Out of several hundred students critically examined by Dr. Sargent, only two have been found who were suffering to any serious extent from heart troubles.

—The Boylston Medical Society recently awarded for essays first and second prizes as follows: The first prize to C. B. Witherell; subject, *Etiology of Fever*. Second prize to Charles F. Withington; subject, *The Pupil as a Therapeutic Guide*. Both essays were said to be of unusual merit.

NEW YORK.

—Dr. B. F. Dawson has been appointed one of the assistant surgeons to the Woman's Hospital, in the place of Dr. A. A. Smith, resigned.

—"The committee appointed to examine into the advisability of a transfer of the library of the New York Medico-Legal Society to the Academy of Medicine reported favorably at the January meeting of the society. Action was postponed, however, for a month. The library is the largest but two of its kind in this country."

—Dr. Edward R. Hunt, of Albany, a prominent physician of the State, died suddenly at Stamford, Conn., on the 14th of March, in the thirty-eighth year of his age. In 1875 he was secretary of the state society, and the same year was elected professor of diseases of the nervous system in the Albany Medical College. He was the translator of Burchard's Secondary Degenerations of the Spinal Cord, which appeared in 1869, and he published papers on Trichina Spiralis, The Pulse of the Insane, and Hematoma Auris, as well as numerous other contributions to periodical medical literature. At the time of his death he was visiting physician to St. Peter's Hospital at Albany and the Albany Hospital, and special pathologist to the State Lunatic Asylum at Utica.

—The body of Dr. Samuel Hahn, a Jewish physician of this city, who died of erysipelas, was lately cremated in the Le Moyne furnace, at Washington, Pa. He was born in 1841, in Germany, where he studied medicine, and came to New York in 1869; since which time he had built up a successful practice among the German population. Three years ago, when cremation began to be widely discussed here, he became interested in the subject, and ever since then has entertained the wish that his body should be disposed of in this way after death. He advocated the practice on philosophic and hygienic grounds, and he was strongly in favor of the organization of a cremation society, which was contemplated at the time mentioned.

PHILADELPHIA.

—The one hundred and fourteenth annual commencement of the medical department of the University of Pennsylvania was held March 15th; graduates in medicine, one hundred and eleven; in dentistry, twenty; total, one hundred and thirty-one. Professor Harrison Allen delivered the valedictory.

—The commencement exercises of our medical schools are generally held upon succeeding days at the Academy of Music. The fifty-fourth annual commencement of the Jefferson Medical College was held at noon on Saturday, March 13, 1880, when one hundred and ninety-six students were graduated as doctors of medicine. By a coincidence rarely noticed in college annals, the number of graduates was precisely the same as at the last commencement, and also the one preceding. Professor Rodgers delivered the valedictory address, which was well received. The Henry C. Lea prize of one hundred dollars for the best thesis was awarded to Dr. Robert P. Ames, of Massachusetts; the faculty prizes of fifty dollars each for the best original essay upon subjects cognate to the several branches of medicine taught by the respective chairs were awarded to Dr. L. A. Halfey, Pennsylvania, Surgery; Dr. B. M. Yost, Pennsylvania, Phys-

iology; Dr. C. C. Davidson, Pennsylvania, Chemistry; Dr. J. C. Hubbard, Massachusetts, Theory and Practice of Medicine. To Norris Cameron, of Pennsylvania, was presented a case of clinical instruments by Professor Bartholow for the best examination in materia medica and therapeutics. Gold medals for clinical reports of lectures at the Pennsylvania Hospital were given by Drs. R. J. Levis and Thomas J. Morton. Dr. Gardette, president of the board, conferred the degrees upon the graduates, and announced that at a meeting of the board of trustees of the college, held on the day preceding the commencement, Dr. William Thomson had been elected honorary professor of ophthalmology. In virtue of the fact that the Jefferson College possesses a university charter, the degree of doctor of divinity was conferred upon Rev. John Andrews Harris, rector of St. Paul's P. E. Church at Chestnut Hill, and Rev. Edward P. Cowan, in charge of the Market Square Presbyterian Church, Germantown, Penn.

—The American Philosophical Society held its centennial anniversary on Monday, March 15, 1880. It was celebrated by a grand banquet at the St. George Hotel, in Philadelphia, to which our principal citizens were invited. Professors Gross, Da Costa, and many others were also present. This meeting was a memorable one, not only on account of the high standing of the society, which was founded in 1780, but also of the social position of the members and their invited guests. The addresses were published in full in our daily papers, which fully appreciated and did full justice to the importance of the occasion and the brilliant character of the assembly.

—At the close of the banquet Professor Gross started for a short visit to New Orleans, where he will be the guest of Prof. T. G. Richardson. In addition to the many honors that have crowded thick upon him, Professor Gross has just been elected president of the board of trustees of the Pennsylvania College of Dental Surgery of Philadelphia.

—The following very significant and important resolutions were offered by Professor Rand at the alumni meeting, and referred to the executive committee:—

"*Whereas*, Some graduates of the Jefferson Medical College have disgraced not only themselves, but indirectly the college, by openly violating the plainest principles of the ethics of the profession,—notably, by advertising, by the manufacture and sale of secret preparations, and by the practice of exclusive systems; and,

"*Whereas*, The college has no power to withdraw a degree once granted; therefore, be it

"*Resolved*, That the president of the alumni association of the Jefferson Medical College be and is hereby authorized to appoint a committee of three members of not less than five years' standing to act in conjunction with the officers of this society. The duty of this committee shall be to report to this association at its annual meeting such cases of irregular practice as may exist among its members.

"*Resolved*, That to avoid personal controversies no case shall be considered where the accused is a mem-

ber in good standing of a county or district medical association which includes among its officers a board of censors. Moreover, that no one shall be reported by said committee without due notice of the action proposed to be taken, and without an opportunity to be heard in his own defense.

"Resolved, That the recording secretary be requested to keep a book in which each graduate receiving a certificate of membership shall sign an agreement to return the same, in the event of his expulsion by a vote of two thirds of the members present at any annual meeting, under the conditions set forth in the foregoing resolutions."

— While noticing college matters we should not overlook the fact that the alumni of Harvard University residing in Philadelphia sat down to their annual dinner, March 11th, at the Merchant's Club, about forty of the graduates being present. Isaac W. Hinckley, president of the Philadelphia, Wilmington, and Baltimore Railroad Company, was chosen president for the ensuing year, and occupied the chair, Samuel M. Felton, his classmate and the retiring president, filling the place of honor on his right. It was the largest gathering of the alumni that has ever occurred in this city.

— Dr. James King, ex-Surgeon-General of Pennsylvania, died of apoplexy at his home in Pittsburgh, on March 11, 1880. He was in his sixty-fifth year, and was one of the most prominent physicians in the western part of this State. He was a member of the American Medical Association, and attended the meeting in Atlanta last year as a delegate from the Allegheny County Medical Society.

Miscellany.

ELEPHANT BREEDING.

A BABY ELEPHANT BORN IN PHILADELPHIA.

MR. EDITOR, — The birth of an elephant calf away from India is a very rare event; indeed, the impression generally prevails that elephants will not breed in captivity, and until recently no well-authenticated case could be cited to disprove this assertion. The members of the Academy of Natural Sciences and the physicians of Philadelphia have lately been favored with an opportunity of witnessing an exceptional case, and of recording some very interesting facts in regard to elephant breeding and the social habits of this relic of a former age. Professor Leidy, of the University of Pennsylvania, and Dr. Chapman, of the Jefferson College, have especially interested themselves in the case, and have made several examinations of the elephant cow during gestation. From their reports we obtain the following facts: —

The elephant Hebe, on the 25th of May, 1878, was twice covered by a male elephant, a performing member of the same troupe of animals, both now in possession of Cooper and Bailey's London Circus, wintering at Philadelphia. In the act of copulation no peculiarity was observed by the attendants that would distinguish elephants from other animals, thus disproving some fallacies that had become current, owing to the defective opportunity for observation.

At the examination held in March, 1879, by Drs. Leidy, Penrose, Allen, Chapman, John H. Brinton, and others, the following observations were made: the two large mammary glands, situated upon the thorax, immediately between the front legs, were observed to be swollen; the nipples were prominent, and the superficial veins were quite marked. Large sebaceous glands were noticed in the roof of the mouth and behind the eyes. The tongue was like that in elephants generally. The tip was not free, but the whole organ was attached to the floor of the mouth, even possessing less motion anteriorly than posteriorly. The elephant's height was shown to be twice the circumference of the sole of its foot; this fact having been learned from the natives of India, who use this lightning method of calculating the size of the animal from its foot-prints.

The little elephant was born on March 10, 1880, making the entire period of gestation six hundred and fifty-five days, which is beyond the term usually assigned of twenty months. The placenta, which was zonal, was presented to the Academy of Natural Sciences; a dried preparation of it will probably be made by Dr. Chapman. The mother, Hebe, is about eighteen to twenty years of age, and weighs eight thousand pounds.

When the birth took place no obstetrician was present, although several had offered their services. It occurred at night, as usual, about 2.30 A. M. The night watchman gave the following graphic account: When the calf was born, the six other elephants chained upon the same platform threw up their trunks, and, dancing around as far as their chains would let them, set up a trumpeting that produced a scene of wild excitement, and made the mother frantic. She picked up the calf with her trunk and threw it across the stable, a distance of about twenty yards; then breaking her chains she started after the little one, tearing down the railing and demolishing a stove-pipe in her course. The keeper now came in, and under his direction the huge animal became quiet and was again secured, and has remained docile ever since. The new arrival is a female, weighing at birth two hundred and thirteen and one half pounds, thirty-five inches in height, four feet six inches long, and around the body (girth) three feet eleven inches. After the mother threw her, the baby picked herself up and went toddling around the room, and when the excitement was subdued she was led back to her mother, who received her with many caresses. The baby was named America, and promises to be a great attraction. In nursing, its mouth is brought to the breast; it does not suck through its proboscis, as was formerly believed to be the custom of these animals.

Altogether, this event is one of the most interesting that has occurred for a long time, as it is without parallel in zoological annals in this country. W.

"SEA-SIDE ETHICS."

MR. EDITOR, — An article under the above head was published in the JOURNAL of March 14th; let the following be an answer to the "reply" of March 18th: —

The copy of the case taken from my note-book is essentially true; and the flurry, with verbal quibbles and special pleadings, occasioned by the publication, studiously, and perhaps naturally, avoids the question

at issue. This remains the same as before the "reply." The "treatment" of the case and "advice" at the seashore may have been right or wrong,—that is not the point. The following-up the case after the patient went home and came under the care of the regular attendant, still retained in service, and the secret, or confidential correspondence as it is now called,—a correspondence not revealed to this attendant till about a year and a half afterwards,—that is the ethical error. It is hardly the thing to affirm that the printed letters were in reply to the patient's, since every one concludes with a request to "hear again in a week." (JOURNAL, page 236.) Even if the patient sees no professional irregularity in this, the practitioner, accidentally called in, cannot avoid seeing it. And, by the way, how can a patient expect to be properly treated by any physician while at the same time in secret correspondence with another, and partly under his directions? For the patient's good, the true end of all medical practice, such proceedings should be put a stop to.

Again, it matters not whether the correspondence was "asked" for or not; it could not have been asked for until its existence had been revealed. It fell into the attendant's hands, or "was handed" to him, if that phrase is preferred, exactly as described (JOURNAL, page 237), all the letters bearing dates after July 1, 1878. "To contradict¹ this statement" therefore is, to say the least, a little hasty. The matter of volunteering is like unto this also. The letters and the directions bear internal evidence of it. The expression "of his own accord" was once or more made use of by the patient or his family. And so with other quibbles, not worth while to waste time on.

The letters and statement were taken for *professional* purposes; primarily to fill out a record of the case for a professional report, should it subsequently prove worth while. They were received without reservation or restriction, or intimation to hold them private,—quite the contrary, it appeared to the recipient. Indeed, such letters should not be considered private by anybody; the profession has a right to know of such professional acts of its members. A copy allowed for the JOURNAL was for *strictly professional* purposes, without names, on the suggestion that what the letters showed would put vacational attendants at summer resorts on their guard, and would prevent practices said to be too frequent there. The responsibility might be divided or shifted to other shoulders, but there is no desire to do that. A professional-public purpose, not a private end, was the only object in view.

It is said—with what foundation others can better tell—that professional forging at summer resorts is attended with many unpleasant results. The neighboring resident physicians are, to a greater degree than desired, deprived of employment they are will-

ing and abundantly able to undertake; and the relations between them and their own resident patients are too frequently disturbed by the assumptions of temporary practitioners. The temporary practitioner does "not seek the case" of a visitor, perhaps, but after attending such a patient, who would never have employed him but for the emergency, may follow him up with attentions, more or less private, which render the regular attendant's position very embarrassing. The regular attendant will be held responsible to the patient, the members of his family, friends, near or distant, and to business associates, for a continued cognizance of every change in the case, an unerring diagnosis, and a sure prognosis,—this, too, while not unfrequently visiting the household, and consulted by the patient himself, so far as a secret correspondence with another physician, "not seen" by him, will permit.

It is ceded on all hands that a patient has the right to go from one doctor to another, as from one tradesman to another, whenever and as often as he pleases; but practices "considered honorable in business cannot exist between physicians without diminishing their usefulness,"² and the patient is the chief sufferer in such cases. So, also, the patient has a right to change his regular attendant at pleasure, but no physician having the good of the patient solely at heart will intrude advice, or permit himself to treat another's patient, without a full understanding with the attendant. Moreover, the regular attendant has a right to be relieved from all responsibility, which he was not in this case, during such a method of treatment.

To those who know the parties the motive assigned (JOURNAL, page 284, second column) is too ridiculously absurd to require a word; to others this allusion to it must be its sufficient refutation. The hasty statements, erroneous or ill founded, and the unnecessary detraction indulged in in the "reply" may be left without further comment.

B. E. COTTING.

ROXBURY, March 19, 1880.

MR. EDITOR.—I merely wish to quote an extract from a letter of Mr. Rice to me, dated July 3, 1878, to which my first letter was the reply. A few days before the 3d, he had had severe pain, which Dr. Cotting, who was called in, relieved by a subcutaneous injection of morphine. Mr. Rice wrote as follows: "The next morning he [Dr. Cotting] called to see me, took the temperature of my body, and conversed with me about your call, and I showed him your prescriptions, etc. He said that he was very glad to know that I was under your charge; that he knew you well, and would write to you."

It seems to me, therefore, that I was justified in my subsequent letters and course. As this shows that Dr. Cotting was aware within a few days that the patient had been treated by me, it would have been in much better taste, if he felt aggrieved then or at any later time, had he allowed an opportunity for personal explanation, instead of blindly rushing into print.

HALL CURTIS.

[We inserted the original correspondence to illustrate a delicate point in ethics without knowing at whom it was directed. Now that it has assumed so personal a character we must close the discussion.—Ed.]

¹ JOURNAL, page 283, last section. To repeat, the correspondence was not seen by the attendant until January, 1880, as stated. It could not have been shown July 1, 1878, as all the letters were written after that date. So much for that "contradiction." The rest are like unto it, as well as other and various charges; and if not specifically refuted it is simply for want of time and space, and because they sufficiently refute themselves.

All know how easily sometimes a patient seems to forget the anxious solicitude and devoted care of a faithful attendant, but here is an instance of unnatural readiness to assist in vilifying an old friend in order to sustain a professional irregularity, the detrimental nature of which a non-professional man cannot form any true estimate of whatever. The false issues attempted in this patient's letters are evidently the promptings of another, whose directing influence is conspicuous throughout. It is not the sin, but its exposure, that some men rail about.

² New Code of Ethics, Massachusetts Medical Society, Chapter IV. Compare Twitchell, Transactions New Hampshire Medical Society, 1879, page 87.

REPORTED MORTALITY FOR THE WEEK ENDING MARCH 13, 1880.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Deaths under Five Years.	Percentage of total Deaths from				
				The Principal "Zymotic" Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.
New York	1,085,000	529	237	17.77	19.66	4.27	1.32	.38
Philadelphia	901,380	327	—	11.62	13.46	3.98	.31	2.45
Brooklyn	564,400	192	75	20.83	14.58	9.90	1.56	.52
Chicago	—	168	90	32.14	17.26	19.05	4.17	1.19
St. Louis	—	—	—	—	—	—	—	—
Baltimore	393,796	110	40	18.18	10.91	10.91	3.64	2.73
Boston	365,000	138	46	12.32	19.57	6.52	—	1.17
Cincinnati	280,000	66	27	6.06	13.64	1.51	—	1.51
New Orleans	210,000	78	—	15.38	11.54	2.56	1.28	1.28
District of Columbia	170,000	83	30	7.23	20.48	2.41	1.21	1.21
Buffalo	—	43	22	32.56	13.95	6.98	9.30	2.33
Cleveland	160,000	—	25	—	—	—	—	—
Pittsburgh	145,000	55	25	23.64	20.00	3.64	3.64	3.64
Milwaukee	127,000	—	23	—	—	—	—	—
Providence	102,000	32	10	25.00	15.63	6.25	12.50	6.25
New Haven	60,000	25	13	24.00	28.00	12.00	—	4.00
Charleston	57,000	17	10	23.53	5.88	—	—	5.88
Nashville	37,000	9	1	22.22	22.22	—	—	11.11
Lowell	54,000	33	12	21.21	3.03	9.09	3.03	3.03
Worcester	53,000	13	2	7.69	23.08	—	—	—
Cambridge	50,400	8	3	25.00	12.50	25.00	—	—
Fall River	49,000	19	—	10.33	5.26	—	5.26	—
Lawrence	38,600	15	6	6.67	13.33	—	—	—
Lynn	34,000	13	1	7.69	30.77	7.69	—	—
Springfield	31,800	13	2	15.38	7.69	7.69	7.69	—
New Bedford	27,200	7	3	28.57	14.29	14.29	14.29	—
Salem	26,500	12	4	33.33	8.33	8.33	25.00	—
Somerville	23,500	3	—	—	33.33	—	—	—
Chelsea	21,000	7	—	28.57	—	14.29	14.29	—
Taunton	20,200	5	2	20.00	20.00	—	20.00	—
Holyoke	18,400	9	5	33.33	11.11	—	11.11	11.11
Gloucester	17,300	6	3	50.00	—	—	33.33	—
Newton	17,300	—	—	—	—	—	—	—
Haverhill	15,350	9	6	33.33	22.22	33.33	—	—
Newburyport	13,500	7	1	28.57	—	28.57	—	—
Fitchburg	12,600	5	1	—	—	—	—	—
Eighteen Massachusetts towns.	131,810	53	9	16.98	3.78	3.78	3.78	3.78

Two thousand one hundred and nine deaths were reported; 734 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 377, consumption 383, lung diseases 332, diphtheria and croup 140, measles 55, scarlet fever 48, whooping-cough 37, typhoid fever 34, diarrheal diseases 26, erysipelas 16, malarial fevers 13, cerebro-spinal meningitis eight, small-pox none. In addition, Cleveland reports lung diseases 12, scarlet fever seven, diphtheria and croup five, consumption three, malarial fevers and whooping-cough one each, — total deaths not given; and Milwaukee reports diphtheria and croup nine, lung diseases four, consumption three, cerebro-spinal meningitis two, scarlet fever and diarrheal diseases one each, — total deaths not given. From *measles*, New York 27, Philadelphia 10, Brooklyn eight, Chicago five, Pittsburgh two, Buffalo, New Haven, and Lowell one. From *whooping-cough*, New York eight, Brooklyn and Pittsburgh four, Philadelphia, Chicago, and Boston three, New Orleans, Buffalo, Charleston, and Palmer two, Baltimore, Cincinnati, New Haven, and Gloucester one. From *erysipelas*, New York nine, Brooklyn two, Chicago, Cincinnati, New Orleans, Buffalo, and Fall River one. From *malarial fevers*, New York six, Brooklyn three, New Orleans two, Chicago and Nashville one. From *cerebro-spinal meningitis*, New York and Philadelphia three, Worcester and Holyoke one. Two hundred and three cases of measles, 41 of diphtheria, 29 of scarlet fever, three of whooping-cough, and one of typhoid fever were reported in Brooklyn; diphtheria 28, scarlet fever 13, in Boston; diphtheria 22, scarlet fever one, in Milwaukee; scarlet fever 35, diphtheria 15, typhoid fever one, chicken-pox one, in Providence; diphtheria three, scarlet fever one, in Cambridge; diphtheria four, scarlet fever two, in New Bedford. The death-rate of whites in District of Columbia was 18.7, of colored 39.0.

The total number of deaths, and of deaths under five, reported was somewhat less than for the previous week. Lung diseases and diphtheria caused fewer deaths, while the decrease

from scarlet fever was very great. Measles showed a greater mortality. In 36 cities and towns of Massachusetts, with an estimated population of 1,003,160 (population of the State about 1,690,000), the total death-rate was 19.47 against 22.47 and 21.26 of the previous two weeks, with an increased fatality from scarlet fever, whooping-cough, and typhoid fever.

For the week ending February 21st, in 144 German cities and towns, with an estimated population of 7,614,683, the death-rate was 27.4 against 27.5 and 26.9 of the previous two weeks. Four thousand and eighteen deaths were reported; 1782 under five: pulmonary consumption and acute diseases of the respiratory organs each 606, diphtheria and croup 160, whooping-cough 72, typhoid fever 66, scarlet fever 62, measles and *roteln* 29, puerperal fever 21, small-pox (Thorn, Benthien, and Dresden) three, typhus fever one. The death-rates ranged from 20.4 in Wiesbaden to 42.3 in Nuremberg; Königsberg 33.9; Dantzic 32.8; Breslau 29.6; Munich 35.1; Dresden 26.0; Berlin 24.8; Leipzig 21.4; Hamburg 30.5; Hanover 22.3; Bremen 22.8; Cologne 28.3; Frankfurt 26.8. For the same week, Vienna 31.4; Paris 36, — small-pox, diphtheria, and typhoid fever continuing very prevalent.

For the week ending February 28th, in the 20 English cities with an estimated population of 7,499,468, the death-rate was 23.1 against 26.0 and 31.0 of the previous two weeks. Three thousand three hundred and twenty-two deaths were reported. Lung diseases declined to 459 from 1557, 1020, and 693 of the previous three weeks; whooping-cough 186, scarlet fever 118, measles 80, diarrheal 29, fever 26, diphtheria 15, small-pox (London) 13. The death-rates ranged from 14.4 in Wolverhampton to 32.0 in Plymouth; London 23.7; Brighton 19.0; Bristol 19.3; Birmingham 20.5; Liverpool 27.0; Manchester 24.3. In Edinburgh 21, Glasgow 21, Dublin 42 (three deaths from small-pox).

The meteorological record for the week in Boston was as follows: —

Date.	Barom-eter.	Thermom-eter.				Relative Humidity.				Direction of Wind.				Velocity of Wind.				State of Weather. ¹				Rainfall.					
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.					
March 7	30.220	33	39	30	58	53	89	67	NE	E	SE	7	7	9	F	O	S	—	—	—	—	.08					
" 8	30.215	27	37	17	89	61	41	64	W	NW	NW	5	16	18	O	C	C	—	—	—	—	.13					
" 9	30.180	22	25	15	71	74	86	77	E	E	NE	14	16	12	S	S	S	—	—	—	—	.10					
" 10	30.029	29	41	16	86	41	54	60	SW	NW	NW	4	16	14	G	F	C	—	—	—	—	.13					
" 11	30.338	22	25	15	53	87	86	75	N	E	NE	8	14	4	O	S	S	—	—	—	—	.10					
" 12	30.434	25	38	18	86	52	60	66	NW	NW	N	5	17	14	S	O	F	—	—	—	—	.04					
" 13	30.583	23	26	17	54	62	75	64	NE	E	SE	10	9	4	F	O	O	—	—	—	—	—					
Week.	30.286	26	41	15				76	Northwest.																	48.55	.48 ²

¹ O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, snow; R, rain; T, threatening.² Melted snow.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM MARCH 13, 1880, TO MARCH 19, 1880.

WHITE, R. H., captain and assistant surgeon. Granted leave of absence for six months, with permission to go beyond sea. S. O. 55, A. G. O., March 11, 1880.

FINLEY, J. A., captain and assistant surgeon. Assigned to duty at Fort Adams, R. I. S. O. 41, Department of the East, March 15, 1880.

STOLAN, WILLIAM J., colonel and surgeon, medical director, Department of Dakota, died at St. Paul, Minn., March 17, 1880.

SUFFOLK DISTRICT MEDICAL SOCIETY. — A regular meeting will be held at the hall, No. 19 Baylston Place, on Saturday evening, March 27th, at seven and a half o'clock. The following papers will be read: Dr. J. B. Ayer, A Severe Case of Scarlet Fever. Dr. B. Joy Jeffries, Control of Color-Blindness and Visual Defects in the United States. Disputant, Dr. O. F. Wadsworth. All members of the Massachusetts Medical Society are cordially invited to be present and to take part in the discussion. Supper at nine o'clock.

T. M. ROTCH, M. D., Secretary.

BOOKS AND PAMPHLETS RECEIVED. — Headaches: Their Nature, Causes, and Treatment. By William Henry Day, M. D. Third Edition, with Illustrations. Philadelphia: Lindsay and Blakiston. 1880. (From A. Williams & Co.)

Notes on Diseases of the Testis. By Samuel Osborn, F. R. C. S. London: J. and A. Churchill. 1880.

Our School Houses. By Professor T. W. Chittenden. Our Public Schools in their Relations to the Health of Pupils. By J. T. Reeve, M. D. (From the Fourth Annual Report of the State Board of Health of Wisconsin.)

A Glance at the Past and Present Condition of the Insane. By A. M. Shew, M. D. Middletown, Ct. 1880.

Librairie Germer Baillière et Cie, 108 Boulevard St. Germain, Paris. Dictionnaire annuel des Progrès des Sciences et Institutions médicales. Suite et complément de tous les dictionnaires par P. Garnier. Quinzième année, 1879. 1 fort volume en 12 de 600 pages.

Report of the East Side Infirmary for Diseases of the Rectum. New York. 1879.

Lectures on the Human Eye in its Normal and Pathological Conditions. By Adolf Ali, M. D., Lecturer on Ophthalmology and Otolaryngology in the Trinity Medical School, Toronto, Canada. With ninety-five illustrations by the Author. 8vo, pp. 208. New York: G. P. Putnam's Sons. 1880.

Therapeutic Action of Mercury. By S. V. Clevenger, M. D. Chicago. 1880. (Reprint.)

Catalogue of the Library of the Physician to the German Hospital and Dispensary, New York. By Hermann G. Klotz, M. D., Librarian.

Surgery in the Pennsylvania Hospital. By Thomas G. Morton, M. D., and William Hunt, M. D., Surgeons to the Hospital. Philadelphia: J. B. Lippincott & Co. 1880.

External Rectotomy as a Substitute for Lumbar Colotomy. By C. B. Kelsey, M. D. (New York Medical Journal.)

The Hair: Its Growth, Care, Diseases, and Treatment. By C. Henri Leonard, M. A., M. D., etc., etc. Illustrated. Detroit: C. Henri Leonard. 1880.

The Principles and Practice of Gynecology. By Thomas Addis Emonet, M. D., Surgeon Woman's Hospital of State of New York. Second Edition, thoroughly revised. Philadelphia: Henry C. Lea. 1880. (From A. Williams & Co.)

Students' Primer on the Urine. By J. Travis Whittaker, M. D. With Illustrations etched by him upon copper. Philadelphia: Presley Blakiston. 1880.

Pay Hospitals and Paying Wards throughout the World. By Henry C. Burdett. Philadelphia: Presley Blakiston. 1880.

The Errors of Prohibition. An Argument delivered in the Representatives' Hall, Boston, April 3, 1867, on the matter of License and Prohibition. By John A. Andrew, Governor of Massachusetts. Tenth Edition. Boston: A. Williams & Co. 1880.

Toe-Nail Ulcer: What it is and its Treatment, Ancient and Modern. Rubber Bandage. By Henry A. Martin, M. D. (Reprint.)

Reflections upon the History and Progress of the Surgical Treatment of Wounds and Inflammations. By Edward Borck, M. D., St. Louis, Missouri. 1880.

On the Nomenclature and Classification of Diseases of the Skin. By L. Duncan Bulkley, A. M., M. D.

New Method of Permanently Removing Superfluous Hairs. By L. Duncan Bulkley, A. M., M. D. New York: G. P. Putnam's Sons. 1878. (Reprints.)

On the Use of Water in the Treatment of Diseases of the Skin. By L. Duncan Bulkley, A. M., M. D. New York. 1880. (Chicago Medical Journal and Examiner.)

Lectures.

CLINICAL LECTURES ON ORTHOPÆDIC SURGERY.¹

DELIVERED AT BELLEVUE HOSPITAL.

BY LEWIS A. SAYRE, M. D.,

Professor of Orthopædic Surgery and Clinical Surgery in Bellevue Hospital Medical College.

III. PARTIAL PARALYSIS AND WANT OF COORDINATION FROM IRRITATION OF THE GENITAL ORGANS.

GENTLEMEN, — To-day I bring before you again the little boy whom you saw at the lecture last Saturday, in order to make some further remarks in regard to the case, and to perform a small operation upon him in your presence. The child, you will remember, was supposed to be suffering from disease of the knee-joint, and for a considerable time past had been wearing the instrument which I then removed from the limb. This consisted of two iron bars, which were joined posteriorly and fastened by means of a swivel, in such a way that the apparatus was movable at both the upper and lower extremities. Now it is utterly impossible to confine the knee by any such arrangement as this, and if there had been any disease of the joint present the instrument would have been entirely useless so far as preventing motion and keeping up extension were concerned. As these are the two essential points in the treatment of disease of the knee-joint, you can readily imagine how very serviceable an affair of this kind would be in that affection.

But in the present instance, when I came to make an examination of the knee, I found that there was absolutely no disease of the joint whatever at that time, and it seemed altogether probable that there never had been. At all events, if there had been, the cure was a remarkably perfect one, as there was not the slightest trace of any results of the inflammatory action remaining. The real trouble about the knee, I discovered, consisted in a loss of power in the quadriceps femoris muscle, and this had probably been mistaken for disease of the joint from the first; since, as I said, it was certainly questionable whether any such disease had ever existed. We have, then, a paralyzed limb instead of an inflammatory, diseased knee-joint to deal with. On Saturday I placed strips of perforated tin about the knee, after the manner of Dr. Fühler, in order to prevent any motion in the joint, and immediately the child was able to walk. Since then the house-surgeon has further secured the part by means of a plaster-of-Paris bandage. Although this little fellow is two and a half years old, his mother tells me that he has never been able to walk, or even to stand alone, before.

The improvement thus caused is certainly very gratifying; but you must bear in mind that such treatment is only palliative, as the underlying cause of the paralysis still remains. This, you will recall, we found to exist in all probability from the condition of the penis, in which there was phimosis with adherent prepuce. As a result of this there is, in addition to the paralysis, constant priapism, great irritability of the bladder, causing a frequent desire to urinate, and terrifying dreams, as well as incessant restlessness during the hours of sleep. By making an artificial anchylosis of

the knee-joint we have succeeded in giving the child power to walk; but this does not restore life to the quadriceps muscle, and does not do away with the troublesome symptoms just mentioned,—in short, as I have said, it does not reach the real origin of all the difficulty here. The trouble will unquestionably continue as long as the source of irritation is allowed to remain untouched.

This subject of irritation of the genital organs and the very serious results that are apt to occur in connection with it is not, I am sorry to say, appreciated by the profession at large to the extent that it should be; though I for one, at least, have done all that I could to direct attention to the matter. It is one of such great importance that you cannot be too constantly on your guard respecting it; the truth of which statement, I think, is well illustrated by the remarkable case which I will now read to you. The notes were kindly taken from the case-book of the Workhouse Hospital on Blackwell's Island, and sent me by Dr. A. R. Mott, Jr., of the Randall's Island Hospital, who was at the time house-physician to the institution where it occurred. "John English, aged forty-six, native of England, widower, clerk by occupation. Admitted to Workhouse Hospital, Blackwell's Island, December 23, 1878. Patient had been at work for a week, as a prisoner. On the 23d he was noticed to be restless and uneasy, and finally in the evening he fell from his bunk in a fit. During the next forty-eight hours he had several convulsions (eight or nine altogether), and in the intervals between them lay in a semi-comatose condition, showing no consciousness except to stir a limb when pinched. Pulse 120, temperature 101.5° F., respiration 18. Swallowed nothing, and passed feces in bed. He continued in this state until the evening of December 25th (the temperature in the mean while having fallen to 100° F.), when a string was discovered passed twice around the penis just behind the corona and tied, the long prepuce serving to conceal it from notice. While this was not sufficiently tight to cause occlusion of the urethral canal, it had given rise to the formation of a firm, indurated band, which did not altogether disappear for four or five days after the string had been removed. Within one hour from the removal of the latter the man sat up and asked for milk, and from this time remained perfectly well, being under observation for fully three months. He declared that he remembered nothing that had taken place during the three days previous. This patient had never before been subject to 'fits,' and although he confessed that he was moderately addicted to drink denied venereal, and said that he had led a 'virtuous life' since the death of his wife, two years before."

In children a certain amount of agglutination between the glans penis and the prepuce covering it is normal in early life, while the prepuce gradually unfolds until the age of puberty, when the glans can be uncovered without difficulty. But sometimes, instead of merely an agglutination, there is actual adhesion, and, as a result of this, there accumulates behind the corona a ring of hardened smegma, which consists principally of earthy deposits from the urine. This concretion, which is almost as hard as stone, being tightly imprisoned by the narrow prepuce, produces so much irritation that the penis is kept in a constant state of erection, and the entire nervous system of the child becomes profoundly affected. On looking at the

¹ Reported for the JOURNAL.

little fellow now before you, you observe the marked pallor of his countenance, and this is a characteristic feature of all these cases, on account of the constant worryment and strain to which the patient is subjected. When we come to examine the penis we do not wonder that he has a continual desire to pass his water, for even in this state of quiescence we find that the meatus and the surrounding mucous membrane are very red, as though there were urethritis present. When I touch with my finger the orifice of the urethra, you notice that an instant spasm of both lower extremities is produced by the irritation, and hence you can readily see how the constant pressure of the child's clothing will act in keeping up an excitation and a more or less permanent state of erection in the penis. You all know what a powerful impression an ordinary erection, lasting but a few moments, makes upon the whole organism in the adult, and from this you can judge what an enormous strain upon the system must be constantly kept up in the case of a young child where there is such a state of affairs as exists here.

There is but one way to effect a cure in such a case as this, and that is by operating upon the organ where the seat of difficulty lies. In some instances it is sufficient merely to slit up the narrow prepuce, and thus release the glans from its imprisonment; but where there is great redundancy of this part, as in the present patient, it is necessary to remove a considerable portion of it by circumcision. In performing the operation, I first draw the prepuce well forward with the fingers, and grasp it in front of the glans with a pair of flat-bladed forceps made for the purpose, when I snip off cleanly with the scissors all the portion in front of the forceps. I can now readily draw back the integument over the glans, but not the mucous membrane, which has not been reached in the cutting, and so still remains tightly around the part. Should we go no further in our operation than this, we should do our patient more harm than good; and, accordingly, having inserted a grooved director under the mucous membrane, I divide it along the dorsum of the penis for a sufficient distance, and then pull it back from the glans, at the same time breaking up such adhesions as are met with. I have now uncovered the glans, and you observe the ring of hardened smegma which is always found behind the corona in these cases, and, having cleared that all away, I take the glans between the fingers and tear the frenum in two. The head of the penis is therefore at length completely bared. It is sometimes necessary to take a stitch or two between the edges of the skin and mucous membrane, but it is always better to avoid this if possible. By cutting the mucous membrane back to the corona, and thus dividing or tearing the frenum, as you have just seen me do, we are usually able to bring the two edges into close apposition, and sutures are thus rendered unnecessary.

The dressing to be applied after the operation is a simple one. Drawing back the prepuce sufficiently to expose the whole glans, and bringing the edges of the skin and mucous membrane close in contact, I apply a little styptic cotton or persulphate of iron to the torn frenum, and place small strips of old linen rag behind the corona in such a way that the cut edges of the skin and mucous membrane will be retained in their proper position. These should not be tied, but simply laid on loosely, so that if there is any swelling of the parts following the operation the penis will not be

tightly constricted and its circulation interfered with. They should then be allowed to remain in position, the blood drying in them, until they fall off of themselves, when, if all goes well, it will be found that the parts have all perfectly healed, and the operation has been a complete success. I next place, externally, a little more styptic cotton, so as to assist in coagulating the blood without interfering with primary adhesion between the cut edges, which is sometimes the case if it is applied directly to the raw surface. In order to protect the exposed glans from friction by the clothing or other pressure, we put a handkerchief or piece of cotton batting, twisted somewhat into the shape of a ring, around the penis, and lay a linen cloth wet with cold water (which can be renewed as often as is desired without disturbing the rest of the dressing) just over the glans. Finally, an ordinary diaper is pinned on, in order to keep the whole in position.

If the mother will be kind enough to bring this child back at the end of a fortnight, I am sure that even in that short time we shall find a marked improvement in the case. In the mean while I can, from a very large experience with similar cases, prophesy with confidence that the little patient will sleep quietly from the very first night, and be no more troubled with any nightmares; and if it should turn out that what we have now done for him should be the means of restoring function to his paralyzed muscles, it will certainly be a very extraordinary way of curing "chronic disease of the knee-joint."

In connection with this case I will refer briefly to another, of similar character as regards the origin of the trouble present, though somewhat different in its manifestations, which, as many of you will no doubt recall, was at the clinic a few weeks ago, and which I mention now because it presented some points of more than ordinary interest. The patient, you remember, was the child of a physician, residing at a distance, and was brought here by the father himself. This was the second occasion on which the latter had consulted me in reference to him: the first time having been more than six months before, in April last. At that time he was four years of age, and had never been able to walk. He could not even stand without assistance, and then his legs were always more or less flexed, as it was impossible for him to straighten them out when any weight was resting upon them. He was large and fat, but his flesh was flabby, and he presented the same pale and waxy appearance that the child just operated upon does, while he lacked to a very marked degree the power of controlling his muscles. This was especially the case as regards those of the tongue; so that when he attempted to talk he always stammered badly. Nevertheless he was quite as intelligent and quick-witted as any child of his age, and, as evinced by the expression of his countenance, comprehended perfectly everything that was said to him, though he was, unfortunately, unable to reply. He never rested well when asleep, and frequently seemed to suffer from nightmare. Moreover, it was ascertained that he had almost constant priapism, and that there was a continual dribbling of urine from the penis, while he was unable to eject a full stream in the right direction.

On making an examination of the genitals, I found that it was impossible to uncover the glans, as the prepuce was narrow and firmly adherent, just as in the case of to-day. From previous experience, therefore, I felt justified in concluding at once that here was the

source of all the reflex irritation present, and advised in the strongest terms that the doctor should have him circumcised. Accordingly, he was taken home, and this was done, as was thought, but, unfortunately, it was performed in such an imperfect manner by the surgeon who attempted it that it resulted in no permanent benefit; for the prepuce was merely slit up along the dorsum of the penis, while the mucous membrane remained intact, and the glans was really never uncovered. Yet immediately after the operation, incomplete as it was, the stammering disappeared, and the child for the first time in its life was able to speak distinctly. The parents were delighted, and on account of the improvement which resulted so quickly they felt assured that their darling would soon be restored to perfect health. But, alas, their hopes were short-lived, and at the end of three months the child was as bad in every respect as he was before. It was on account of this relapse that they came to consult me the second time.

When I examined the penis I found that the prepuce was firmly adherent, as before, and that there was a long projecting piece of integument, which had been left by the operation. You remember that I then in your presence performed circumcision in the proper manner, just as I have done to-day, and as it ought to have been done at first. When the glans was uncovered, the father remarked that it was nearly twice as large as it had been at the time of the first operation, a few months ago; which shows that its regular development had been interfered with by the abnormally narrow and constricted prepuce. Four hours after the operation I called to see the little patient at his hotel, just as the family were on the point of leaving town, and when I entered the room he immediately called out to me, "How do you do, Dr. Sayre?" in the most unhesitating and distinct manner, and you will recollect that just before the operation he could hardly articulate distinctly. Finally, I wish to bring back to your minds to-day still another case, which was here just before the physician's child, and which was of a more aggravated character than either it or the one operated on this morning. This was a boy from Norfolk, Virginia, fourteen years of age, who had been brought to me first nearly two years previously, by Dr. Norcom, of North Carolina. Up to that time he had been supposed to be hopelessly idiotic; while he had never been able to feed himself, to speak an intelligible word, to walk, or even to stand up, so that he required the constant services of a nurse, both by day and night. As I found, however, that he was subject to continual priapism and that the prepuce was constricted and adherent, I believed there was still hope for him, and, accordingly, performed circumcision. Directions having been given for the frequent manipulation of the feeble muscles, and the application of electricity to them, in addition, he was sent home, with the request that he should be brought back to New York about once in six months, so that I could observe the progress in the case. From the first there has been a gradual but altogether satisfactory improvement, and for some time now he has been able to get about very nicely with the assistance of a wheel-crutch; while his faculties seem to have become developed, and he is able to speak with considerable facility. These cases, I think, will be sufficient to convince you of the very great importance of this matter; and if the consideration of them will enable any of you to discover the real

cause of the phenomena presented by patients suffering in this way, and to adopt the proper method of treating them, I will not have talked in vain upon the subject.

Original Articles.

THE STUDY OF PSYCHOLOGICAL MEDICINE.

BY WALTER CHANNING, M. D.

DURING the last twenty-five years great progress has been made in the care of the insane. Asylums are more comfortably built and furnished, and the patients are better clothed and fed. This improved condition of affairs is cause for congratulation; we should not however rest here, for not only is there much more work to be done in this direction, but the consideration and study of insanity as a science is still in its infancy. Having made our insane persons comparatively comfortable in material ways, we must next proceed to find out by definite, scientific methods the nature of their disease, as well as its causes and treatment. Among the various methods of acquiring this knowledge I propose in this paper to briefly consider the study of psychological medicine in medical schools and insane hospitals.

In medical schools in this country very little attention has been bestowed on the subject, and in England the system is so imperfect that within the last year a petition has been gotten up by prominent alienists asking that regular systematic instruction should be required in medical colleges.

The custom of giving lectures is becoming more common in America, and this is an encouraging indication, but the importance of the subject is not fully appreciated. The lectures given are good as far as they go, but dwelling only on the forms and direct treatment of insanity they can but very imperfectly accomplish what should be their object. It must be remembered that medical men are in some directions the teachers of their patients, and are in a position to guide and direct, and sometimes to form, the lives of many of them. They see persons at the earliest period of a threatened attack. Now by a correct knowledge of the varied causes of insanity and an appreciation of the great interests at stake in preventing its manifestations, they could wield an immense power in exercising a wholesome moral treatment. There is frequently a time when a threatened attack can be averted, but no one sees the indications of approaching trouble, no moral control is exerted, and the disease goes on developing. If the physician were a student of character, quick in his perceptions and in the habit of looking for and correcting peculiarities of disposition or character, he would at such a time take advantage of an opportunity now often lost. To turn his thoughts in this direction, a systematic course of training in psychology would be of the greatest benefit, and it should be taught as a fundamental branch in medical schools. Particular attention should be given to the metaphysical side of the subject, and our duty to the insane from a moral point of view should not be forgotten. Students should have psychological textbooks, go to compulsory recitations, pass an examination, and leave the medical school with some definite knowledge on the subject. As an important part of this system of instruction would be the frequent visita-

tion of an insane hospital and the clinical study of cases, I hope the time is not far distant when each insane hospital will have a certain number of internes. They can occupy the same position as in general hospitals, and perform much of the drudgery which absorbs the time of assistant physicians. Such a position would attract good men, if made desirable, as it might be, and would do very much toward creating an interest in physicians in the subject of hospital requirements. With the best judgment in the world, men who are practically unacquainted with hospital details cannot accurately comprehend such requirements. A short residence occupied by active work will do more to initiate a man into the peculiar workings of a hospital than years of casual visits. I hold that a judicious system of interne appointment would bring the public and hospital authorities nearer together, and remove the veil from some of the mysteries in which, in consequence of our present system, some of our hospitals are apparently shrouded.

The second subject which I propose to bring briefly under consideration is, as stated above, the study of insanity in insane hospitals. What might be called the medical treatment of insanity is limited; it consists chiefly in meeting conditions as they arise, and applying appropriate remedies. Moral treatment is what is peculiarly demanded, and this necessitates a careful study of each individual case and the bringing to bear of the most varied influences. Medical men are apt to be too overworked to have sufficient time to devote to the patients individually. The medical staffs are all too small, a fact partly due, no doubt, to the moderate amount of medical care required. We find our superintendents, custodians of their patients, immersed in business cares, and with little time for medical duties. The clinical and pathological study of cases they have no opportunity to pursue. That they have the *desire*, according to their individual bent for study, cannot be doubted. For the better understanding of insanity, therefore, our insane hospitals must have larger staffs, thereby allowing the physicians the necessary time, which they now lack. A spirit of enthusiasm and rivalry, even, might eventually be instilled into hospital men. For the study of the pathological development of insanity our medical officers have not yet, as a rule, sufficient education. There is no reason why they should not have in the future the whole charge of this subject, but at present it can best be done by expert brain pathologists. Brain pathology is still in its infancy, unsettled and unreliable. No matter how skeptical we may be as to its definite character, we should not be satisfied until doubt is out of the question. It may be said that on the whole most authorities regard insanity as a disease of the brain, but no one can as yet satisfactorily give the morbid appearances characteristic of its different forms, and there is therefore still a wide field open for original investigation. Now to make examinations of the brain which will be valuable, they should be conducted by a man very familiar, first, with natural brain histology, and, second, with the pathological appearances resulting from all forms of brain diseases. To this knowledge he should add the rare accomplishment of a thoroughly trained microscopist, and have unlimited patience and plenty of time to make examinations which are often laborious and fatiguing. Without this knowledge, without this training, his results may not be absolutely worthless, for all honest labor has a certain value, but as *scientific* results

they will not be reliable, and hence for all practical purposes useless. Anything short of such work can have no real scientific value. Amateur autopsies in insane hospitals are now occasionally reported, but even these are uncommon, and in some cases no microscopic examinations have been made, and the most trivial points have been unduly magnified.

If it were possible, each hospital might have for a certain length of time a special pathologist, who could make systematic examinations, found a pathological cabinet, establish good records, and give the medical officers instruction. In Massachusetts the following plan might be adopted: A man with the necessary high qualifications being found, he could be appointed state pathologist at a good salary for five years. Each of the five years he could live at one of the hospitals, gradually establishing a uniform system of carrying on pathological investigations. His first year could be devoted to one hospital, where he would inaugurate his system. Having established his system in this hospital, the second year he could move to another, retaining general charge of the pathological work in the first hospital. At the end of five years the system would be established on a firm footing, and the pathologist's services might or might not be dispensed with. So much time is now devoted to pathology at medical schools that in the future a knowledge of this subject might be considered a necessity in applying for insane hospital positions.

RECENT PROGRESS IN URINARY SURGERY.

BY T. E. CURTIS, M. D.

POLYURIA ACCOMPANYING AFFECTIONS OF THE BLADDER AND URETHRA.

In certain diseases of the urinary organs which come under the care of the surgeon the amount of urine secreted is liable to be largely increased. The polyuria observed in such cases constitutes an important symptom, which often adds considerably to the sufferings of the patient, and sometimes obscures the diagnosis of the primary disease. It seems, however, to have almost wholly escaped attention, until brought to light by Professor Guyon, of Paris, in his clinical lectures, and more particularly in the essays recently published by two of his pupils, Masson¹ and Jean.²

The diseases in the course of which polyuria is apt to occur are the following: stone in the bladder occasionally causes it; urethral stricture is still more apt to do so; it may also accompany tuberculosis of the prostate and bladder; most frequently, however, by far it results from obstructive hypertrophy of the prostate. The daily total quantity of water passed in such cases is, on an average, about double the normal amount, varying from two to five quarts or more. The urine is sometimes quite clear and colorless, but more often it is whitish and slightly turbid, looking as if a little milk had been added to it. The reaction is neutral or alkaline, and decomposition is apt to take place rapidly after emission, with formation of abundant crystals of triple phosphate. The specific gravity is low, ranging from 1005 to 1010, rarely reaching 1015.

¹ Dr. Noël Masson. De la Polyurie dans quelques Affections chirurgicales des Voies urinaires. Paris, 1878.

² Dr. Alfred Jean. De la Rétention incomplète d'Urine, etc. Paris, 1879.

The excretion of urea is undiminished, the amount contained in the urine of twenty-four hours, namely, about twenty grammes, being as much as would normally be excreted under the existing conditions of invalidism and hospital regimen. In this respect, therefore, there is a great difference between this form of polyuria and that observed in *diabetes insipidus*, for in the latter disease urea is often passed, according to Dickinson, in three or four times the normal quantity. A curious and often troublesome feature is the more abundant secretion of urine by night than by day, wherein this polyuria resembles that attending the form of chronic Bright's disease known as interstitial nephritis or renal cirrhosis. In only one case is the excretion of urine apt to be more abundant in the day-time than at night, namely, in calculus disease of the bladder.

The amounts of urine passed by a patient are liable to vary at different times. The quantity often diminishes and approximates the normal as a result of successful measures of treatment, when the primary disease is such as to admit of cure or alleviation. It also undergoes a marked and sudden diminution coincidently with the on-set of febrile attacks due to inflammatory complications or to operative procedures. Lastly, it grows gradually less and less when a fatal termination is drawing near.

The pathological physiology of polyuria in surgical diseases of the bladder and urethra is still somewhat obscure. In some cases, especially when polyuria results from stricture of long standing, it is doubtless dependent upon the existence of the form of interstitial nephritis known among English surgeons by the name of "surgical kidney." According to Rendu and Jean, this form of renal disease differs from chronic Bright's disease, or renal cirrhosis, in that it is never accompanied by hypertrophy of the heart. Not unfrequently, however, the excessive secretion of urine constitutes a temporary disturbance, which subsides when the primary affection upon which it is dependent is cured or relieved. In such cases the production of the symptom cannot properly be attributed to an incurable renal disease. Polyuria then exists as a functional disturbance of reflex origin, due to a chronic irritation of the bladder or urethra, and falls under the general law, according to which the irritation of the sensitive lining of all excretory channels serves as a reflex stimulant to the secreting gland.

In stricture well-marked polyuria is quite exceptional, occurring in only four out of a hundred cases examined with reference to this point by Masson. It is observed mainly in cases of stricture of long standing, in which the phase of renal complications (surgical kidney) has been reached. In cases of stone in the bladder, also, polyuria is rare; when met with it is apt to be more marked in the day-time than at night, doubtless in consequence of the greater irritation to which the bladder is subjected when the patient is up and moving about. In urinary tuberculosis polyuria occurs intermittently, in temporary paroxysms, as a result of irritation of the neck of the bladder and prostatic urethra.

The most frequent cause of marked polyuria of long duration is obstructive hypertrophy of the prostate, with incomplete retention of urine. According to Jean, who has made a careful and valuable study of all the symptoms resulting from imperfect evacuation of the bladder, an excessive secretion of urine is observed in the majority of such cases. Polyuria sometimes oc-

curs in hypertrophy of the prostate as the initial symptom. An interesting case of this description, in which diabetes insipidus was simulated, was recently recorded in the JOURNAL.¹ More often, however, the excessive secretion of urine is preceded by the dyspeptic disturbances due to imperfect evacuation of the bladder, to which Guyon has called attention (dry, red tongue, thrush, constipation or diarrhoea, anorexia, vomiting, headaches, hemicrania, etc.). The polyuria increases as the case progresses, subsiding spontaneously during febrile attacks, or when the phase of terminal cachexia is reached. When, on the other hand, the irritation kept up by the chronic partial retention of urine is relieved by the artificial evacuation of the bladder by means of the systematic use of the catheter, all the symptoms undergo marked relief, and the undue secretion of urine subsides, or at least is considerably lessened. The most marked examples of polyuria, in which the daily total reaches or exceeds five or six quarts of urine, are observed in patients with distended bladders. When the amount of residual urine is small or moderate the secretion of urine is less abundant. As a consequence of the excessive activity of the kidneys, there is much thirst, and the calls to urinate are very frequent and troublesome, especially at night, when the disturbance is at its maximum. Such being the conditions under which the symptoms just alluded to originate, it is obvious that a prompt resort to the catheter is clearly indicated, both for the purpose of diagnosis and as an efficacious measure of palliative treatment.

THE TREATMENT OF STRICTURE OF THE URETHRA.

Mr. Teevan,² of London, passing in review, for purposes of comparison and selection, the various operations that may be performed in cases of passable stricture, says that they may all be arranged under the following heads: (1.) *Incision*, which includes internal, external, and subcutaneous urethrotomy, and also scarification. (2.) *Laceration*, which embraces the so-called "immediate treatment" of Holt, the "division" of Voilemier, splitting, rupture, and over-distention when carried beyond the limits of true dilatation. The object of these various procedures is to enlarge the calibre of the urethra at the narrowed points, so that it shall be equal to, at least be not much less than, that of the healthy portions. The result aimed at is the addition or insertion of a "ciatricial splice," which shall as much as possible resemble the normal tissue. Pathology teaches us, however, that cicatrices tend to contract in varying degrees, those resulting from lacerations being more retractile than those which follow clean cuts. Therefore, if a stricture be divided by longitudinal incision, a soft, supple cicatrix will ensue, oval in shape, and having its long axis parallel with that of the urethra. If, however, the stricture be torn through, an irregular cicatrix will be formed, more or less obliquely crossing the canal, and not having its axis parallel to that of the urethra. Another consideration which leads Mr. Teevan to express a decided preference for internal urethrotomy, as compared with the various lacerating or splitting procedures, is the greater safety of the treatment by incision. "The most important fact which should influence us in selecting a cutting operation rather than a lacerating one is

¹ See the JOURNAL, November 27, 1879, page 770.

² W. F. Teevan. Lettsomian Lectures on the Treatment of Stricture, etc., with Special Reference to Recent Progress. The Lancet, February 28, 1880, page 418.

that the mortality attending the so-called immediate treatment is much greater than that which attaches to internal urethrotomy. A large number of deaths have occurred in this country after the former method which have never been published, and no surgeon has as yet gathered the statistics of even three hundred cases. From inquiries I have made into the statistics of upwards of one thousand cases of internal urethrotomy, I find that the mortality attached to it may be reckoned at from one to three per cent, in skillful hands. Mastin, of Mobile, has performed the operation three hundred and thirty-three times without a death. In Paris, Guyon has operated on two hundred and fifty patients, with seven deaths. Mallez has had one hundred and eighty-two cases, with two deaths. I have performed the operation fifty-three times in all, and have never had a death. The relative risks attached to cutting and laceration were well seen at the Roosevelt Hospital, New York, where the so-called immediate treatment proved doubly as fatal as internal urethrotomy. Therefore, from all that I have indicated, it is clear that a cutting operation ought to be selected for stricture. . . . Internal urethrotomy, therefore, remains as the stock operation for stricture."

PRÆPERITONEAL CELLULITIS.

This name has been applied to a phlegmonous inflammation of the loose areolar tissue occupying the *præperitoneal space of Retzius*. The latter, situated in the hypogastric region of the abdominal wall, between the posterior surfaces of the recti muscles and the suprapubic parietal peritoneum, is a virtual space or cavity, which is destined to be filled by the bladder, when the latter, becoming fully distended, rises from its situation in the pelvic cavity behind the pubic symphysis into the abdomen. In this locality, above the pubic arch and the empty bladder, between the muscular layer of the abdominal wall situated in front and the parietal layer of the peritoneum situated behind, a circumscribed cellulitis or phlegmon sometimes occurs, presenting clinical features which are of interest to the urinary surgeon. This affection has recently been made the subject of several publications,¹ of which we present a synopsis.

The circumstances under which perivesical cellulitis develops itself are various. Guyon distinguishes three forms of the affection. One, which he calls a pericystitis, occurs chiefly in old men, as a sequel of inveterate cystitis. Another form results from the extension of a phlegmonous prostatitis, invading the pelvic cellular tissue. The third form, constituting the true *prævesical phlegmon* of Guyon, originates independently of any disease of the urinary organs. Its causes are generally obscure; it is occasionally observed in connection with diseases of the bowels. The affection is met with in young and old subjects of either sex.

The most striking symptom is an abdominal swelling, situated above the pubes, and simulating more or less closely a distended bladder. In almost all of the cases that have been recorded retention of urine was

supposed to exist, until the use of the catheter had shown that the bladder was empty. The development of the suprapubic intumescence is attended with pain, and with more or less fever. At the same time, there is increased frequency of micturition and vesical tenesmus, due to the compression of the bladder by the phlegmonous swelling occupying the prævesical space. On careful palpation the tumor is found to be somewhat irregular and unsymmetrical in shape; its consistency differs from that of the distended bladder, being hard and firm. Fluctuation is absent until the advanced stage of the disease, in which suppuration takes place.

The symptoms generally assume a subacute character; the development and progress of the swelling are slow; after a stationary condition, lasting several weeks or months, the inflammatory process terminates in resolution, induration, or suppuration. Resolution is much the most frequent ending, occurring spontaneously, or as a result of measures of treatment (rest, counter-irritation, etc.). When the process results in induration, a hard mass is left occupying the site of the prævesical swelling, the other symptoms having disappeared. Suppuration is exceptional. The formation of pus and its progress to the surface take place very slowly. The opening may occur over the pubis, at the navel, or between these two localities. When pointing at the umbilicus, the pus apparently follows the course of the urachus. After evacuation, a fistulous orifice is left, which remains open a long time. The abscess rarely, if ever, breaks into the bladder. In one case seen by Guyon, fatal peritonitis resulted from the penetration of pus into the abdominal cavity.

The treatment recommended comprises rest in bed, counter-irritation by means of repeated vesication, ice-bags if peritonitis appears imminent, incisions as soon as fluctuation becomes manifest.

An affection closely resembling prævesical cellulitis, and slightly differing from it only by its situation, has been described by Dr. Heurtaux, of Nantes, under the name of sub-umbilical phlegmon.² He applies this designation to an inflammatory swelling situated in the anterior wall of the abdomen, just below the umbilicus. Here, in the median line, a convex, symmetrically shaped, elliptical intumescence develops itself, either as a sequel to other diseases (typhoid fever, pleurisy, confinement, measles) or without any apparent cause. The swelling, attended with little or no pain or general disturbance, follows a subacute or chronic course. Suppuration ultimately ensued in all the cases, six in number, recorded by Heurtaux. In two cases the pus escaped at the navel; in both, the opening remained fistulous for a long time. The four other cases terminated in a speedy recovery after evacuation of the pus.

Among the diseases which might be confounded with the chronic inflammatory swellings, resulting from prævesical and sub-umbilical phlegmon, may be mentioned *cysts of the urachus*, of which a curious case was recently reported by Roser.³ In this same connection an essay by Gruget⁴ on *urinary umbilical fistula following the course of the urachus* may be consulted.

¹ Professor Guyon. Clinical Lecture on Prævesical Phlegmon, *Journal de Médecine et de Chirurgie pratiques*, Paris, 1879, article 11, 929, page 62.

Dr. Castaneda y Campos. Du Phlegmon de la Cavité pré-péritonéale de Retzius, ou Phlegmon pré-vesical. Paris, 1879.

Dr. Constantin Paul. Bulletins de la Société anatomique, Second Series, vol. vii., 1862, page 318.

Dr. Charles Fernet. *Union médicale*, 1877, numero 150.

² Bulletins de la Société de Chirurgie de Paris. November 14, 1877, page 641.

³ Dr. Roser. *Langenbeck's Archiv*, Band xx., Heft 3, 1876, page 472.

⁴ Dr. Louis Gruget. *Fistules urinaires ombilicales*, etc. Paris, 1872.

Hospital Practice and Clinical Memoranda.

BOSTON CITY HOSPITAL.

CASES IN THE SERVICE OF DR. LYMAN.

PROLAPSUS OF OVARY RELIEVED BY PESSARY.

L. W., aged thirty, married; catamenia at fourteen; has always suffered from dysmenorrhœa. Has had three children, two of them delivered by instruments, the last about seven years since. Two years ago was in the hospital for menorrhagia with severe hypogastric pain. At that time there was found a deep ulceration on the left of the cervix, with a thickened condition of the cervical mucous membrane and a "dirty brownish discharge." The cervix was everted, and she was soon discharged relieved. She remained well for four months.

November 13, 1879, she was readmitted, complaining of pain and "burning" in micturition and occasional œdema of the feet. There was found slight eversion and œdema of the cervix from a very trifling laceration. Otherwise healthy, and the uterus of normal depth. Urine normal. Douglas's pouch was occupied by a prolapsed ovary, movable and tender to pressure. She suffered from pain during coition, or if constipated. The patient was kept in bed, the bowels were regulated, and the hot douche was applied night and morning.

November 28th. The ovary being much less tender, it was pushed well up, and a Smith pessary with a very thick cross-bar, to occupy the posterior cul-de-sac, was introduced.

December 1st. The pessary answers its purpose well. A still thicker one was inserted and she was discharged, to return occasionally for examination.

December 26th. Reports that she is perfectly comfortable, the pain being entirely relieved.

PELVIC PERITONITIS.

Mrs. M. S., aged twenty, entered hospital November 24th. Was married five years ago. At first coition was so excessively painful that she entered the hospital for a week for treatment, but no record is found. She miscarried three years ago. Has suffered for past four months from leucorrhœa, and she has also some symptoms of commencing phthisis. A fortnight since, at the termination of a catamenial period, her husband, while intoxicated, had a prolonged connection with her, causing great suffering. This was followed the next day by a severe chill, with heat and throbbing about the pelvis and painful micturition, which has continued ever since, the urine being frequent and very scanty. She complains chiefly of a continuous pain in the right iliac fossa. Temperature, 100.1° F. She was ordered large poultices frequently renewed, a rectal enema, and hot vaginal douches.

November 25th. Physical examination shows increased heat in the vagina, purulent leucorrhœa, the uterus movable and not in itself tender, and a large effusion into Douglas's pouch, flat, broad, hard, and excessively tender to the touch.

December 1st. The vesical irritation still continues, and is temporarily relieved by the frequent use of the catheter. Has vomited once or twice only, and there has been neither chill nor increase of temperature since her entrance. Vaginal examination shows a large in-

crease in the effusion, which now crowds the rectum into the hollow of the sacrum. There is severe pain and tenderness in both iliac fossæ and above pubes. Under the use of poultices and the douche, with opium in sufficient quantities to modify the pain, the symptoms gradually abated until December 10th, when the pain and tenderness entirely disappeared.

December 17th. There was some return of the pain and tenderness, due probably to sitting up too long yesterday. On examination, the effusion behind the uterus is found to have disappeared, some hardness remaining in front, possibly from anteversion, but it was not thought prudent to use the sound or to make prolonged digital examination.

December 20th. The patient improved very rapidly and was discharged well.

LARGE VAGINAL EPITHELIOMA IN AN UNUSUAL POSITION.

E. P., aged thirty-nine, married twelve years, entered the hospital in December. Reports that her catamenia, which began at sixteen, have been always regular and painless. Ten years ago miscarried at four and a half months, and again within the same year at six months. Has not conceived since. Two years ago first noticed that coition caused pain; catamenia have continued regular, but with more or less of metrorrhagia during intervals, which is always increased by coition; makes a clear distinction between this and the regular catamenia. Says her husband is healthy, and she gives no evidence of any specific taint. Has lost over fifty pounds the last year, but is still a strong, hearty-looking woman. Complains of more or less pain, even when at rest, in vagina, hips, and side. Two days before entrance had a severe and prostrating hæmorrhage without given cause.

On examination, the finger encounters on the posterior wall, two inches from the fourchette, a roughened, nodulated, cauliflower mass, bleeding freely and excessively painful. It occupies about half the circumference of the vagina, extending nearly to the cul-de-sac, as large as an egg divided longitudinally. Cervix uteri smooth and healthy. Examined by the rectum, which was empty; the mucous membrane was found intact and healthy, but very thin and adherent, threatening speedy rupture by the encroaching vaginal mass. As no operation was possible without the destruction of the recto-vaginal septum, the treatment was directed to the relief of pain and hæmorrhage by vaginal douches of hot water and chloral, and she was subsequently discharged at her own request.

CHRONIC RETROVERSION OF THE UTERUS, WITH ADHESIONS.

M. N., aged forty-one, single, entered hospital November 26th, with a long history of uterine troubles, for which she has been under a variety of treatment outside. She is an intelligent American woman, knows all about prolapsus and pessaries, tampons and tumors, and everything relating to ovaries, uterus, and vagina, and is ready to criticize any treatment which may be suggested. She declares that every form of pessary has been used ineffectually. She suffers from dyspepsia in an aggravated form, and from leucorrhœa.

November 28th. Examination reveals the cervix low down and pointing forwards, with the uterus completely retroverted. The uterus could be replaced, but with some difficulty and considerable pain, owing to old adhesions.

December 26th. For the last month the vagina has been freely douché twice a day, and a great variety of instruments have been tried, most of which were either ineffectual or unbearable. As the parts have become more healthy under the use of the douche, the organ is now easily retained in position, and with comfort to herself, by instruments which at first could not be borne, and she was discharged free from leucorrhœa, and with the dyspeptic symptoms very much relieved.

COMPLETE TRANSVERSE LACERATION OF CERVIX UTERI; OPERATION.

M. M., aged twenty-eight, married, entered the hospital November 14th. Catamenia at sixteen, normal; has been married eight years; two normal labors, the last nearly four years ago. She has suffered ever since last delivery from weakness, uterine tenesmus, and leucorrhœa, and with prolapsus at times to such a degree as to be recognizable by herself, rendering locomotion difficult. Had a miscarriage six months ago, which she attributes to displacement of the womb. She has of late flowed two times in every month, with offensive dark-colored leucorrhœa during the intervals. Sleeps badly, has a fair appetite, the bowels regular, and no cough or œdema. Vesical tenesmus and burning with micturition. The urine is small in quantity. Suffers from vertigo and flushings, followed by marked pallor, with headache and dyspœna on exertion. Pulse irregular and occasionally intermittent. No recognized cardiac lesion. Physical examination shows a relaxed vagina and a deep transverse laceration of the cervix uteri, extending to the vaginal angles, with the lips flattened out, everted, and denuded of epithelium. The cervical follicles being distended, these were freely incised, and the patient ordered rest in bed and a free use of hot vaginal douche.

November 26th. The parts looking more healthy, she was etherized, and the usual operation performed by freshening the edges of the cervix and bringing the lips together by three sutures on either side.

December 5th. Good union; the sutures removed.

December 13th. The uterus well in place, vagina and cervix healthy. Discharged well.

LACERATION OF CERVIX UTERI, WITH METRORRHAGIA AND SUBINVOLUTION OF THE UTERUS; OPERATION, FOLLOWED BY PERITONITIS AND CYSTITIS; RECOVERY.

M. D., aged twenty-two; entered hospital in October. Reports that she was always in good health until her second confinement, which took place a year ago. This labor was protracted, for some unknown reason, and since that time her catamenia have continued fourteen days out of the month, with profuse leucorrhœa in the intervals. Micturition normal, bowels usually constive, appetite poor.

October 30th. Examination reveals a transverse laceration of the cervix uteri and the upper part of the vagina bathed in mœco-pus; sound enters two and one half inches from the inner os, showing subinvolution of the uterus.

November 6th. Under hot-water injections the congestion and leucorrhœa have much diminished, with the everted lips of the cervix soft and movable. Several enlarged follicles were freely incised.

November 19th. Under ether the edges were freely denuded and brought into apposition by sutures in the usual way.

November 21st. The temperature has risen steadily since the operation, and is now 103.4° F. The urine has been drawn with a catheter since the operation. She complains of severe abdominal pain, and of a tumor projecting from the vulva, which proves to be a rectocele. The rectum is found to be loaded. The pain was somewhat relieved by opiate fomentations and the rectum by oil and enema.

November 24th. Menstruating. Temperature, 102° F. Complete anorexia. Pain continues.

November 25th. Has pain in right side, but otherwise feels much better. Temperature, 99.2° F.

November 26th. Sutures removed with some difficulty and pain. She is much jaundiced; expression anxious. Still has pain in right side and abdomen.

December 1st. Had an attack of bilious vomiting last evening. Catamenia ceased.

December 2d. Had a severe chill at time of visit; temperature 103.4° F.; was ordered quinine subcutaneously, followed by five grains by the mouth every four hours.

December 3d. Temperature 99° F.; pulse 80. For the next ten days she was very nervous and irritable, and suffered much from profuse sweats, but gained slowly until the 12th, when she was examined for the first time since the removal of the sutures. So far as concerned the operation the result proved exceptionally good, the cervix being of natural shape and length, and the cicatrices hardly discernible. There was no evidence of any pelvic effusion, and the condition of the vagina was normal.

December 15th. She complained of severe pain and tenesmus in the bladder and burning micturition. This increased and on the 17th the urine became very offensive and loaded with pus.

December 23d. Since last report the bladder has been washed out twice daily with carbolized water, and she has had benzoic acid internally. She is now free from pain and the urine clear.

January 5th. Had some pain yesterday, but is now up and about the ward. She remained in hospital, with occasional slight attacks of irritable bladder, for some weeks, and was discharged well January 30th.

If the operation in this case had been deferred another week or ten days, the patient would probably have escaped the threatenings of septicæmia and the peritonitis and cystitis which followed. The operation, simple as it is, should not be resorted to until, by rest in bed and careful attention to the digestive organs, the portal and pelvic circulation are quite free. The jaundice and the loaded rectum show that such was not the case in this instance.

LACERATION OF PERINEUM AND CERVIX UTERI.

E. T., aged thirty-three years, has been married two years and a half. Eighteen months ago miscarried at five months, and was delivered in March last of a child at full term. Convulsions began five hours before birth, and she was finally delivered of a very large child, with instruments, under ether. She remained unconscious for two days, but is unable to say whether the convulsions continued or not after labor. From that time has suffered from bearing down, leucorrhœa, and the usual symptoms of deranged pelvic circulation. For four weeks "the womb has been coming down," and, as she thinks, sometimes outside the vulva. She has constant desire to urinate, and is occasionally, when walking, unable to retain her water. Appetite good, sleeps well, and bowels regular.

Physical examination shows perinæum to be ruptured close down to sphincter, and involving some of its external fibres; vaginal walls relaxed and prolapsed; uterus nearly in its normal position, but subinvolved; sound entering three and one half inches; cervix uteri deeply lacerated transversely, presenting two long, thin, indurated, and inverted lips; the proper cervical mucous membrane denuded of its epithelium. She still insists that the uterus occasionally presents externally. Is directed to notify the house officer when this occurs, and the result shows the tumor of which she complains to be cystocele only, the uterus remaining *in situ* nearly. She was placed on preparatory treatment of copious hot douches, occasional scarifications of everted os, laxatives, etc., and on November 5th, the parts being in a healthy condition, she was etherized, the edges of the cervix were freshened, denuded entirely of cicatricial tissue, and drawn into apposition with eight wire sutures.

November 13th. The four posterior sutures were removed. Line of union found perfect.

November 14th. The remaining sutures were removed. Union being perfect, after a few days' rest, she was, November 18th, again etherized, the cicatricial surfaces of the torn perinæum were thoroughly removed, and the parts brought into apposition by two deep sutures passed well around the recto-vaginal septum and two others anteriorly.

November 20th. Doing well, though, as in all these cases, any movement causes excessive pain.

November 23d. Removed the two deep recto-vaginal sutures. Catamenia supervened.

December 3d. Perinæum well united with an unusually good triangular body. The anterior edge is thin, but gives ample support and complete relief to the cystocele and vesical irritation.

December 12th. Discharged, with careful directions as to bowels and the use of the douche for another month.

VESICO-VAGINAL FISTULA; VAGINAL ATRESIA FROM CICATRICES; RUPTURED PERINÆUM.

M. D., married, aged thirty-five, entered hospital September 24, 1879. Eleven weeks previously, the patient, a short but well-formed woman, was delivered of her first child, still-born, after a labor of twelve hours at full term, by a midwife. She says the child was large, and came head first, and that the after-birth did not come for eight days, and was not offensive. She first noticed incontinence of urine twenty-four hours after labor. This became more troublesome as she was able to get about, and has continued ever since. In the recumbent posture she can retain her water for half an hour. She declares that there has been no offensive discharge since the after-birth came away, but it is difficult to get any reliable history. Upon examination the whole vulvar region looked sufficiently unpromising. It was found much inflamed and bathed in offensive purulent and urinary secretions; the perinæum was torn completely to the sphincter, and upon separating the vulva the vaginal walls were found an inch and a half within, adherent and admitting only a probe. At the base of the bladder, close to the urethra, and bounded upon the farther side by the above-mentioned cicatricial adhesion, was a transverse fistula, admitting easily the exploration of the bladder by the index finger. The first thing to be done was evidently to close this fistula, to prevent the excoriations and uncleanness. To render the opera-

tion practicable, it was necessary to dilate the vagina and obliterate the adjoining cicatricial tissue. This was effected by dilating the orifice with a stiff probe until the end of the finger could be passed and tents inserted. In twenty-four hours the opening was enough dilated to admit the passage of a finger, when a second band was found completely occluding the canal high up.

October 8th. The adhesions were much softened under free use of douches and repeated stretching, assisted somewhat by the knife.

October 10th. Outer bands much dilated, and kept so by a small pessary lodged between.

October 11th. A glass plug introduced. This was kept up for a month, by which time the cicatricial tissues were absorbed sufficiently, and November 10th the patient was etherized, the edges of the fistula were pared, and four silver sutures taken. To facilitate this the little finger was passed through the urethra beyond the fistulous opening into the bladder.

October 18th. The sutures were removed, and the union was found to be perfect, except a small point on the right side, which was doubtful. It was at this point that the cicatricial band had been most unyielding and the recto-vaginal wall most thin. Further examination revealed a small capillary opening.

November 22d. The catamenia appeared for the first time since her delivery, showing that the cicatrix above had either never been entirely complete, or had yielded to pressure.

December 1st. Retains her urine in the sitting posture but loses some while walking.

December 20th. After ineffectual trials of astringents and irritants to close the minute opening by granulation, the patient was again etherized, the edges were freshened, and two wire sutures and one silk suture were introduced. This was accomplished only after several failures from the tearing out of the sutures, owing to the exceeding thinness and cicatricial character of the tissues. The attempt, however, failed, but was finally repeated successfully the 22d of January.

February 10th. The bladder was injected with milk and water, and the fistula found to be entirely closed. There is still some incontinence by the urethra, which remains widely dilated, possibly due to the introduction of the finger at the first operation. She was put upon nux vomica and belladonna. She has menstruated twice since entering hospital, and is in every respect much improved, and is no longer offensive to herself and to those about her. After recuperating for a while outside she will return for treatment of the remaining cicatricial bands in the vagina and for restoration of the perinæum.

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

F. C. SHATTUCK, M. D., SECRETARY.

NOVEMBER 17, 1879. DR. F. H. BROWN read a paper on

IMPACTED FOREIGN BODIES IN THE EXTERNAL AUDITORY MEATS.

DR. JEFFRIES remarked that he had found in an old ophthalmic case belonging to his father a double hook, which had proved very useful in his hands in removing

foreign bodies, hardened wax, and the like from the meatus. — DR. BROWN said that such an instrument is well suited to foreign bodies which are soft, but doubted its applicability if they happen to be hard. — DR. J. O. GREEN said that a simple loop of wire proved efficient as often as any other one means, but that as no instrument or method suited all cases one's ingenuity is often taxed; great gentleness should always be used. The other important points are thorough knowledge of the anatomy of the ear and illumination of the cavity, so that the operator can see exactly what he is doing at the time.

In illustration of the injury resulting from the reckless use of instruments without thorough inspection, he narrated a case seen by him a few years before, and never reported, where an old lady broke off a piece of a glass pipette in the meatus, and the family physician, an irregular practitioner, attempted to remove it by instruments. Not succeeding, he etherized the patient, and continued his attempts for over two hours, at which time Dr. Green was summoned, and found that the whole operation had been done without illumination of the parts; as the result the whole drum membrane had been removed, so that not a vestige of it remained; the hammer and incus were wanting, and had probably been concealed after the removal. And this not satisfying the ardor of the operator, the whole mucous membrane of the inner wall of the tympanum over the promontory had been scraped away, so that the bone was perfectly bare. Two or three small bits of the glass were very firmly impacted in the irregularities of the tympanum towards the Eustachian tube, and could not be readily removed, and on account of the very weak state of the patient, she being about eighty years of age and having been under profound etherization for two and a half hours, Dr. Green advised that no further attempts should be made at that time. At the request of the family, the former practitioner resumed charge of the case, and Dr. Greene did not see her again; but some months afterwards he was informed by one of the family that the patient had had no further trouble from the ear, but was and had been for some time suffering from disease of the brain.

TORTICOLLIS SUCCESSFULLY TREATED BY DELORE'S METHOD.

DR. BRADFORD showed an arrangement which he had used with success in a case of torticollis. It consists of a simple iron frame-work, over which is adjusted a silicate bandage, and is substantially the method of treatment recommended by Delore, in the *Gazette hebdomadaire*, March, 1878, for cases in which the sterno-mastoid is not involved. The patient, a boy, was referred to him at the Children's Hospital by Dr. J. J. Putnam. Poulices, leeches, belladonna ointment, rest in bed, Little's method, were successively tried without result. As soon as the child was under ether the head could be moved in all directions. The silicate bandage was then applied over the frame-work and retained for a month, giving rise to no uneasiness. At the end of that time it was removed, and the child remains perfectly well. A frame-work is required for the reason that the silicate bandage requires several hours to set; Delore's frame-work is of pasteboard. — DR. INGALLS said that he had adopted this method in one case. It bid fair to be a success, but the frame-work had to be removed after a fortnight, because it had not been sufficiently padded. — In reply to a question

of Dr. Porter, DR. BRADFORD remarked that it is not always easy, without very careful examination, to distinguish between torticollis simplex and that from caries of the spine: this latter did not enter into any of Delore's cases. — DR. PORTER then asked how much force is required to reduce the deformity, and DR. BRADFORD answered that it varied in different cases within pretty wide limits, but was never very great.

DECEMBER 1, 1879. DR. BUCKINGHAM read a paper on

DIFFICULT DENTITION.¹

DR. PORTER alluded to the groundless fear, so widespread among the laity, that the cicatrix resulting from lancing the gums is more difficult of penetration by the tooth than the gum which has been let alone. He then spoke of the happy effect of bromide of potash in full doses in cases of irritation from teething, the drug proving often all-sufficient without resort to the lancet. — DR. T. B. CURTIS remarked that it was very difficult to form conclusions as to the benefit of gum cutting, so greatly do the authorities and the experience of individuals differ on this point. He never did it, perhaps having got a prejudice against it from the days when he was interne of Roger at the Hôpital des Enfants malades in Paris. He remembered hearing Roger express the opinion that the dangers from teething and the effect of worms were greatly overated, and never did he hear Roger even suggest performing the operation. In one case he had a chance to compare the methods. A child which had been under his care never had its gums cut, until one summer, during his absence from town, it came under the care of another practitioner, who cut the gums several times. Neither the mother nor the nurse could perceive any benefit from the procedure. Jacobi² thinks it not only useless, but even harmful to the teeth, as does also a New York dentist, J. Foster Flagg, quoted by Jacobi. — DR. C. E. STEDMAN said that the paper is an indication of how industry and research will give interest to a well-worn subject. He always carries a lancet, and feels satisfied that the operation is useful. One who has seen a child look up in his face and laugh after the operation is struck by its perforce. He has never regretted the operation save in one case, in which there was free bleeding from the gum, perhaps from clumsiness on his part. In regard to artificial food, he thought Borden's condensed milk perhaps the best single thing. At a meeting of county physicians, some fifteen years since, he was much struck by the unanimity which seemed to prevail in favor of condensed milk. — DR. BUCKINGHAM said that in his experience it is easier to get good milk in the city than in the country. The very fact that city milk is a mixture from many cows is a safeguard. — DR. ROTCH thought the paper especially valuable from a clinical point of view, and was reminded by it of the case of a child nine months of age who had had some difficulty in cutting the lower incisors at eight months. The child began to suffer from pain, was sleepless, cried persistently, and had fever. Bromide of potash and breast milk were rejected; the temperature rose to 104° F., and there was retention of urine. After twenty-four hours the gums, which were swollen and tense, were lanced. Within two minutes after this the child fell asleep for twenty minutes. Its temperature was then 102° F. After another hour the

¹ YALE JOURNAL, vol. cii. p. 3.

² Buck's Hygiene and Public Health, vol. i. p. 136.

temperature was normal; the child nursed, and had no further trouble. Dr. Rotch asked the reader whether, in his researches, he had met with physiological facts or experiments going to show that the number of teeth is any index of the capacity for digesting starchy food. — The reader replied that he had not. Certain authorities express their opinion regarding it; Monti, for instance, speaks of eight teeth as necessary, the late Dr. Buckingham of sixteen. — DR. VAUGHAN expressed his conviction that relief is afforded by gum cutting. One of his own children came to him and asked for the operation as plainly as possible. In but one case has he seen a tooth injured thereby, a lower incisor, which decayed early. — DR. J. S. GREENE spoke highly of the application of ice to the gums; it is very grateful to the children, and has often saved him from the use of the lancet, which he uses still, but not as often as formerly. — DR. PORTER recalled the case of a child which had been in apparent pain for forty-eight hours, was restless, and would not leave its mother's arms for the crib. The gums were swollen, so he lanced them in four places, and before he could wipe his lancet the child was asleep. So soundly did it sleep that the mother was alarmed, and feared that it was dead. There was no further trouble at that time. He has always lanced the gums of his own children when swollen and irritated. — DR. F. C. SHATTUCK said that he had never performed the operation, never having seen a case in private practice or in a large dispensary and Massachusetts Hospital out-patient experience in which it seemed to him indicated. — DR. DOE spoke of a child who had had convulsions with every tooth unless an incision was made. That the relief was due to the incision was shown by the fact that in his absence another physician was called in during the convulsion; bromide of potash gave no relief. Soon after Dr. Doe arrived, lanced the gums, and the convulsion ceased.

SACCULATED BLADDER.

DR. DRAPER presented the specimen, and remarked that the condition is a common incident in chronic cystitis, but very infrequent in a young and healthy man free from genito-urinary difficulty. The specimen was taken from the body of a man of twenty-three, who was accidentally drowned. On opening the abdominal cavity the distended bladder appeared as if it had a double fundus, two rounded tumors with a well-defined antero-posterior sulcus between them coming into view. The opposite surfaces of the two portions were united by tolerably firm tissue, which had to be divided by the knife, although it was evidently normal and not of inflammatory origin. The entire organ contained twenty-four ounces of clear, odorless urine. When the bladder was removed from the pelvis with the ureters and examined, it became evident that the larger sac, composed of thin membrane, was a hernia of the mucous lining through an opening in the muscular wall of the bladder at the right side, the aperture being about two inches in diameter. This sacular appendage was larger than the bladder from which it was derived.

—The fiftieth annual commencement of the College of Pharmacy of the city of New York was held at Chickering Hall on the 16th of March, and the graduating class numbered forty-four.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. ROTCH, M. D., SECRETARY.

MARCH 22, 1880. DR. JAMES C. WHITE, permanent chairman, presided.

ALBUMINURIA.

DR. CALVIN ELLIS read a paper entitled *The Significance of Albuminuria as a Symptom*, of which the following is an abstract:—

The causes of albuminuria were considered under the following heads: (1.) Albuminous matters in the pelvis of the kidneys, the ureters, the bladder, or vagina. (2.) Disturbances of the circulation. (3.) Disturbances of the nervous system. (4.) Diseases of the kidneys. (5.) Changes in the blood. (6.) Indigestion.

The evidence seemed to show, —

(1.) That albuminuria frequently depends upon disturbances of the circulation of the kidneys, but, contrary to the common belief, that this disturbance is quite as likely to be owing to the diminution of pressure as to its increase or to congestion, as it is commonly called.

(2.) That the action of the nervous system depends upon its influence over the circulation.

(3.) That in disease of the kidneys themselves, the epithelium, if it have any connection with the appearance of albumen, acts mechanically rather than otherwise.

(4.) That the changes in the interstitial tissue cause disturbances of the circulation, and that serous infiltration or inflammation of this tissue may furnish albuminous products which escape with the urine.

(5.) That the blood-vessels may be so changed as to allow albumen to pass more readily.

(6.) That the blood itself may undergo certain modifications, but that a variation in the proportions of neither water nor albumen can be demonstrated.

(7.) That the products of digestion probably fail to undergo the usual changes, and consequently appear in the urine.

DR. E. S. WOOD said, in regard to the amount of albumen which occurs in certain cases where the kidney is diseased, that it was at times in small amount, and that where the morbid change was chiefly in the tubules there was apt to be much albumen. He also remarked that albumen at times appeared in the urine of women, where its source is this side of the kidney, and that it is therefore important to have the urine saved after a vaginal douche has been given. Also after the administration of certain drugs and various irritants, albumen may appear in small amount in the urine.

DR. CUTLER referred to the recent experiments of Litten on animals, in which results were obtained very similar to those of Ribbert, mentioned by Dr. Ellis. The conclusions arrived at were quite like those of Dr. Ellis in regard to the cause of albuminuria.

DR. JOHN HOMANS said that Dr. Ellis seemed to consider that albumen in the urine was a pathological and not a physiological change, and that this was interesting in reference to cases of life-insurance, where sometimes risks are accepted where albumen is present in such small amount that a specialist alone can determine the fact, and yet the person may die very soon from disease of which this albumen is a symptom;

while, on the contrary, a large amount of albumen may be present, and yet the patient appear perfectly well and often remain well.

DR. ELLIS said that the frequency with which albumen was found made him careful not to say that the kidney was affected unless casts were present and the albuminuria was continuous; and that even where a few casts were found we could not say that the kidney was affected. The diagnosis must be made by a group of symptoms, not by one.

DR. T. B. CURTIS remarked that much stress had been laid upon the frequent occurrence of albuminuria without renal disease, but that nothing had as yet been said of the existence of Bright's disease without albuminuria. He thought that there was in the profession too great a tendency to make the diagnosis of "Bright's disease" hinge upon the presence or absence of albuminuria. In the nomenclature of the Royal College of Physicians the terms *Bright's disease* and *albuminuria* are given as synonyms; and Dr. George Johnson, in his clinical lectures on Bright's disease, considers the two terms as practically synonymous. Several of the recent authorities on renal diseases, however, admit that in cases of renal cirrhosis, or granular kidney, albuminuria may at times, or even frequently, be absent. Bartels states that albuminuria is no constant symptom in this form of renal disease. He records one case in which albumen was entirely absent from the urine throughout, and in which the existence of Bright's disease was only recognized after death. Dr. Mahomed, whose recent contributions to the pathology and the clinical aspects of chronic Bright's disease are very interesting and valuable, even goes so far as to say that neither albuminuria nor dropsy is usually present in this disease, and that when present, albuminuria indicates the existence of parenchymatous nephritis occurring as a complication of the primary interstitial disease. He has, moreover, shown that out of one hundred cases observed in Guy's Hospital, in which granular kidneys were found at the autopsy to have been the cause of death, in only twenty-six cases was chronic Bright's disease correctly diagnosed during the life-time of the patient. He states, on the strength of these facts, that seventy per cent. of the patients who owe their deaths more or less directly to Bright's disease die with the chief cause of their deaths unrecognized; and he draws the conclusion that the generally accepted account of the disease and of its symptoms fails to recognize it in the great majority of cases.

DR. EDES remarked that he thought too much had been made of the exceptional cases of contracting kidney in which albumen has not been found in the urine. In most of these a more careful or continued examination would disclose it at some time or other. An examination of some of his recent cases with the sphygmograph shows the applicability of the views of Rineberg, quoted by Dr. Ellis, to cases of Bright's disease. Whereas in most of the cases of high arterial tension, as shown by the sphygmograph, some of which at least were cases of contracting kidney, as shown by large quantity and low specific gravity of the urine and the presence of casts, the amount of albumen was very small or a mere trace; in the others, that is, cases of parenchymatous nephritis, attended with a larger secretion of albumen, the tension was much less, and often much below normal. He did not see, however, how some recent writers could be so sure of a pre-

albuminuric stage of Bright's disease, as shown by the sphygmograph, since in order to prove its existence one must have an opportunity to observe for some time, perhaps for years, persons whose tracings were taken at a time when they were supposed to be healthy, or at any rate free from renal disease.

DR. J. ORNE GREEN reported the following cases:—

NECROSIS OF THE INNER TABLE OF THE MASTOID AND CARIES OF THE TYMPANUM.

CASE I. A girl aged ten years, during typhoid fever, developed purulent inflammation of the left tympanum, with perforation and ulceration of the drum membrane, followed by mastoid abscess, which ruptured spontaneously some weeks after. When I first saw her, carious bone could be felt through the fistula over the mastoid, and the meatus was obstructed by a firm fibrous polypus growing from the tympanic mucous membrane. Operation was advised, and under ether the polypus was removed by the wire-snare, and it was found that the inner wall of the tympanum was carious. At the same time the mastoid was exposed, and all of the softened, carious bone was removed by a gouge as far as possible, and a clean passage obtained for fluid from the wound through the meatus. A large surface of carious bone between the mastoid and tympanum, along the antrum mastoideum, was, however, beyond reach, and was left. The previous pain was entirely relieved by the operation, but the discharge from the wound and meatus continued, and granulations again sprang up from the carious bone in the tympanum. The treatment was thorough antiseptic syringing to insure perfect cleansing and free evacuation. During nearly a year this was continued, the general health being excellent; at the end of that time examination with a probe discovered a sequestrum within the mastoid cavity, and much carious bone was felt in the tympanum.

Under ether the mastoid was freely exposed, revealing a carious fistula through its external table; this was enlarged with a gouge till the end of the little finger could be passed in and the sequestrum could be felt moving freely; with forceps this was seized, and with a little manipulation withdrawn through the external opening. The sequestrum was 16 mm. long, 12 mm. wide, and constituted the inner table of the mastoid, including the distinctly marked sulcus of the lateral sinus. With a sharp spoon the superficial caries of the antrum mastoideum and of the tympanum was thoroughly scraped away. The mastoid and tympanum were syringed with carbolic solution, one to eighty, and wound and meatus were dressed with carbolized oil, one to ten. Not the slightest reaction followed the operation, and on the second day the child was up and about. The antiseptic syringing and dressing were continued daily. Three weeks after the cavity had diminished fully one half by the development of granulations, and no bare bone could be felt in the wound, and but a small bit in the tympanum. Five weeks after the operation, when last seen, the discharge from the wound scarcely amounted to two drops in twenty-four hours, but it was thought best still to keep the fistula open; the otorrhoea had almost ceased, the bare bone in the tympanum was nearly covered, and the tympanic mucous membrane was smooth and but slightly inflamed.

The chief point of interest in the case was the situation of the necrosis, the removal of which completely exposed the dura mater and lateral sinus over a considerable space.

NECROSIS OF THE TYMPANUM, WITH DESTRUCTION OF BOTH LABYRINTHS.

CASE II. A girl three and one half years old had purulent inflammation of both tympana during scarlet fever, and the otorrhea continued two months after, when I first saw her. Polypi filled both meatuses, and were removed under ether, when it was found that both drum-membranes had been entirely destroyed, and that there was very extensive caries in both tympana; the hearing had been entirely lost in both ears from extension of the inflammation into the labyrinths during the earlier weeks of the disease, and there was the characteristic staggering gait on walking. The treatment adopted was thorough cleansing with free evacuation of all pus, and the repression of granulations, which sprang up freely, by pressure with pledgets of cotton saturated with carbolic oil. During the next six months the hammer, anvil, and six small bits of necrosed bone were discharged naturally from the left meatus. On three of the pieces the tympanic groove is distinctly seen; the other three are portions of the cancellated structure. The discharge of the last bit of bone was followed by rapid retrogression of the granulations, and the otorrhea ceased entirely.

From the right ear there was never any discharge of necrosed bone, but the caries disappeared, probably by disintegration, the granulations shriveled up, and the otorrhea ceased in about eight months.

Any restoration of hearing was evidently hopeless from the beginning, but the child showed in an interesting way the usual gradual development of deaf-mutism. Having before the fever talked well, when I first saw her she had an indistinct enunciation and had begun to lose some words: each week it could be seen that she was losing her vocabulary, and at the end of three months but few words were used, and those could not be understood. By the end of six months all attempts to talk had been given up, and she is and must remain a case of acquired deaf-mutism, at least until old enough to be taught by artificial means. The staggering gait characteristic of labyrinthine disease disappeared very slowly, and at the end of six months was still present in a slight degree.

CARIES OF THE MASTOID.

CASE III. J. T. A., aged about forty five, was first seen in June 13, 1879. He was a school-master, in robust health except a muco-purulent nasal catarrh of long duration. Two weeks before, during an acute exacerbation of his nasal trouble, he had quite severe pain in the right ear for twenty hours, probably produced by the nasal douche, which ceased with the appearance of a thin muco-purulent discharge from the meatus, and since that time had been free from all pain in the ear, but had had some neuralgia in the facial branches of the fifth nerve. Examination showed the osseous meatus and drum membrane red and swollen, with a perforation of the drum membrane in its upper anterior quadrant; the tympanum filled with muco-purulent secretion, which could readily be blown through the perforation by Valsalva's inflation, with a distinct whistle, showing that the Eustachian tube was clear. The hearing was reduced for the watch to $\frac{1}{2}$, and there was constant hissing and throbbing in the ear. The warm douche, astringents, and antiseptics, with thorough cleansing, were used for about three weeks, somewhat reducing the redness and the amount of discharge, but not checking it entirely. About

July 12th, without any pain or fever, tenderness and very slight swelling were noticed over the mastoid, which continued for ten days, then disappeared absolutely. The tenderness was noticed only on deep pressure. The swelling was very slight, not edematous, and never red; leeches and poulticing were applied to it.

The condition of the tympanum continued the same through July, August, September, and till nearly the middle of October, in spite of all treatment. Nothing more was noticed about the mastoid till October, when tenderness and slight swelling again appeared over the mastoid, but continued for only two days, and then disappeared entirely; this occurred twice within the space of two weeks.

I then advised an examination of the bone, and on October 26th, under ether, incised the periosteum, and found a small fistula with carious walls opening into the mastoid cells about the middle of the bone. No caries within the cells could be found. The carious walls of the fistula were thoroughly scraped away, and the cells and tympanum cleansed by a weak solution of boracic acid, the liquid passing readily from the wound through the perforation of the drum membrane into the meatus. The wound and perforation were covered with carbolic cotton. The same syringing was used the next day, and again on October 29th, when it was found that all discharge had ceased from both tympanum and wound. Carbolic cotton was applied as before, and October 31st it was found that the perforation had healed. November 11th the hearing was improving, and the subjective noises were diminishing; watch $\frac{2}{3}$. December 6th he reported himself without any symptoms, "hearing as good as ever," and no subjective noises. The drum membrane was still a little swollen, the retrograde process being, as it always is, a slow one. Five months after examination showed the ear to be perfect both in appearance and in function; watch $\frac{7}{8}$.

The case was interesting from the slight external manifestations of the mastoid disease, which disappeared entirely for nearly four months, and then recurred twice in a slight degree for only two days at a time; it was also interesting from the very rapid cure following the removal of the carious bone, an otorrhea of four and half months' duration ceasing in three days, with perfect healing of the perforation in the drum membrane, and entire restoration of the functions of the ear.

POISONING BY ARSENIC.

Dr. E. S. Wood exhibited the liver and kidneys of a child supposed to have been poisoned by arsenic, which showed well-marked fatty degeneration; his remarks on the case will be printed later.—Dr. HODGES asked whether it was a fact that arsenic in these cases was the cause of preservation.—Dr. WOOD thought that it was, and in answer to a question by Dr. Ellis he also said that the arsenic especially preserves the stomach in preference to other organs.—Dr. WHITE asked if fatty degeneration had been observed in tissues after exhumation in cases where an immediate post-mortem examination had determined its ab-sence.—Dr. WOOD thought that it had.—Dr. WHITE also called attention to the development of adipocere at long periods after death, and asked if it were known that ordinary fatty degeneration went on through similar periods.

DR. DRAPER referred to a case of fatty degeneration of the solid abdominal viscera after fatal arsenical poisoning, which he had personally observed. The body from which the specimens were taken was that of an adult female. The body was exhumed eleven days after burial, and scarcely any putrefactive changes had occurred. The liver and kidneys showed well-marked fatty metamorphosis.

In answer to a question by Dr. Ellis, Dr. Draper stated that one of the earliest putrefactive phenomena was an alteration of the solid tissues simulating the fatty metamorphosis of living organs; and this result of beginning decomposition should be borne in mind in microscopic examinations in cases of mineral poisoning. The fatty changes found after arsenical poisoning are to be considered as corroborative rather than controlling signs of the mode of death. It is to be understood, of course, that the changes here alluded to have no relation to the putrefactive condition of the body called adipocere, which is not a change of the tissues into fat, but into a permanent ammoniacal soap; it is not known that the presence of arsenic in the dead body has any tendency to promote the formation of adipocere.

DR. CUTLER remarked that the appearances presented in these specimens are such as to show that they were not due to post-mortem changes, where the degeneration would be general, while here it is distinctly in the cortex of the kidney; then, too, the fat in the post-mortem change would be in drops.

DR. HODGES inquired as to how much arsenic had been recovered from the organs in these cases of poisoning. — DR. WOOD said that seven grains was the largest amount that had been found in the liver, but that of course any amount could be recovered from the stomach and intestines.

Recent Literature.

Infant Feeding and its Influence on Life. By C. H. F. ROUTH, M. D., M. R. C. P. London, etc.: Third Edition. New York: Wm. Wood & Co., 27 Great Jones St. 1879.

This work was first published in England in 1860. The second edition appeared in 1863; the third edition in 1876. It is a reprint of this latter which is now offered to the profession by the enterprising American publishers as one of the series of their Library of Standard Medical Authors. At the time this book was written, twenty years ago, Dr. Routh was one of the pioneers in enlisting English public opinion against the then existing abuses and evils to which infants were exposed; and Part I. is taken up with a very forcible presentation of their case. The statistics and facts here brought together from a large variety of sources give evidence of careful and laborious research, and must of necessity have done good at that time. It is a great relief to find, in the author's preface to the latest edition, that the government has at last interfered by several acts, which make much that was then written a matter of purely historical interest.

Part II. is devoted to the subject of lactation. There are a great many assertions in these chapters that experience cannot be said to warrant. There is too much theorizing, from which rules are laid down which, to say the least, are impracticable. We cannot

illustrate better than by referring to the directions given for the selection of a wet-nurse. A physician, as a rule, is too much restricted in the number from which he has to choose to be able to demand such high qualifications as the author insists upon. For instance, one whole chapter of twelve pages is devoted to arguments showing why the selection of a wet-nurse "from the fallen class, except in a case of extreme necessity, and where the life of the child can be saved only by employing a wet-nurse, and where none other can be found than a fallen woman, is a gross moral and social wrong." (Page 119.) We are also told "scrupulously to avoid" those belonging to the lymphatic or phlegmatic temperament, and that the nervous temperament "is to be rejected." The choice, for these reasons, should be from brunettes, and these must be of the "bilious or melancholic temperament." "Brunettes," he writes, "usually belong to the bilious or melancholic temperament. In disposition they are more gloomy and dull than blondes. The milk is richer, and a precocious child is, as it were, restrained by this milk from over-excitement in its mental manifestations. Its body has time to be formed and to develop itself before it is exhausted by undue psychological excitement, and a stronger child is the result." (Page 126.)

The responsibility in making a selection is rendered still more formidable by the importance attached by the author to the rejection of a wet-nurse where any blood relation has "labored under cancer;" "and what is true of cancer," he writes, "I would equally apply to insanity." (Page 124.)

The statement of the author, that a healthy woman, if she does not nurse, is peculiarly liable to cancer and womb diseases, is unsupported by any proof.

Enough has been quoted, we think, to show that one desirous of intelligent rules for guidance in these matters must seek them elsewhere than in this book.

Three chapters are devoted to the causes and treatment of galactorrhœa and deficient lactation. Nothing calls for particular notice in these chapters, which are rather lengthy, save the large number of drugs described, to which are attributed specific virtues in increasing the amount of milk.

The composition of milk and the various substitutes therefor (animal and vegetable) are the subjects dealt with in Part III. Two chapters are devoted to their chemico-physiological properties. There is evidence of a careful study of the older writers; but we find but little recognition of any progress made since the first edition in 1860. There are several erroneous quotations of figures, important enough to require mention. For instance: the proportion of butter in human milk is given as "1 part in 2.8," instead of 2.8 per cent. In another place we read that the "normal proportion of butter is 26.6 per cent." (Page 125.) This of course should read 26.6 parts in 1000. In like manner the proper proportion of sugar in milk is said to be "1 part in 2.3." The amount should be stated as 2.3 per cent. Casein is asserted to exist in the proportion of "20 to 40 per cent, in 1000 parts"! (Page 133.) A curious mistake is made in quoting some analyses of Dr. Hassall, ten samples of milk, which yield on an average 7.5 per cent. of cream individually, being therefore calculated to have yielded collectively 77.5 per cent. In the same way, the amount of cream for each sample of evening milk being 9.5 per cent., the ten

samples are calculated as having collectively yielded 96.5 per cent.

As to the numerous special preparations of foods described, while there is much to interest and instruct in the enunciation of principles involved in their construction, it would be unreasonable to expect to find as much help in the matter of selection for use as is to be obtained in the works of authorities nearer home and of more recent date. No one, we think, at the present day would order Liebig's food with the directions for making it as was the case when it first came into use. These are the directions, however, that we find given by Dr. Routh, without any mention of the eligible preparations now in the market and in general use, where Liebig's food is given. Many of the "foods" described by the author are unobtainable here, and likely to remain so, even if still in existence in England.

The author's conclusions are generally sound, although at times we doubt the accuracy of his reasoning. This latter seems sometimes rather fanciful, as, for instance, where he attributes, among the advantages of adding a little lime-water to the milk, a beneficial effect upon the growth of the bones and of the teeth. The substitution of sugar of milk for ordinary sugar, Dr. Routh asserts, will often check diarrhoea. The reason of this is said to be that it less readily undergoes fermentation. The sentence following this is unintelligible. It reads: "And certainly alkalinity in milk, even when rich in sugar, as that of the woman, prevents it from becoming so readily acid as cow's milk." Again, when speaking of carbonate of lime, its insolubility in distilled water, and its increased solubility in water saturated with carbonic acid, he writes, "This is a property never to be lost sight of when it is wished to strengthen a growing child." (Page 135.)

There is one exception we would make to the author's generally sound conclusions as to rules of diet, and that is his recommendation, based on its chemical and reputed physiological properties, of tea as a beverage for children.

There are two or three pages in the last chapter of this Part devoted to showing the advantages of allowing infants to suckle animals directly. It seems proper that the author should express doubt, as he does, for obvious reasons, "of the prudence of allowing a child to suck a mare." (Page 193.) And we are also instructed, where a cow is used for this purpose, that she must have a "gentle disposition." Whatever may be the theoretical advantages attainable by such a procedure, there are too many objections to make it ever practicable.

Part IV. deals with the symptomatology and treatment (principally hygienic and dietetic) of "defective assimilation" in infants. These, to most readers, will be the most interesting chapters in the book, dealing as they do with matters essentially practical, and with nursery management (and mismanagement) in all the minutia, which the physician too often neglects.

The author several times confounds thrush with aphthæ, which is of course an entirely different affection. In one place (page 10) he makes the strange mistake of employing "diphtherite" as a synonym for muquet (thrush). He speaks too of the malignant or contagious variety of thrush as "closely resembling diphtheria, and requiring an analogous treatment." (Page 235.) In two places (page 233), where the word

anorexia occurs, the author undoubtedly means pyrexia.

Typographical errors are not very numerous. We meet occasionally with sentences the meaning of which, to say the least, is obscure, if not unintelligible. Whether this is the author's fault or due to carelessness in the type-setter, we do not know. The frequent use of foreign words, such as *in lieu of*, *en passant*, *encinte*, etc., tends to mar the text.

It will generally be considered as the evidence of intrinsic merit that this book of Dr. Routh's has been selected for reproduction, so many years after it was written, by both an English and American publishing house. In addition to this compliment, Dr. Routh has the gratification to find, as he writes in the preface to the third edition, "that measures have been taken by the English government in the very direction recommended by him, and that the whole official and sanitary powers have been invoked in favor of little children."

AMERICAN MEDICAL ASSOCIATION.

THE thirty-first annual session of the American Medical Association will be held in the city of New York, on Tuesday, Wednesday, Thursday, and Friday, June 1, 2, 3, and 4, 1880, commencing on Tuesday at eleven A. M.

"The delegates shall receive their appointment from permanently organized state medical societies, and such county and district medical societies as are recognized by representation in their respective state societies, and from the medical department of the army and navy of the United States."

Secretaries of medical societies as above designated are earnestly requested to forward, at once, lists of their delegates.

The chairmen of the several sections shall prepare and read in the general sessions of the association papers on the advances and discoveries of the past year in the branches of science included in their respective sections.

It is proposed to introduce into Section II. the following laws with regard to prize essays:—

(a.) There shall be four annual prizes of two hundred and fifty dollars each, which shall be awarded at the close of the second year after announcement, as hereinafter explained, for strictly original contributions to medical and surgical progress. (b.) It shall be the duty of the chairman of each of the following four sections: (1) Practical Medicine, Materia Medica, and Physiology; (2) Obstetrics and Diseases of Women and Children; (3) Surgery and Anatomy; (4) State Medicine and Public Hygiene, to appoint annually before the adjournment of the meeting of the association three members of ability and good judgment, who shall constitute a committee of selection, and who shall, within thirty days thereafter, select and publicly announce for competitive investigation and report a subject belonging to one or other of the branches of medicine included in the title of the section. (c.) It shall also be the duty of the chairman of each of the sections mentioned to appoint annually a committee of award, consisting of three experts, who shall carefully examine the essays offered for competition, and if any one shall be found worthy of the prize as a substantial contribution to medical knowledge to recommend the same to the association. (d.) All essays placed by their authors for competition shall be in the hands of the chairman of the respective committees of award on or before the first day of January preceding the meeting of the association at which the reports of the committees are required to be made. (e.) All prize essays shall be considered as the property of the association. (f.) The names of the authors of the competing essays shall be kept secret from the committees by such means as the latter may provide. (g.) Membership in either of the two committees shall not disqualify from membership in the other; nor shall membership in the committee of selection exclude a member from the privilege of offering a competing essay.

It is also proposed that the Marine Hospital Service of the United States shall be entitled to one delegate.

—Dr. Copeman, vice-president of the British Medical Association, died in the latter days of February.

Medical and Surgical Journal.

THURSDAY, APRIL 1, 1880.

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All communications for the Editors, and all books for review, should be addressed to the Editors of the Boston Medical and Surgical Journal.

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THE ALCOHOL QUESTION FROM A MEDICAL POINT OF VIEW.

In an address delivered before the Rhode Island Medical Society at its last annual meeting, which has been recently printed for circulation, Dr. Caswell, the president of the society, discusses the alcohol question from a medical point of view. These remarks, in somewhat the same form, were repeated before the alumni of the Jefferson Medical College. They are so temperate and moderate in tone, and the question of the use of alcohol, whether as medicine, food, or drink, is treated with such a conscientious realization of its very vital importance to society and mankind at large, and of the serious responsibilities which the medical profession is compelled to assume in regard to it, that we take great pleasure in calling attention to the address. A temperate spirit in the discussion of subjects pertaining to intemperance is so rare, and at the same time so grateful, that of itself it goes a long way toward carrying conviction. Dr. Caswell justly observes: It must be admitted at the start that there is no subject outside of theology in which the holders of different opinions have been more violent in the defense of their own side, more virulent in denouncing their opponents. There is no subject in the discussion of which more contradictory statements have been made, all of which have been apparently supported by experiment, and there is none in which the rule for each individual is perhaps more potent. Let us endeavor to arrive at some conclusion as to the use of alcohol in health and in disease, and to canvass some of the more recent views advanced by medical men.

As an illustration, if any were needed, might have been added the well-known figures from the introduction to the volume on Population of the Census Report of 1860, in which Dr. Butler, formerly of the Hartford Retreat, shows that of 7591 cases in four leading asylums in which the causes of insanity were noted, 2253 were traced to "ill health," 812 to intemperance, and no less than 740 to religious excitement. The arguments in vogue in this State are not quite so violent as they apparently are in a certain State to the west of us, where it is reported that the inhabitants of a town objecting to the sale of liquor have lately, in carrying out their prejudice, blown up a liquor saloon with gunpowder; but the civil damage bill, which we hope the legislature will see fit to do away with, is the action under the form of law of the same blind and unreasoning energy, and a recent private social organization would have been blown to

pieces in our very midst long ago if explosive words could have done it.

Thirteen years ago this very week the late Governor Andrew made a very manly and able *exposé* of the errors of prohibition in an argument delivered before a joint special committee of the General Court of Massachusetts on the matter of license and prohibition. Its republication at the present time in pamphlet form, in a tenth edition, is at once opportune and an indication of its value and popularity. It forms an excellent companion to Dr. Caswell's address. After quoting the best modern authorities on the subject, and giving due weight to what they have advanced for or against the use of alcohol, Dr. Caswell expresses his conviction that as a medicine it can lay claim to the highest rank, and that in various diluted conditions, some of which are enumerated, its use is indicated, and in others is of very great value. In youth and health men are, as a rule, better without it; but, with Sir James Paget, he is of the opinion that "the discipline of temperance is better than the discipline of total abstinence." If one does not feel the need of such aid as the judicious use of minimum doses of alcohol affords, and a cup of cold water supplies all that the system demands, then by all means let alcohol alone; but it seems to Dr. Caswell that in our climate and with our life the majority of men who approach or have passed middle life, and certainly those who are on the downward slope, find a positive benefit in this occasional minimum use of alcohol.

In these views Dr. Caswell coincides exactly with those of the wise Dr. James Jackson, as expressed in his Letters to a Young Physician just entering upon Practice, which are quoted by Governor Andrew. Dr. Jackson says, "I would never order spirits and wines to one whom I suspected to be deficient in prudence and self-control. But, keeping these things in mind, I have often directed the use even of brandy. I do not, then, call the risk very great of such prescriptions, when made with proper caution. In regard to the benefit, in some cases of dyspepsia, and in various other cases, I have not any doubt, and, that I may tell the whole, let me say that I have repeatedly seen very great benefit from giving wine to young children. I exhort all young people in health not to adopt the practice of drinking wine. I deprecate everything which shall tend to intemperance, and I believe that many men suffer from the use of wine and spirits, even in a moderate way. But I love to tell the truth, even when it is unfashionable. I believe that very many persons are benefited by the juice of the grape, and I choose to say so. Moreover, I believe that persons disposed to intemperance are not to be restrained from indulging in their vicious propensity by the abstinence of their more prudent neighbors."

Dr. Caswell joins Dr. Bowditch in his estimate of the good influence which the more general use of light wines and beer would have upon the suppression of intemperance, and closes his remarks as follows:—

I have thus, gentlemen, canvassed the views of alcohol in its relations to health and disease, and before

close I must give expression to the hope I indulge that not one word that I have uttered should inure in any way to the injury of the cause of total abstinence. A movement which at the present day is drawing to itself such pure and noble men, such eloquent and devoted adherents, as it does, both from the clergy and from the ranks of our own profession, deserves to be regarded with the most profound respect, and to be judged most conscientiously. I accord to these gentlemen the fullest measure of esteem, and withhold from them my most earnest coöperation only on the grounds which I have presented to you. And so I leave the subject with you, as one which each individual must decide for himself but in the full light of his own conscience, and with a just and overpowering sense of all the issues that are involved.

We have drawn attention to this address as in many ways a model of what the treatment of this important subject ought to be, and the concluding passage is quoted in full as not the least praiseworthy part of it. In discussing the use of alcohol, let us by all means respect ourselves, those who may differ with us whenever they will permit it, and let us not forget the amenities of life.

MEDICAL NOTES.

—The *Medical Press and Circular* recommends the tartrate of morphia, a new preparation. Being very soluble, it passes quickly out of the system, and does not cause the frequent unpleasant after-effects of the acetate and muriate. Its great solubility makes it especially useful for subcutaneous injection. It gives rise to but little smarting or irritation, and does not clog even the finest needles.

—Thomas Smith, of St. Bartholomew's, reports another successful case of lithotripsy by Bigelow's method. The stone removed was small in size, but the operation was a good test of the comparative value of the operation, because the patient, on previous occasions, when under lithotripsy, had shown extreme sensitiveness. The recent operation caused neither discomfort nor constitutional indisposition. Concerning the patient from whom this surgeon removed four ounces of calculi in two sittings, Dr. Smith says, he has no symptom of cystitis or catarrh, and is free from pain and irritation. From a condition of urinary incontinence he has completely recovered, and his general health and strength are good. See the *Lancet* for January 10th and March 6th.

—Dr. C. A. Bryce, of the *Southern Clinic*, Richmond, Va., states that he was called to see a little boy who complained of headache in the right side of his head and through the right eye. His sight was imperfect while suffering from the pain, and there was decided periodicity about the attacks, which were much worse every other day; his nose bled very often when he was troubled with the headache. From the history of the case it was regarded as a neuralgic hemicrania, of malarial origin. Accordingly, quinine, iron, and hyoseyamus were prescribed, with no im-

provement, but an increase of the head trouble with more hemorrhage from the nose. By the use of three-grain doses of dextro-quinine three times a day, however, after the second day the hemicrania was entirely relieved and did not return; the eyesight became perfect, and the bleeding from the nose ceased.

—In the Pennsylvania Training School for feeble-minded children is a child whose memory is so retentive that after listening to a sermon or other discourse he is able to repeat it *verbatim*, even to the intonations of the speaker. This instance is cited by the *Medical Press and Circular* as a proof that memory is not necessarily a high faculty of mind.

—Dr. Lewis A. Sayre has been made an honorary member of the Dutch Society of Natural and Medical Science.

—Two more deaths from chloroform are reported in the Canadian medical journals.

—Sir Dominic J. Corrigan, the distinguished Irish physician, is dead. His earliest and most important contributions to medical literature were his essays on permanent patency of the aortic valves (1832) and on cirrhosis of the liver, which placed him "among the ablest pathologists of the day." His career as a lecturer began very early, and he held the chair of physic in the Richmond Hospital School from 1845 to 1854. The Academy of Medicine in Paris elected him corresponding member. In 1866 he was created baronet, in recognition of his high professional position and his services to Ireland.

—M. Rémy has examined microscopically the marrow of amputated bones by means of chloride of gold, and claims to have discovered nerves. Some of them contain myeline, and are of small size; others are fibres of Remak. They are very numerous, follow the course of the vessels, and are, in all probability, vasa-motor.

NEW YORK.

—The coroner's inquest in the case of Maria Otter, who was killed in the lunatic asylum on Blackwell's Island by another patient, has been concluded. In their verdict the jury find that the assistant physicians in this institution are not experienced enough for the discharge of their duties, and that their pay, as well as that of the nurses, is insufficient to secure competent persons for either of these positions. They find also that there is "a lack of proper system and a general irresponsibility by the commissioners in charge of our asylums and hospitals, who should be men qualified by education and training for the position," and they recommend that a medical superintendent be speedily appointed to take charge of the asylum on Blackwell's Island, as in their opinion one expert is insufficient to exercise a proper supervision over the two institutions on Ward's and Blackwell's islands, which double duty is now performed by Dr. MacDonald.

At the inquest Mr. Townsend Cox, president of the Board of Commissioners of Charities and Correction, testified that the assistant physicians were appointed on recommendation of an examining committee of the medical board and of the medical superintendent, and

that the chief medical assistant received \$250 a year, and others \$200 a year (including board and washing), while some were entirely without pay. The nurses received from \$180 to \$200, and were required to be able to read and write, to be of good physique, well recommended, and, apparently, of good temper. On the recommendation of Dr. MacDonald, a training-school for nurses for the insane will be organized at the institution as soon as possible.

—The Improved Dwellings Association, which was organized some months ago as a stock company, is now about to put up in the northeastern part of the city some improved tenement houses, which will in many respects be the most important buildings of this class yet erected in New York or Brooklyn. The land, which measures two hundred feet square, was purchased a short time since at a cost of more than fifty thousand dollars, and the buildings, which will occupy all the available frontage and leave a large open court in the rear, will cost about two hundred thousand dollars. The tenements will be on First Avenue, extending from Seventy-First to Seventy-Second street, a distance of two hundred feet, and for the same distance on each of the cross-streets. They will be six stories high, with a French roof, and the external design will include a combination of red brick of different shades, black brick, and a little light stone for lintels. Each set of rooms will consist of one living-room and a large and small bed-room, and each one will be provided with sink, closet, and washing-stands, while there will be lifts from the cellar for wood and coal. Of course, the greatest attention will be paid throughout to ventilation, light, drainage, and other sanitary requisites. Two hundred families in all can be accommodated, and the rents will be from seven dollars upwards per month. None of them, however, will be much above ten dollars, the price being placed at such figures as will leave the association just five per centum profit on the investment.

—The widow of the late John C. Green has built a handsome new wing to the Bloomingdale Asylum for the Insane as a memorial to her husband, at a cost of \$130,000. Her design has been to secure for female patients whose insanity is of a comparatively mild type the comforts to which they may have been previously accustomed, and to exclude from the building all the appearances of a cheerless place of restraint, which are too often conspicuous in institutions for the insane. Hence it is fitted up with all that can gratify a refined taste, and as the situation and surroundings of the Bloomingdale Asylum are of the most beautiful character, a delightful home is thus provided for these unfortunates. In connection with her gift of this memorial wing, Mrs. Green has bestowed a fund of \$200,000, the income from which is to be applied to the care of women who were formerly accustomed to the comforts of life, but who, becoming insane, have had no means to pay for their support at the asylum. It is stipulated by Mrs. Green that this fund shall be devoted to the maintenance of those who have been engaged in teaching school or music, or other similar pursuits. Heretofore all such cases have been neces-

sarily sent to the asylum on Blackwell's Island, or to some of the state institutions, where they have been thrown in contact with a more violent and frequently degraded class of patients, and deprived of all their usual comforts.

—The bill for the establishment of a state board of health has passed the New York senate by a vote of twenty-three to one.

PHILADELPHIA.

—The election for a professor of physiology and institutes of medicine by the trustees of the Jefferson Medical College has been definitely appointed to take place on the 25th of April.

—The annual meeting of the Alumni Association of the Jefferson College was held on the day preceding the commencement. Dr. R. J. Levis presented a life-size bust, in bronze, of J. Marion Sims to the association, on behalf of the surgical staff of the hospital. This bronze will be placed in a prominent position in the amphitheatre of the hospital of the college. The annual address was delivered by Dr. John B. Brinton, of the hospital staff, on March 11th, in the evening, before a large audience assembled in the lecture room of the new hospital. His subject was *The Faculty of 1841*,¹ and in his address he gave reminiscences, personal and biographical, of the members of that most distinguished faculty of the Jefferson College.

WASHINGTON.

—In the discussion before Congress on the general deficiency bill, March 16th, Mr. Singleton, of Mississippi, spoke in a manner which would show his opposition to the printing of the subject catalogue of the Library of the Surgeon-General's Office, United States Army, by characterizing the resolution which authorized the printing of the first two volumes as having been *sprung* upon the house on the last day of the previous session, and inferring that the work in the main was for the cataloguing of subject matter in *antiquated books*. He needs to be thoroughly interviewed by some of the medical profession of his State.

—On March 18th the National Medical College, as the medical department of the Columbian University, held its fifty-eighth annual commencement, with eight graduates. These graduates had all of them taken three full courses of lectures, with an intermission of seven months between each course, and, with the exception of two, also the graded course as recommended by the college association. The class, from which they graduated comprised fifty-six members, a full quota for this section. The address on the part of the faculty was given by Dr. Elliott Coues, U. S. A., lecturer on anatomy, and his theme was the Goddess Hygeia of the Greeks and her influence at the present time.

ST. LOUIS.

—At the January meeting of the St. Louis Obstetrical and Gynecological Society, Dr. S. G. Moses read a paper upon post-partum hemorrhage. After

¹ Published in full in the March number of the College and Clinical Record.

mentioning the usual modes of treatment, the reader said that if these all fail we must resort to injections of the perchloride of iron, and as this acts by forming thrombi in the uterine vessels, when we use it we must abstain from the use of frictions, ergot, or any other agent likely to produce contractions of the uterus, as these would dislodge the clots and expose the patient to a recurrence of the hemorrhage. When much blood has been lost, Dr. Moses advises bandaging the legs to prevent syncope.

—At the meeting of the St. Louis Medical Society, held March 13th, a very interesting paper, illustrated by drawings, upon the treatment of sterility dependent upon endocervicitis and endometritis was read by Dr. A. C. Bernays. The treatment which he advocated he attributed to Dr. G. Simon. The reader held that sterility, and the dysmenorrhœa depending upon it, belonged as much to the domain of surgery as stricture of the urethra or fissure of the anus; that the swollen condition of the mucous membrane of the cervix caused a stricture of the neck, and this stricture was the cause of dysmenorrhœa and sterility.

The operation by which he proposed to cure this stricture is as follows: The patient is placed in the lithotomy position; the neck is split by incisions similar to those made in Sims's bilateral incisions. Now, it has been found that this procedure temporarily cures the leucorrhœa, but that the cut surfaces reunite, and the condition of the patient becomes worse than it was before. In order to prevent this, another step is necessary, namely, a wedge-shaped piece is cut from the anterior and posterior vaginal surfaces of the neck, the cuts running at right angles to the long axis of the uterus, and the base of the wedge being external; the surfaces of these wedge-like cuts are brought together by sutures thus prying open the split cervix and exposing to view the internal os.

Dr. Bernays has performed the operation seventeen times. Up to December, 1879, he had treated fourteen cases in this way, and in regard to these was ready to give results: Five of the patients became pregnant, and three of them have been delivered. Of these five, two had been barren between six and seven years, one five years, and the other two between three and four years. The nine others, though they remain barren, have been relieved of their leucorrhœa.

MEDICO-LEGAL.

—Supreme Court of California. Where a female is solicited presently to yield her person in consideration of a promise of subsequent marriage, and does so, the contract is not one upon which she is entitled to damages upon its breach. It is not a case of seduction after mutual promises of marriage have been given between the parties. Such a contract is one for illicit cohabitation, and, being tainted with immorality, is void.

—Iowa. Injuries. Plaintiff may recover damages for medical attendance, care, and nursing made necessary by injuries received, though said services may be rendered to him gratuitously.

—United States Circuit Court, Pa. The act of Pennsylvania of March, 1850, providing for a medical examination of each vessel arriving at Philadelphia from abroad, and the collection therefrom of a fee from each person on board, is unconstitutional as to the collection of the fee. Such fee cannot be sustained as a port charge for services rendered, as the service is rendered to the city for the preservation of the public health, and not to the vessel.

—Court of Appeals of Kentucky. At common law it is not a punishable offense to produce, with the consent of the mother, an abortion prior to the time when she becomes quick with child. Case reversed and remanded. In Pennsylvania the contrary view is expressed by the supreme court, which holds that the offense, whether committed before or after the woman has become quick, is punishable at common law.

—Small v. Howard. Massachusetts. Opinion of Judge Ames. Malpractice. Village Doctor. In an action to recover damages for malpractice, brought against a physician and surgeon practicing in a small country village. *Held*: (1.) That the contract of such physician and surgeon, as implied by law, was that he possesses that reasonable degree of learning, skill, and experience ordinarily possessed, regard being had to the advanced state of the profession at the time. (2.) That he was not required to furnish, and was not responsible for, that high degree of art and skill which is possessed by eminent surgeons practicing in large cities, and making a specialty of surgery.

—Supreme Court of Pennsylvania. A dying declaration is properly admitted where the deceased makes said declaration after having been told by his physicians that he was dying, and declares to the person taking the declaration that he made the same with the belief that he was dying, although a few hours before he had said he did not believe he was in a dying condition.

—Court of Chancery, New Jersey. The return to a writ of *habeas corpus inquiring* set out that the alleged lunatic "is a lunatic and of unsound mind, and does enjoy lucid intervals, so that he is not capable of the government of himself, his lands," etc. The phrase italicized, whether read parenthetically or not, is not objectionable either in form or in fact.

Disclaim.

THE NEW CODE.

MR. EDITOR,—The draught of the new and excellent code having been distributed by the councilors to the Fellows for their careful consideration and criticism, the following changes in its phraseology are suggested, to make it still more concise and add to its definiteness and force.

Line 4, omit "for their guidance and convenience," as unnecessary.

Line 5, strike out "lend his influence to," and the expression is stronger. A physician should do more than *incline* or *tend* to encourage sound medical education. Strike out "to" in line 6 and "the" in line 7.

For the first sentence in Section II. read, "The

success of a practitioner depends upon his moral character, scientific attainments, industry, and business talent."

For the caption of Section III. read, "The Relations of Physician and Patient," because the section treats of the duties of the one and the rights of the other.

Lines 30 and 31 omit as superfluous.

Lines 35 and 36, read, "after the latter has been notified." This will relieve the physician of the very ungracious duty of giving the notice himself.

Line 44, omit "and not simply verbal," as superfluous.

Line 55, insert "artificial" or "factitious" before "mineral waters," to distinguish between those the analysis of which is published and the others, the ingredients of which are a secret.

Lines 61 to 64, read, "A consultation is called to give the patient the advantage of collective skill. Discussions should be temperate and always confidential."

Line 65, "A consulting physician should neither say nor do anything" is somewhat more direct.

Line 69, omit "punctuality is important." Truism.

From line 75 to line 80 read, "The attending physician, having stated in general terms the nature of the case, may then call in turn upon each consultant to examine the patient, the usual order being that of seniority. On retiring the attending physician may invite, in the same order, the opinion of each consultant." No well-bred man needs the two reminders as to interruptions.

In the section on fees, line 86, read, "understands and agrees to it," and strike out the whole of the next sentence.

A few other verbal alterations may be suggested:

Line 96 the words "connected," "example," and "with" may be omitted.

Line 97, for "except" read "but not for."

Line 53, omit "thus."

The changes here suggested, though not very important to the code as such, are believed to be improvements in expression.

W.

CAMBRIDGE.



THE DEGREE OF DOCTOR IN MEDICINE ABROAD.

MR. EDITOR,—The recent notices of the spurious schools of medicine in Philadelphia makes interesting the discussion during the past year in the Royal Academy of Medicine of Belgium upon the admission of foreigners to practice as physicians in Belgium without requiring of them an examination as to their abilities. M. Warlomont took a prominent part in this discussion, and his review of the laws in various countries governing the practice of medicine is useful and interesting. He made a serious mistake in referring to the United States, but that mistake was promptly and gracefully corrected when his error was pointed out to him.

In his general argument he referred to the law of Belgium, which permitted foreigners to practice as physicians without a special examination when they were provided with the diploma of M. D. granted by a university, as favoring a doctor from the University of Tinbuctoo or of Bahia, and as refusing this favor to a Fellow of the Royal College of Physicians. "In Holland, Switzerland (Allemagne), and Germany diplomas are conferred which do not carry the right to practice unless accompanied with the certificate of the

state examination (*Staats-Prüfung*). Moreover, according to the law of July 21 and the ordinance of November 11, 1879,—applicable to the Confederation de l'Allemagne du Nord,—the title of doctor is not necessary for the certificate of the state examination; thus making two distinct diplomas of medicine,—the one a doctor without the right to practice, the other giving the right to practice without the doctorate. It is not long since that, in the universities of Gießen and Jena, foreigners, *honoris causâ* and *in absentia*, could obtain [purchase] the diploma of a doctor.

"In the United States the state [general government] exercises no authority on either the teaching or practice of medicine in civil life; it is absolutely free; any one can assume the title of doctor without committing an offense, for the usurpation of the title is no offense. This depreciation of the title is completed and justified by the facility with which the universities and schools confer their degrees. The University of Philadelphia, the oldest and most celebrated of America, founded in 1762, contains the following in its regulations:—

"The candidate is required to write and defend publicly a thesis before the college, unless he be beyond the seas, or at such a distance in the interior of America as to render a voyage too difficult. In such a case he shall transmit a thesis written by himself, and of sufficient value to be approved by the faculty; the candidate will then receive the title of doctor, and his thesis will be printed and published at his expense."

"This tears aside all veils; it explains among others that fact at first declared to be calumny, but later recognized as true, that, provided with a certain sum of money, an individual who cannot read or write can be acknowledged as a doctor by sending a thesis written by a third party. In the month of December, 1871, there came to the notice of Dr. Duviol, of Paris, a letter addressed to his concierge, who at the same time was a *maître*, as follows:—

"Sir,—If you desire to obtain the degree and diploma of doctor in medicine from a celebrated university of America, let me know, and I will state my conditions. In awaiting your reply, accept, etc.,

(Signed) Médecus, 46 King Street, Jersey.

"The letter was accompanied by the following cutting from a Jersey journal:—

"Promotion aux degrés universitaires sans déplacement. Occasion unique. Les personnes désireuses d'obtenir les titres de docteur, bachelier, et maître dans les différentes facultés peuvent s'adresser à Médecus, rue du Roi 46, à Jersey, Angleterre."

"I considered this a mystification, said M. Le Fort, from whom we take these details, but nothing was more serious. Dr. Dechambre directed his servant to communicate with Médecus, and he received in reply a letter from Dr. Van Yver, calling himself a delegate of the University of Philadelphia, and offering for six hundred francs the diploma of doctor of that university. After making several objections for the purpose of obtaining positive proof of this inconceivable traffic, the sum was reduced."

This report—for it was as the representative of a committee recommending certain resolutions that M. Warlomont spoke—went much further into other details than it would be of interest to reproduce here, and was adopted June 28, 1879. Subsequently, the attention

of members of the profession in this country being called to so unfortunate a mistake, an interesting correspondence with M. Warlomont ensued, with the following result:—

“Séance of October 25, 1879. M. Warlomont obtained the floor and spoke as follows: Messieurs, in the report on the admission of foreigners to the practice of medicine in Belgium, I repeated the recital as set forth in the work of M. L. Le Fort¹ of the scandalous negotiation of diplomas made by the University of Philadelphia. The thing seemed so monstrous to the world in general that I have received from various quarters indignant protestations and demands that I prove what I have asserted. Among others was a letter from M. James Lyton [Tyson], M. Daniel, secretary of the veritable University of Philadelphia (department of medicine, University of Pennsylvania, Philadelphia, U. S. A.), who has given me some positive information upon this subject.

“It appears from this information that there is in Philadelphia a highly discreditable institution which has taken the name of the American University of Philadelphia. This institution made a traffic of diplomas, which for the most part were sold in Europe. In America the commerce no longer exists, for the fraud has been exposed, but in Europe it continues successfully.” Here follows in a review the details of the report of the action of the State of Pennsylvania on this subject, so well known to the profession, setting forth clearly and properly the irreproachable character of the Jefferson Medical College and the University of Pennsylvania.

“It appears from this long citation that, aside from the adulterated institution in question, there lives and flourishes in Philadelphia the old faculty of medicine called The Medical Department of the University of Pennsylvania, created in 1765, which has lost nothing of its ancient and legitimate reputation. This institution has recently made great efforts to perfect the system of education in the United States, and with that object has considerably lengthened its course of study.”

In conclusion, and to substantiate his corrected statements, M. Warlomont presented to the Academy certain publications of the University of Pennsylvania.

L.

DISLOCATION OF THE STERNAL END OF THE CLAVICLE IN A CHILD TEN MONTHS OLD.

BY THOMAS R. WRIGHT, M. D.,

Demonstrator of Anatomy, Medical Department University of Georgia, at Augusta.

In June of last year I was called to a neighboring drug store to see a child brought from the country, said to have something the matter with its neck. An examination showed a small hard prominence just below the top of the sternum, and by questioning the mother the following history was obtained. The baby, ten months old a week before, had fallen out of bed, striking upon its right shoulder. As the mother took it up she saw the prominence, but thinking it amounted to but little applied some kerosene, and let it alone. The child continued to fret, however, and she noticed that it carried its head peculiarly and would not use the

right hand, and upon her lifting the baby by the right arm it screamed as if in great pain. This caused the mother to look at its neck again, and finding the lump still there she brought the child to the city to see a doctor. Such a history caused me to suspect something wrong with the sternal end of the clavicle, and a closer examination confirmed my suspicion, for, passing my fingers along those bones, the course of the right one was found to be downward and below the fellow of the opposite side, and its sternal end was distinctly felt, about half an inch below the top and in front of the sternum, having been dislocated diagonally downwards upon the anterior surface of that bone. By examining the sternum the vacant articular cavity was readily felt, and by grasping the right shoulder and moving it the bone was felt to move in its new position. Being pretty well assured of the correctness of my diagnosis, I told the mother to go home, and I would call and try to replace the bone. Going out to see my little patient, shortly after, with my friend Dr. Perrin, I attempted reduction without ether; but the baby's struggles and screams were too much for us, so we gave ether to complete anesthesia, and again carefully examined the case, with the same conclusion. I then proceeded to reduce the deformity. Counter-extension being made, I grasped the right shoulder with my right hand, the thumb and fingers of the left pressing against the dislocated end of the clavicle. I then made extension, at the same time carrying the shoulder backwards and a little downwards; my left hand also gently pushing the dislocated bone towards its normal cavity. After several attempts in this manner the bone slipped into place, and could then be felt in its normal position. Remembering the formation of the articulation and the easiness with which the deformity could be reproduced, a graduated circular compress was placed over the joint, and kept there by two crossed strips of strong plaster and a figure-of-eight bandage; the arm was then bound to the side with strips of plaster, and bandaged so as to be immovable. The child was kept in this way for two weeks, when the bandage was taken off and the bone found in position. A strong strip of plaster was then placed over the joint and kept there for some time as a precautionary measure.

It may appear from the repeated examinations of this case that the writer was a little uncertain as to his diagnosis. This at first sight I admit was the case, for I had never read nor heard of a similar dislocation in one so young.² Careful examination and study of the case, however, satisfied me of my correctness, as the result seems to have proved. I have examined the child several times, before and since preparing this paper, and there is no deformity whatever.

NASAL PROBES.

MR. EDITOR.—In the criticism of my paper upon the use of large probes in the treatment of strictures of the nasal duct (which by the courtesy of the American Ophthalmological Society appears in their recently issued volume of Transactions) in your journal of February 19th, your reviewer assumes that the diameter of the bony duct is only about 4 mm., and from this stand-point finds it an easy task to make it

¹ Etude sur l'Organisation de la Médecine en France et à l'Etranger, Paris, 1874.

² Malgaigne speaks of a case in a child four years of age. Fractures et Luxations, tome ii.

appear that the employment of lachrymal probes of 4 mm. diameter, which I recommend, is irrational, and calculated rather to do harm than good.

Now it so happens that I was led to the use of these probes by a careful investigation of this very point, — the calibre of the bony canal of the nasal duct. In the Transactions of the Medical and Chirurgical Faculty of Maryland for 1877 (a copy of which was doubtless sent to your journal), page 155 *et seq.*, may be found an account of this investigation. Having supplied myself with a number of probes made of iron and copper wire, differing by about $\frac{1}{2}$ mm. in diameter, the smallest having a diameter of 3 mm. (about $\frac{1}{8}$ mm. greater than the largest probe which I had at that time used in practice), and the largest a diameter of 7 mm., and having obtained permission to make use of the collection of skulls in the Anatomical Museum of the University of Maryland, I proceeded to ascertain by trial how large a probe could be passed through the nasal ducts of each one of the thirty-nine skulls composing the collection, all of which, except two, were those of adults. No force was used, and unless the probe went entirely through the duct to the floor of the nose it was not considered to have been passed. In a number of instances the thin plates of bone which assist in forming the lower portion of the canal had, in drying, become warped and bent in such a manner as to encroach upon its calibre, and this frequently prevented the floor of the nose from being reached with as large probes as could be passed without difficulty through the more rigid upper half of the duct. Nevertheless, I found in the thirty-seven adult skulls but six ducts through which I could not pass a probe larger than 3 mm., while I discovered seventeen which permitted the passage of one of $4\frac{3}{4}$ mm., four one of $5\frac{1}{4}$ mm., one one of $5\frac{3}{4}$ mm., and one other through which my largest probe, of 7 mm. diameter, was passed with ease.

As supplementary to this, I also examined twelve ducts, with membranous lining intact, upon the cadaver, the subjects in the dissecting room of the university being placed at my disposal for this purpose. Except in one instance, in which post-mortem changes prevented the punctum from being found, the probes were introduced through the lower canaliculus, slit up in the usual manner. Through both ducts of the first subject examined a probe of $3\frac{3}{4}$ mm. (the largest which I had with me at the time) was passed with ease, and found to be so loose that it was evident a much larger one could have been introduced. In one of the remaining ten (in which pathological contraction was suspected) a probe of only 3 mm. could be passed, and the fellow to this admitted one of but $2\frac{3}{4}$ mm. In all of the others, however, probes varying in size from $4\frac{1}{4}$ to $5\frac{1}{4}$ mm. (the latter in three instances) were passed to the floor of the nose without difficulty.

From these measurements it will be seen that in recommending a probe of 4 mm. diameter for the dilatation of nasal-duct strictures I have at least kept well within what may be termed anatomical bounds, and especially when it is remembered that I have not advised that this, the largest of the series of probes which I have proposed, should be used in every case, but have gone so far only as to express my conviction that the instances in which it might not be used with advantage were exceptional.¹ Indeed, so great

is the contrast between the size of this probe and the size of the largest which I passed upon the cadaver that I have felt myself open to the charge of inconsistency in not using in exceptional cases one still larger, since I have laid especial stress upon the importance of restoring the strictured canal to its normal calibre; and, unquestionably, even a probe of 4 mm. will not accomplish this in every instance.

One other point you will permit me to refer to: the statement of your reviewer that my paper "contains an account of the cure of five cases" of stricture "out of a total of twelve" can convey, as it seems to me, but one impression, — that in the seven cases not described as cured the treatment had failed. What I did say was that I had used a probe of 4 mm. diameter in twelve cases; that in one of these the treatment had been interrupted by the patient leaving the city, and the stricture had subsequently returned; that in three — two of these, however, being in the same subject, an old woman, sixty-six years of age, with ozena of long standing — the treatment, though fairly tried, had been productive of but temporary benefit; that in five a complete cure had been obtained; and that the remaining three cases were still under treatment, with a good prospect in each of a favorable result. In two of these the result which I anticipated has since been attained. In one the probe has not been passed since August last, and in the other since September, yet up to the present time the canal in each remains freely pervious, as is shown by the ease with which air can be blown through it. In the third case the probe is still being used, the treatment having been interrupted for several months by the patient being away from the city.

By a singular coincidence, while on my way, a few days since, to inquire after one of the patients I have just referred to, I encountered on the street one of the cases in which I had reported but temporary benefit from the large-probe treatment (Case VII. in my paper). To my surprise, I found upon inspection (though the day was windy) no stillicidium whatever, and the sac containing neither mucus nor tears. The duct was not pervious to air, but as she said the tears troubled her only occasionally, when exposed to the cold, it seems likely that it is not completely occluded, and that the benefit which she derived from the treatment was more permanent than I had supposed.

SAMUEL THEOBALD.

BALTIMORE, March 6, 1880.

DEATH FROM NARCOTISM.

MR. EDITOR, — I report the following case as having some points of interest: —

W. D. D., aged fifty-one, carpenter, had been insane for a year and a half, the form of insanity being melancholia. For a year or more he had been in the habit of taking, when necessary to produce sleep, one or two teaspoonfuls of the following mixture: —

R Chloral hydrat.	℥iii.
Potass. bromidi	℥iv.
Morphine sulphat.	gr. vi.
Belladon. ext.	gr. iii.
Aque	℥iv. M.

This made a mixture of about eight ounces.

On February 22d, at six p. m., he took four ounces

¹ Archives of Ophthalmology and Otology, vol. vi. p. 479.

of this compound at one draught. He began to show the effects of the dose in five minutes by a staggering gait, and in about fifteen minutes he was insensible. The whites of two eggs and a quantity of mustard and water were given to him in five minutes after the ingestion of the dose, and in the course of twenty minutes he vomited thoroughly, as reported by attendants. I saw him in an hour and a half after the draught was taken.

He was completely narcotized. His pulse was intermittent, fluttering, and sometimes could not be felt. The heart sounds could not be heard. Respiration 24 to the minute, skin cool, and pupils contracted.

Mustard and heat were applied to the extremities, and a hypodermic injection of one fortieth of a grain of atropia sulphate was given. Whisky and brandy were administered in same way every few minutes. In half an hour the atropia was repeated, and in a few minutes an improvement in the heart's action was perceptible.

At ten P. M. his pulse was 93, full and regular, the heart's sounds distinct; respirations 24, deep and regu-

lar; countenance more natural; skin warm; and thus he continued, with some variations in frequency of pulse, till a little before one A. M., when there was a slight loss of force in the heart's action. The atropia was again administered, as well as the brandy and whisky, but the heart continued to beat more and more feebly, its sounds being inaudible for half an hour previous to his death, which occurred at 2.15 A. M. Pupils remained contracted throughout. Respiration never very slow or irregular till ten minutes before death.

Yours respectfully, T. W. PARSONS, M. D.
PORTSMOUTH, N. H.

THE PROPOSED MEDICAL LAW.

MR. EDITOR,—Having been told that my name had appeared in a petition against the proposed law for regulating the practice of medicine, I would say that I am *in favor* of the law, and have signed no petition of any kind against it.

WALTER CHANNING.

REPORTED MORTALITY FOR THE WEEK ENDING MARCH 20, 1880.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Deaths under Five Years.	Percentage of total Deaths from				
				The Principal "Zymotic" Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.
New York.....	1,085,000	511	220	15.85	18.40	6.85	.98	.78
Philadelphia.....	901,380	321	—	13.08	13.40	4.05	.93	1.56
Brooklyn.....	564,400	209	85	19.14	14.55	8.61	2.87	—
Chicago.....	—	—	—	—	—	—	—	—
St. Louis.....	—	105	45	14.29	12.38	3.81	—	1.90
Baltimore.....	393,796	139	51	15.11	11.51	6.48	5.76	—
Boston.....	365,000	158	55	16.46	13.29	8.23	.63	1.27
Cincinnati.....	280,000	109	39	10.09	11.92	4.59	—	1.83
New Orleans.....	210,000	85	28	9.42	11.77	1.18	1.18	1.18
District of Columbia.....	170,000	88	41	9.09	20.45	—	1.14	2.27
Buffalo.....	—	26	11	26.92	23.08	23.08	—	3.84
Cleveland.....	160,000	63	25	33.33	7.94	7.94	19.05	—
Pittsburgh.....	145,000	72	37	31.94	15.28	9.72	9.72	2.78
Milwaukee.....	127,000	42	18	21.43	14.29	16.67	2.38	—
Providence.....	102,000	34	11	14.71	14.71	—	11.76	2.94
New Haven.....	60,000	18	10	38.89	—	—	—	—
Charleston.....	57,000	19	10	15.79	15.79	5.26	—	5.26
Nashville.....	37,000	16	5	18.75	12.50	—	—	6.25
Lowell.....	54,000	28	11	10.71	17.86	7.14	—	—
Worcester.....	53,000	18	7	16.67	27.78	5.56	5.56	—
Cambridge.....	50,400	20	7	5.00	25.00	5.00	—	—
Fall River.....	49,000	23	—	30.43	15.04	—	13.04	4.35
Lawrence.....	38,600	15	8	33.33	—	6.67	6.67	6.67
Lynn.....	34,000	13	2	7.69	30.77	4.69	—	—
Springfield.....	31,800	—	—	—	—	—	—	—
New Bedford.....	27,200	10	3	20.00	20.00	10.00	10.00	—
Salem.....	26,500	17	6	11.76	23.53	—	—	—
Somerville.....	23,500	10	3	—	—	—	—	—
Chelsea.....	21,000	6	—	16.67	—	—	—	—
Taunton.....	20,200	5	1	—	40.00	—	—	—
Holyoke.....	18,400	11	6	—	27.27	—	—	—
Gloucester.....	17,300	3	3	33.33	—	—	33.33	—
Newton.....	17,300	—	—	—	—	—	—	—
Haverhill.....	15,350	5	2	40.00	20.00	40.00	—	—
Newburyport.....	13,500	9	2	11.11	11.11	—	11.11	—
Fitchburg.....	12,600	2	—	—	—	—	—	—
Fifteen Massachusetts towns.....	114,710	40	15	27.50	10.00	20.00	2.50	2.50

Two thousand two hundred and fifty deaths were reported; 767 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 370, consumption 389, lung diseases 335, diphtheria and croup 141, scarlet fever 58, measles 37, whooping-cough 36, diarrheal diseases 28, typhoid

fever 27, malarial fevers 14, erysipelas 12, cerebro-spinal meningitis 10, small-pox five, typhus fever one. From measles, New York 11, Philadelphia eight, Brooklyn six, Pittsburgh three, St. Louis and New Orleans two, Baltimore, Boston, New Haven, Lawrence, and Salem one. From whooping-cough, Boston five, New York, Philadelphia, Brooklyn, and New Haven four, Pitts-

burgh three, Baltimore, Cincinnati, and Cleveland two, St. Louis, New Orleans, District of Columbia, Charleston, Lawrence, and Salem one. From *malarial fevers*, New York and Brooklyn three, St. Louis and New Haven two, Baltimore, Boston, District of Columbia, and Cleveland one. From *erysipelas*, New York three, St. Louis two, Brooklyn, Cincinnati, District of Columbia, Milwaukee, Fall River, Chelsea, and Milford one. From *cerebro-spinal meningitis*, New York five, Fall River two, Philadelphia, Pittsburgh, Nashville, and Worcester one. From *small-pox*, Philadelphia four, District of Columbia one. From *typhus fever*, Philadelphia one. One hundred and sixty-two cases of measles, 34 of scarlet fever, 32 of diphtheria and croup, four of whooping-cough, and one of typhoid fever were reported in Brooklyn; diphtheria 21, scarlet fever nine, in Boston; diphtheria 19, scarlet fever five, in Milwaukee; scarlet fever 18, diphtheria eight, erysipelas two, croup one, typhoid fever one, in Providence; scarlet fever two, diphtheria two, in Cambridge; scarlet fever 11, in New Bedford. Diphtheria is quite prevalent in different parts of Marblehead. The death-rate of whites in District of Columbia was 15.05, of colored 51.07.

The total number of deaths, and of deaths under five, reported was considerably more than for the previous week. Lung diseases, scarlet fever, and small-pox were more fatal; typhoid fever, erysipelas, and measles caused fewer deaths than in the previous week. In 32 cities and towns of Massachusetts, with an estimated population of 954,260 (population of the State about 1,690,000), the total death-rate was 21.47 against 19.49 and 22.47 of the previous two weeks, lung diseases having been more fatal, typhoid fever and scarlet fever less so than in the previous week.

For the week ending February 28th, in 145 German cities,

with an estimated population of 7,680,836, the death-rate was 27.1 against 27.4 and 27.5 of the previous two weeks. Three thousand nine hundred and ninety-eight deaths were reported: 1843 under five: pulmonary consumption 607, acute diseases of the respiratory organs 573, diphtheria and croup 159, typhoid fever 81, whooping-cough 69, scarlet fever 57, measles and *rüheln* 31, puerperal fever 28, typhus fever two, small-pox (Kö-nigshütte) one. The death-rates ranged from 11.4 in Carlsruhe to 38.7 in Strassburg; Königsberg 35.5; Dantzic 30.4; Breslau 30.5; Munich 32.9; Dresden 21.2; Cassel 24.0; Berlin 26.2; Leipzig 23.1; Hamburg 30.2; Hanover 24.7; Cologne 26.4; Frankfurt 26.0. For the same week, Vienna 28.8; Paris 31.0, — small-pox, diphtheria, and typhoid fever continuing very prevalent.

For the week ending March 6th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 22.1 against 23.1 and 25.0 of the previous two weeks. Three thousand one hundred and eighty-one deaths were reported: diseases of the respiratory organs, 390, whooping-cough 209, scarlet fever 99, measles 74, diarrhoea 19, diphtheria 13, small-pox (London eight, Bristol one) nine. The death-rates ranged from 17.5 in Bradford to 28.5 in Plymouth; London 22.9; Birmingham 19.0; Liverpool 24.6; Manchester 22.6; Leeds 20.6. In Edinburgh 23, Glasgow 23, Dublin 36 (small-pox four deaths). In the 20 chief Swiss towns, diphtheria and lung diseases were widely prevalent and fatal; scarlet fever and typhoid fever were prevalent; small-pox had declined, there being only one death reported (in Geneva).

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.		
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.	
March 14	29.952	32	35	24	76	79	79	78	SE	C	W	11	0	6	S	O	F	—	.06	
" 15	30.072	33	42	29	57	57	38	70	N	C	SW	4	0	2	F	O	F	—	—	
" 16	29.274	33	35	30	100	100	100	100	E	SE	NE	8	20	6	S	R	R	—	.75	
" 17	29.898	32	38	26	79	38	47	55	NE	NW	N	5	17	14	O	F	C	—	.02	
" 18	30.039	31	38	21	6	70	51	60	NW	SE	SW	6	6	9	C	C	C	—	—	
" 19	29.662	32	35	29	61	100	100	87	C	SE	N	0	4	12	F	S	O	—	.37	
" 20	29.705	39	49	28	78	60	74	71	N	N	W	5	5	5	F	O	F	—	.05	
Week.	29.763	33	49	21				72	North.										48.55	1.23

1 O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, snow; R, rain; T, threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM MARCH 20, 1880, TO MARCH 26, 1880.

PERIN, G., lieutenant-colonel and surgeon. Upon being relieved by Surgeon Magruder, to report in person to commanding general, Department of Dakota, for duty as medical director of that department. S. O. 63, A. G. O., March 22, 1880.

MAGRUDER, D. L., major and surgeon. Relieved from duty in St. Louis, Mo., and to report in person to commanding general, Department of the Missouri, for duty as medical director of that department, relieving Surgeon Glover Perin. S. O. 63, C. S., A. G. O.

BYRNE, C. C., major and surgeon. In addition to his duties as post surgeon, Fort Snelling, Minn., to take charge, temporarily, of the medical director's office at these headquarters. S. O. 30, Department of Dakota, March 20, 1880.

GIRARD, J. B., captain and assistant surgeon, Fort Davis, Texas. Granted leave of absence for twenty-five days, with permission to leave the department. S. O. 55, Department of Texas, March 16, 1880.

MCCREERY, GEORGE, first lieutenant and assistant surgeon (recently appointed), now at Fort Columbus, New York harbor. To report in person to commanding officer, Department of Arizona, for assignment to duty. S. O. 63, C. S., A. G. O.

SCHUE, E. D., first lieutenant and assistant surgeon (recently appointed), now at David's Island, New York harbor. To re-

port in person to commanding officer, Department of Arizona, for assignment to duty. S. O. 63, C. S., A. G. O.

NEWTON, R. C., first lieutenant and assistant surgeon (recently appointed), now at Fort Stanton, New Mexico. To report by letter to commanding general, Department of the Missouri, for assignment to duty. S. O. 63, C. S., A. G. O.

COCHRAN, J. J., first lieutenant and assistant surgeon (recently appointed), now at Fort Wingate, New Mexico. To report by letter to commanding general, Department of the Missouri, for assignment to duty. S. O. 63, C. S., A. G. O.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.—The annual meeting will be held on Monday evening April 5th, at eight o'clock, at the hall of the Medical Library Association. Reader, Dr. F. H. Davenport. Subject, Relaxation of the Pelvic Ligaments. Annual Election of Officers.

FREDERICK C. SHATTUCK, M. D., Secretary.

BOOKS AND PAMPHLETS RECEIVED.—Electricity in Medicine and Surgery, with Cases to Illustrate. By John J. Caldwell, M. D., Baltimore, Md.

American Health Primers. Our Homes. By Henry Hartsborne, A. M., M. D. Philadelphia: Presley Blakiston. 1880. (Estes and Lauriat.)

The Therapeutic Action of Quinine. By J. W. Compton, M. D. (Reprint from the Indiana Medical Reporter.)

Report of the Resident Physician of Brigham Hall, a Hospital for the Insane. Canandaigua, N. Y. 1880.

Lectures.

CLINICAL LECTURE.¹

BY J. M. DA COSTA, M. D.,

Professor of the Principles and Practice of Medicine in the Jefferson Medical College, Philadelphia.

A CASE OF GRAVES'S DISEASE (EXOPHTHALMIC GOITRE), WITH REMARKS UPON ITS PATHOLOGY, ETIOLOGY, AND TREATMENT.

GENTLEMEN,—You will remember that at the conclusion of our last clinic we had this patient before us, suffering with what I pronounced to be exophthalmic goitre. He gave us the following history of his illness: His name is E. H. McC., twenty-six years of age, single, a native of Pennsylvania; of late years he has been engaged as a porter. He is ignorant of any inherited tendency to gout or rheumatism, and positively denies syphilis. He served in the late war as a drummer boy, and he tells us that during the battle of the Wilderness he was subjected to strong excitement, which brought on violent palpitation of the heart. After the war while engaged as a porter in a store, he was obliged to do heavy work. About Christmas, 1877, he strained himself in lifting a heavy box from a shelf, the strain falling upon his arms and chest. Shortly after this occurred, he noticed that palpitation of the heart was likely to follow any unusual exertion. During the next few months the palpitation became a prominent symptom, and the front of the neck perceptibly swelled; this was noticed by his friends, who afterwards called his attention to a prominence of the eye-balls. In April, 1878, these symptoms had become marked, the thyroid gland was decidedly enlarged, principally on the right side; and he suffered from dyspnoea.

In July, 1878, his boat was upset while out sailing, and he had to swim a long distance. When finally picked up, he was completely exhausted. The disease was evidently aggravated by this prolonged exertion, as he has not been nearly as well since, and the following October he had to give up his occupation on this account; he now was quite short of breath, his voice was altered, and his goitre was so large that he was forced to give up the use of a collar. His general nutrition, however, was good, and he had no pain in the enlarged gland.

He denies that he has been intemperate, but drinks occasionally; tobacco he has not used to excess, but tea and coffee he is very fond of, and has always been accustomed to their use several times a day.

Since stopping his work the heart does not palpitate so violently; the tumor is not so large, but the eyes are still prominent and staring.

He is naturally rather quick and irritable, but his movements are disturbed, he is easily agitated, and the limbs tremble after active exertion. When admitted, it was noted that the right lobe of the thyroid was quite large, the left being swollen to a less degree; the enlarged right lobe imparting a distinct sensation of thrill when pressed firmly between the forefinger and thumb. The circumference of the neck around the gland was fifteen and three fourths inches. You readily recall his condition when he was before you a week ago. His eyesight was good, notwithstanding

the marked prominence of the globes. The man was perfectly well nourished, certainly not anæmic looking; he had a good color of his lips, of his gums, and of his ears. His respirations we found to be 40 in the minute, but this we thought was partly because he was hurried when in your presence, for in the wards the rate was generally about 30; we may say, therefore, that the respirations were still above the normal. The precordial region was lifted with the forcible contractions of the heart; the apex beat was thumping; the pulse was then 120, although but 106 in the ward. Examining the cardiac region a little more closely, we found this state of things: the forcible impulse could be seen in two intercostal spaces. The apex was beating two inches outside of the left nipple in the sixth intercostal space. The area of impulse was therefore visibly displaced as well as extended. The percussion dullness began at the third rib, and extended beyond the right border of the sternum and downwards to the liver; dullness also existed beyond the left nipple, the apex being located as above stated. Having marked out this area with ink, you all recognized the increase in the size of the heart. The transverse diameter was six inches, perpendicular diameter six and one fourth inches, longest diameter (oblique) eight and one half inches. The characteristic appearance of the enlargement showed that the hypertrophy chiefly involved the left ventricle. Auscultation of the heart revealed the facts that the first sound at and towards the apex, where it was dull and heavy, was partially, not entirely, replaced by a systolic murmur, short and not very harsh. That murmur was also traced upwards, but towards the left base it nearly disappeared. At the right base, at the aortic cartilage, the second sound of the heart was comparatively distinct and valvular. Listening to the arteries of the neck, we found a systolic murmur, which was harsher and louder than that heard over the heart. It was most marked in the left carotid. The murmur was also feebly perceptible, in the bend of the arm, more particularly higher up in the brachial artery; it was also faintly heard in the radial artery. I may say that we had in this case a generally transmitted arterial murmur, since it was also heard in the femorals just below Poupart's ligament. To this I add, to complete the examination, that there was no disease of the lungs and no enlargement of the spleen. This last note I made because he had at one time suffered from intermittent fever. The liver was about the normal size; it was certainly not enlarged; and the urine was normal.

After this examination, made a week ago, I told you my diagnosis, and while we examined the case and prescribed for it, and discussed to some extent the clinical record, there were still several points remaining for consideration, which want of time prevented me from taking up, and I promised you that we would study more fully the pathology and aetiology of the case, this morning. The man presents as marked an illustration of the affection known as exophthalmic goitre, or Graves's disease, as it is possible to have. This malady, as the case before you shows, is one easily recognized by the prominent eyes, enlarged thyroid gland, and disturbed action of the heart. In addition to these salient symptoms there is often present a symptom which I do not know that I can claim as existing here, that is, considerable nervous disturbance; although, as you have heard, he is rather irritable in his disposition, and is sometimes agitated, he is

¹ Reported for the JOURNAL. Delivered January 17, 1880.

not decidedly emotional. I do not know, I say, that this exists here to any marked degree; but I am told that the patient is what people would generally call rather a nervous man, and, indeed, has given considerable trouble since admission by his quarrelsome disposition. These clearly recognizable symptoms, to which I have just alluded as characteristic of exophthalmic goitre, are most likely to occur in persons of a highly nervous organization, and, therefore, preëminently in the female sex. The vast majority of the cases that you will be called upon to treat will be women. I have met with practitioners who say that they have never seen an instance of Graves's disease in a man. My experience will not allow me to assert this, for scarcely a year passes in which I do not see such a case in the male; but the great number of cases will be women. Certain it is that the emotional nature which is a prominent feature in the disorder has some thing to do with its appearance in the female sex. And, gentlemen, in following out this train of thought, we must admit that, while the emotional nature of woman seems to render her more liable to the disease, and those men who are of a nervous type are also more apt to be affected by it, there must be some connection or dependence between the disorder and the temperament, or, in other words, that a form of local irritation has something to do with the emotional disturbance. Let me also add, as bearing upon this portion of the discussion regarding the connection of the now familiar signs with the emotional type, — let me add, that a fair proportion of cases have been reported where the disease seems to have been directly due to nervous disturbance and shock. If I am not mistaken, Fothergill gives the history of a lady in whom the disease was ascribed to the shock produced by the sudden announcement of the death of one of her relatives.

The reason that I am developing for you this portion of the subject, suggesting some clinical connection between the temperament of the individual and his nervous condition and the disorder, is because I wish now to make some remarks upon the pathology of the affection, and more particularly its aetiology. The symptoms are well known, but can we say why this heart is irritable, why the thyroid is enlarged, why the eyes are so prominent? The proximate cause and relation of these symptoms we understand, but the remote or original cause is unknown. It is supposed by some, on account of this clearly recognized connection with nervous disturbance, that the disease originally resides in the sympathetic nervous system, more especially in the sympathetic ganglia in the neck; the irritation of which disorders the innervation of the heart through the cardiac plexus and intra-cardiac ganglia, leading to disorderly action and palpitation, and finally hypertrophy; the enlargement of the thyroid and the projection of the eyes being produced by the constant fullness of the blood-vessels. This view has received a certain amount of support from the fact that in several post-mortem examinations of cases which have been afflicted by this disease the ganglia of the neck have been found to have undergone partly a fatty and partly a fibroid change. But this does not occur in all cases of exophthalmic goitre, and we therefore cannot look upon this affection of the ganglia as the sole cause of the disease. Another view is this: while adhering to the nervous irritation, others claim that the entire disturbance can be explained by alter-

ation in vaso-motor activity, so that the blood supply of the heart itself is affected and its nutrition impaired. Disturb this system and you will have disordered action of the heart, palpitation, and the other symptoms naturally follow. I may say of this, however, as I did of the preceding, that it is as yet a theoretical view, merely a hypothesis. Notwithstanding these plausible explanations of the presumed causation of exophthalmic goitre, that I have been trying to make clear to you, we must acknowledge that while the disease is seated primarily in the nervous system its exact site is unknown. As bearing upon this question of the involvement of the nervous system, and particularly of the sympathetic system, Trousseau called attention to a sign which is here present, and on which he laid particular stress. As I draw my thumb-nail on its flat surface across this man's forehead, pressing rather firmly, you notice the prominent red mark, the *tâche cérébrale*, following it. This red line is also seen in other diseases of the brain or its membranes accompanied by disordered blood supply, where the capillary circulation of the brain is permanently affected. But Trousseau laid this down also as one of the points confirming the view that the disease is due to vaso-motor disturbance. The facts in the case I do not deny, but the explanation I cannot wholly accept.

Having discussed the pathology of this interesting affection as far as it is known, let us return briefly to the consideration of the clinical phenomena; taking this case as the text for a more complete discussion of the course of the disease and its customary appearances.

In the first place, you ask, Will we usually find this condition of the heart in exophthalmic goitre? This heart is enlarged, very much enlarged, and in a state of greatly dilated hypertrophy, with obvious valvular disease. Will this happen as the rule? No, gentlemen. More generally you will have, at least at first, simple functional disturbance; then as the disease progresses, the palpitation becomes a prominent symptom; there is very constant cardiac over-action, with which you will have a moderate degree of hypertrophy. That is the connection. Such a marked degree of hypertrophy, with greatly increased impulse and extended area of percussion dullness, — which I marked out for you in this case at the last clinic, — is unusual, and indicates a great preponderance of cardiac disorder in this particular patient. I must impress upon you that, however remote the cause of the symptoms may be in the nervous system, the enlargement is the direct result of the over-action of the heart. The prolonged excitement of the organ finally ends in hypertrophy. Now in connection with this subject of heart difficulty in a case of this kind, let us inquire, What is the meaning of the marked murmurs that we have in the heart and that are usually not constant? These murmurs, as a rule, are due to hypertrophy and over-action; they do not necessarily represent valvular disease, at least valvular insufficiency of persistent form. It is true that in a certain proportion you will have an associated organic valvular disorder, though without any direct connection with the symptoms of exophthalmic goitre; but in the vast majority of cases you do not have such a complication; the murmurs are produced by excitement. Indeed, where such persistent murmurs occur I am inclined to believe that valvular imperfection has followed the dilated hypertrophy; the cavities of the heart are stretched and over-distended, so that the valve becomes incompetent.

These are some observations upon the state of the heart in this rare disease; let us now study the thyroid gland. This man has a very typical illustration of the exophthalmic goitre. Look at it. It is not symmetrically enlarged, the two sides are unequal; and this agrees with my former experience that one side is usually developed more than the other. Moreover, the gland varies in size at different times. When he is under strong excitement, and the heart acting with unwonted force, the gland will swell up even more. The facts that the gland is variable in size, and that one side is larger than the other, are of general occurrence in this disease. Let me add, I have never seen a very large goitre in this affliction. I have yet to meet a case where the thyroid gland is as much enlarged as it often becomes in ordinary goitre; the exophthalmic goitre never reaches such extreme proportions.

Now let us discuss the eye symptoms. What is the reason of the swollen, prominent, and staring eyes? The reason generally given is that the capillary vessels of the fatty tissue upon which the eyes rest are congested and full of blood, and push the globes forward. Further observation has shown that the cushions upon which the eyes are placed are also actually hypertrophied by increased deposit of fatty matter and areolar tissue. Therefore the projection is principally mechanical from congestion and deposit in the orbit. This protuberance of the eyes sometimes reaches the point that the patient is unable to close the eyes completely; the eyelids remain partly open even during sleep. In this case we have noticed the condition to a certain extent. Since the lids do not entirely close, part of the conjunctiva and cornea is continually exposed, and, as Von Graefe has pointed out, you will have as a result conjunctival inflammation, keratitis, or ulcers of the cornea in marked cases of Graves's disease. Does internal examination with the ophthalmoscope reveal any intraocular changes? Usually a little fullness of the vessels; nothing more. We are now making some observations upon this point, and will report the results on a future occasion.

I have already said something in regard to the mutual connection between the aetiology and the clinical symptoms. I repeat that they all come directly from the heart, the increased force and over-action of which produce the swelling of the thyroid, and cause the prominence of the eyes; but is this all? No; there must be something behind the heart which causes this train of symptoms, or else we would have the exophthalmos and enlarged thyroid in every case of cardiac hypertrophy, which we do not have. There is a "something beyond," which is the unknown quantity in Graves's disease.

What is the prognosis? I think that a very large proportion of these cases get well. I have seen patients with thyroid enlargement and prominent eye, entirely recover. I could tell you, if time would permit, of cases from my private practice, where the patient has been under observation for years, in which, in the course of time, the eyes receded into their sockets, the goitre disappeared, and the heart became normal in its action except under periods of unusual excitement. Undoubtedly these cases may recover almost entirely. Therefore, when you see a case early, you may generally give a favorable prognosis. But when you have marked cardiac enlargement, as in the present case, the prognosis is less promising. You may succeed in

making the eyes retreat and in reducing the thyroid, and even may partially control the heart, but you will never entirely relieve the case as long as the hypertrophy exists. So much for the prognosis: good if taken early, but impaired later by the varying amount of cardiac enlargement which has followed the disease.

In regard to the regimen, it must be modified according to the case. No one treatment is the right treatment for exophthalmic goitre. In the case of a woman with marked anæmic appearance, I give iron in connection with any form of tonic or other remedy that I think will be of service. But I am forced to say that I think that iron has been abused in the treatment of exophthalmic goitre. What would be the use, I may ask, of giving iron to this patient? Look at his florid face, red lips and ears. It would only act as an irritant, and hence injurious. Iron should be restricted to those cases where anæmia is underlying the malady, or at least is a marked feature of it. In nearly all cases digitalis and belladonna are useful, and I almost always keep my patients under their influence. Generally there is not marked cardiac enlargement. Some of you may ask, Why have you not used digitalis here? Why have you trusted to veratrum viride in preference to belladonna? On account of the cardiac hypertrophy. The heart needs control, and I concluded that aconite or veratrum viride would give better results, especially the latter. Therefore, although digitalis would be otherwise indicated to regulate the circulation by its action upon the nervous system, the hypertrophy of the heart forbids its use. This man has taken the following prescription:—

R Ext. veratri viride flid. gr. i.
Syr. zingiberis,
Aque aa m. xxx. M.

three times a day for the last week. During this time his heart has decreased in frequency and force, and the pulse is less bounding. Let me tell you, in addition to the above remedy, that absolute rest in bed has been insisted upon as part of his treatment, thus taking the strain off from the circulation; treating it, as you observe, almost like a case of aneurism. Remember that rest in bed of itself will reduce the frequency of the heart, and relieve it of the strain caused by general muscular action.

What shall be done for the enlargement in the neck? We prescribed the frequent application of ice in a bag, in order to act upon the capillaries there and diminish cell action. You will be interested to learn that the immediate effect was to diminish the gland one fourth of an inch in the first forty-eight hours. We therefore have continued it. This treatment, indicated with a light diet, consisting chiefly of milk, eggs, and a few oysters occasionally, and enforced recumbent position shall be the regimen we shall adhere to in this most striking illustration of exophthalmic goitre.

[During the progress of the treatment a very interesting fact was noticed, which has some bearing upon the opinion above expressed, concerning the nervous origin of the affection. After the ice treatment had been employed for a week, and the swelling had declined about an inch in circumference, he was found one morning in a state of great excitement, a death having occurred in the ward during the night. It was found that the goitre had suddenly again increased in size, in sympathy with the nervous agitation, and was now nearly as large as upon admission. The ice application was continued and rest in bed strictly enjoined,

with a restricted diet. After progressing to a certain stage the ice treatment lost its effect; the patient became impatient, and left the hospital satisfied with what he had gained, the annoying symptoms having largely if not entirely passed away. — *REF.*]

PAROTID SWELLING AFTER TYPHOID FEVER; TREATMENT BY ICE; A RARE COMPLICATION.

I will now show you a rare case of entirely different character. The man (a sailor, eighteen years of age,) about to be presented before you has had typhoid fever. I do not know that his case was marked by anything peculiar during the fever. It was, perhaps, a more severe case than usual. At times the temperature reached 105° F., and he had a great deal of muttering delirium. There was also running through the course of the disease a little more diarrhoea than is customarily met with. But, finally, the man began to convalesce, so that upon the 28th of December his temperature was down to 99° F.; it then still further decreased, so that on the first of this month it had reached 97.5° F. All fever disappeared, and we were commencing to give him a less strict diet. Constipation now began to be the rule instead of the diarrhoea, and we were obliged to interfere to produce an action of the bowels.

I state this in order to show you how completely this man had convalesced, when, on the 12th of this month, there was a slight increase of temperature, and he complained of stiffness in the neighborhood of the angle of the jaw near the right parotid gland; there was also decided swelling in this location. When we examined the face we found that this part was tense, swollen, slightly red, and painful to the touch. The pain, stiffness, and swelling went on for a day or two, notwithstanding the application of iodine by the resident physician; they were associated with increasing fever, though it did not again reach the decided elevation of typhoid fever. After the third day the temperature fell, until this morning it is not higher than it was during convalescence; being now 98° F. Ever since the 12th, this hard swelling which you see here has continued. For a few days it decidedly decreased, but during the last two days it has again enlarged.

This morning the hardness and tension of the parotid gland are very evident. The tension is so marked that the patient cannot open his mouth, and has great difficulty in eating. There is but little redness now, but considerable pain exists in this hard tumefaction. The glands of the neck lower down are not implicated; the submaxillary glands also are not swollen. The disease involved primarily the parotid gland, but the tissues around participate in the tumefaction.

What is the meaning of this gland involvement after typhoid fever, and what are the clinical features which claim our attention?

I have said that this complication is rare after typhoid: it is so rare that Trou-seau and Chomel each only saw one case; Murchison, in his enormous experience, only reports six. I have met with only two or three such cases prior to this, which I exhibit to you here as one of parotid swelling, a sequel of typhoid fever.

You will now ask how it comes on; what is its meaning; does it modify the prognosis; and, finally, what is its appropriate treatment?

Before discussing these questions, let me say to you

this: that although, as already indicated, I have rarely seen this complication in typhoid fever, I am very familiar with it in treating typhus fever; for this complication, so rare in the former of these diseases, is not infrequently seen in the latter. I remember an epidemic of typhus which I witnessed in this hospital in 1864 and 1865, when I had a number of these cases under my charge, which (together with some cases previously observed in the Philadelphia Hospital) I made the subject of a clinical paper published in *The American Journal of Medical Sciences*.¹ I now recall that during this term of service I had no less than five cases of parotid swelling after typhus, in a total of fifty cases. I have seen it also as a sequence in other acute fevers, such as erysipelas. Nor does it differ materially when it happens in typhoid from that observed in typhus, except in so far that in the former there is, I think, less tendency to suppuration than in the latter.

Now for a few remarks upon the characteristics of parotid swelling in this disease. At what stage does it appear? Generally, I believe, at the end of the affection and during approaching convalescence. I have personally never met with it in the height of the disease. How was it in this case? The man was distinctly convalescent when he complained of swelling, and marked tumefaction appeared and pain followed. Is it dangerous? How does it affect the prognosis? You will notice here a very curious diversity of opinion; some authorities have maintained that it is rather a favorable sign, but still the majority believe that it is an accident that makes the case a worse one.

I cling to the latter view. From my considerable experience with parotid fluxion in typhus, I have learned to dread it. I have found that these cases were dangerous; nay, I have seen death from it: partly from pressure upon the trachea and interference with respiration and deglutition, and partly as a result of the secondary blood infection from the suppurating gland. Therefore, this complication, whether in typhus or typhoid, makes the case a grave one. My own observation shows that, occurring before full convalescence is instituted, it indicates that the original specific poison is not yet eliminated from the system, and that this poison localizes itself in the parotid gland, usually on one side, sometimes on both.

What is the result of this hardening and inflammation? Very generally — and this is one of its dangers — it leads to profuse suppuration; and unless you give early exit to the pus you have the danger of purulent infection, superadded to the prostrated state of the system from the original disease. Suppuration, then, is one result of this hardening. Occasionally the enlargement subsides slowly; in other cases, again, it may indicate such a profound blood poisoning that the patient perishes from this condition, undoubtedly aided by the pressure upon the upper air-passages.

Before discussing the general plan of treatment, let us inquire what has been done here. The surface over the affected gland was first painted with iodine, but it did no good; the swelling continued, and became more hard and tender. I then gave up the iodine treatment, and resorted to the application of ice in a bladder. This was very grateful to the patient; it reduced the heat, the swelling, and the tension, and for a time the tumor diminished very materially. This ice-treatment was faithfully followed for a few days, until we found that the fluxion of the gland had largely

¹ For January, 1866, pages 1-34.

yielded to the cold applications. They were then discontinued for a day, and now we see the swelling has again increased. This morning we shall resume the ice-bag. Should I find fluctuation occurring, I would reverse the treatment, applying poultices and hot fomentations. As soon as suppurative action is evident the gland should be freely incised.

I have tried in these cases of parotid swelling, both of typhoid and typhus, all kinds of treatment, with a view of preventing abscess, applying nitrate of silver, tincture of iodine, even a blister, but in vain; I have not been able even to reduce the swelling. Perhaps, of all, the blister was the best. But previous failures have led me to try the ice applications, which were so efficient in the preceding case; and thus far I have every reason to be satisfied. In a day or two more of their use here, when the redness has gone, if the swelling does not completely subside, I will apply a blister. In addition to this local treatment, we are taking care of the general system by giving the tincture of the chloride of iron (twenty drops every third hour), and also twelve grains of quinine daily. Four ounces of whisky in milk punch have also been continued since his typhoid-fever attack; but his diet is more liberal than during the fever, although necessarily soft. The treatment is therefore mainly by iron. Should I have occasion to change this, I will resort to the internal administration of iodine, either in the form of Lugol's solution or that of the tincture; but I think that the tincture of the chloride of iron is on the whole the best treatment.

I do not believe that we will have any suppuration here; the application of ice seems to have effectually prevented it.

[The patient's recovery from this date was slow, but uninterrupted. No further involvement of the parotid occurred, and the swelling terminated by resolution.—*REP.*]

Original Articles.

ONE THOUSAND DEATHS IN A LIFE INSURANCE COMPANY.

BY JOEL SEAVERN, M. D.

A MUTUAL benefit organization (the Knights of Honor), one of whose objects is cooperative life insurance, which has a membership of nearly sixty thousand adult males in thirty-three of the States of our Union has lately—December 1, 1879—announced its notice of the one thousand and twenty-first death in its ranks. I have given some time to an analysis of the results of its work.

Members are admitted to the order by ballot, after a medical examination, the unfavorable report of a medical examiner excluding an applicant. These medical examiners are chosen by ballot in the various lodges, and are more or less fit for their positions. Many of them have had other experience as examiners for life insurance companies, and are men of skill; some have had no previous experience, but are men of education; and still others have little experience or education. For these reasons much anxiety has been felt by thoughtful members of the order regarding its continued existence, and the perpetuity of an insurance association whose portals are guarded by sentinels so various in efficiency.

It has seemed to me, therefore, interesting to make an inquiry into these deaths, both as regards the section of country where they have occurred and the nature of the causes of death, together with a comparison of the results with other mortuary reports by government or by insurance companies.

With regard to the location where the deaths have occurred, I give a table, the first column of which shows the States in which the order exists; the second column the number of persons in each State belonging to the order December 31, 1878, according to the report of A. J. Cummings, Esq., its chief officer; the third column the whole number of deaths in each State since the order was founded, in 1873; and the last column the ratio of deaths to membership.¹

TABLE OF STATES, MEMBERSHIP, AND DEATHS.

States.	Members.	Deaths.	Ratio.
Michigan.....	2,529	12	1 to every 211
Minnesota.....	351	2	1 to every 176
Connecticut.....	513	3	1 to every 171
Nebraska.....	410	3	1 to every 137
Illinois.....	2,487	21	1 to every 119
South Carolina.....	592	5	1 to every 118
District of Columbia.....	110	1	1 to every 110
West Virginia.....	517	5	1 to every 103
Colorado.....	104	1	1 to every 102
Maine.....	613	6	1 to every 102
Maryland.....	586	6	1 to every 98
Wisconsin.....	1,066	12	1 to every 89
Massachusetts.....	7,149	81	1 to every 88
Iowa.....	598	7	1 to every 85
Kansas.....	849	11	1 to every 77
New York.....	3,412	44	1 to every 77
Pennsylvania.....	3,434	46	1 to every 75
New Hampshire.....	662	9	1 to every 74
Georgia.....	1,585	23	1 to every 69
Rhode Island.....	416	6	1 to every 69
New Jersey.....	586	10	1 to every 59
North Carolina.....	541	10	1 to every 54
Ohio.....	3,810	71	1 to every 53
Texas.....	1,760	34	1 to every 52
Virginia.....	1,311	25	1 to every 52
Alabama.....	740	16	1 to every 46
Missouri.....	1,626	41	1 to every 40
Indiana.....	2,168	55	1 to every 39
Arkansas.....	738	21	1 to every 36
Kentucky.....	4,295	121	1 to every 35
Tennessee.....	4,314	243	1 to every 18
Mississippi.....	792	60	1 to every 13
Vermont.....	Not stated.	2	Unknown.
Total.....	50,672	1,013	—

It should in fairness be stated here that 207 of these deaths were caused by yellow fever, 144 in Tennessee, 41 in Mississippi, 17 in Kentucky, 3 in Arkansas, and 1 each in Alabama and Massachusetts.

If these deaths be omitted it will change the ratio in these States to the following:—

Kentucky.....	1 death to every 41 members.
Mississippi.....	1 death to every 42 members.
Arkansas.....	1 death to every 42 members.
Tennessee.....	1 death to every 44 members.
Alabama.....	1 death to every 49 members.
Massachusetts.....	1 death to every 89 members.

The table shows such results in the extraordinary healthfulness of the order in some States, and its equally unhealthful condition in other similar States, that it would seem of itself to prove that greater care and discrimination had been exercised in admissions in

¹ I have not the full report of the first eight deaths, so that the table covers 1013 cases.

the former, and that the fatality is due to other than climatic influences. Michigan, Minnesota, and Connecticut might have been expected to hold a favorable rank, but one could hardly have believed that South Carolina should have stood better than Colorado, Maine, or Wisconsin, or that Maryland should surpass Massachusetts, New York, and Pennsylvania.

Passing by the matter of localities let us take up the causes of death and their classification, and make a comparison between the results of this thousand cases and other similar reports.

The fact previously alluded to, that some of the medical examiners (who were perhaps in many cases the ones who certified the causes of death) are imperfectly educated men, makes it at times difficult to classify the returns, and arrange the deaths under any system. For instance, we have a death certified to as caused by "congestion of the brain and falling from a building," it not being stated which took place first; one caused by "dysphagia on account of closing the glottis," and we are left to guess whether or no he closed his glottis voluntarily for the purpose of producing dysphagia; one by the following congeries and avalanche of maladies, "inflammation of neck of the bladder, acute bronchitis, pleuro-pneumonia, inflammation of left ear, nephritic trouble, and functional cerebral trouble" (he must originally have been a first-class risk who succumbed only to this torrent of disease); and still another had "organic duodenum of the heart," whatever form of cardiac disease that may be. I allude to these not as a mere matter of diversion, but to show what have been the difficulties of classification.

But arranging them so far as possible according to Dr. Farris's system, as adopted in the registration of Great Britain and that of Massachusetts, we find the results more complimentary to the medical examiners than might have been expected.

For the purposes of this comparison I have taken the deaths from all causes for twenty years in Great Britain, as given in official reports; those for thirty-seven years in Massachusetts, also taken from official reports; a table of 1000 deaths in a New York life insurance company, published by Dr. Buck (chief medical examiner of the company) in the New York *Medical Record* for 1874; and a table of 13,765 deaths made up from English and Scotch life insurance companies, as follows:—

In the Gresham	1,000 lives.
In the Scottish Amicable	773 lives.
In the Scottish Equitable	1,855 lives.
In the Clerks	1,008 lives.
In the Equitable	4,095 lives.
In the Gotha	2,471 lives.
In the Scottish Widows	1,398 lives.
In the Briton	1,165 lives.

13,765 in all.

These statistics are taken from a valuable work on Life Insurance by Dr. Sieveking, of London.

The Knights of Honor encountered in the fall of 1878 a very serious disaster from the prevalence of yellow fever, which disease alone, in 1878 and 1879, up to December 1st, caused two hundred and seven deaths. This of course makes the number of those dying from zymotic diseases very large, and thereby lessens the relative frequency of other causes of death. I have therefore in our comparative view drawn our percentages both with and without the yellow fever cases. The classification results as follows:—

Zymotic diseases	356
Tubercular	117
Nervous system	103
Circulatory system	39
Respiratory organs	116
Digestive organs	82
Urinary and generative	39
Casualties	93
Suicides	30
Cancer	25
Unknown or unclassified	13
Total	1,013

Taking, then, these figures and those previously referred to from other sources, we have prepared the following table. It is obvious, however, that the yellow-fever factor in the tables throws a certain amount of obscurity upon the matter, and to some extent vitiates the comparison; because, on the one hand, including these cases we find the deaths from zymotic diseases unduly large, whereas in excluding them the number of zymotic deaths is too small, and we leave out of sight those persons among them who might probably have died of other diseases.

COMPARISON OF DEATHS.

The first column is computed from 9,124,696 deaths in Great Britain; the second from 828,484 in Massachusetts; the third from 13,765 in English and Scotch companies; the fourth from 1000 in the New York company; the fifth from 1013 in the Knights of Honor, including yellow-fever cases; and the sixth of 806 in the Knights of Honor, omitting yellow-fever cases:—

	Great Brit- ain.	Massachu- setts.	English and Scotch Life Companies.	New York Life Compa- ny.	K. of H., in- clud- ing yellow fever.	K. of H., ex- clud- ing yellow fever.
	Percent.	Percent.	Percent.	Percent.	Percent.	Percent.
Zymotic disease.....	22	23	11	25	18	13
Tubercular disease.....	15	12	13	27	12	15
Nervous system.....	12	9	18	13	10	13
Circulatory system.....	4	3	7	6	4	5
Respiratory organs.....	15	7	12	9	12	14
Digestive organs.....	9	4	10	10	8	10
Urinary and gener- ative organs.....	1	1	3	4	4	5
Casualties.....	-	4	10	6	9	10
Suicides.....	0.5	0.4	-	2	3	4
Cancer.....	-	1.5	-	12	2	3
Unknown or un- classified.....	-	-	9	1	1	1

Time and space will not allow us to enter into a very careful analysis of the above table, but a few general facts are indicated by it. First, that as regards zymotic disease the order has been unfortunate, but that this misfortune has arisen from the fatal prevalence of one disease, yellow fever, that could hardly have been foreseen. Next, that as to tubercular diseases, the order has been fortunate, if we use that expression, or that the portals of its entrance have been guarded better than we feared. Diseases of the brain and nervous system have also been less frequent than in the other companies, as well as diseases of the heart and circulation. The two classes (like the tubercular) are the ones which are most preventable by a careful selection of lives, and the result shown is therefore complimentary to the medical men in the order.

Acute diseases of the respiratory organs show a rather large percentage, and the suspicion may arise that some deaths have been certified to as caused by acute disease which were really owing to tuberculosis; still, this deception would be just as likely to occur

in other life companies, since their medical examiners are probably as anxious to shield themselves from a suspicion of having admitted impaired risks into their ranks as those of the Knights of Honor. Furthermore, if we add in each column the percentage of tubercular and respiratory diseases it will still appear that the comparison is favorable to the Knights.

The results of diseases of the digestive organs are a little better than those of the other reports; those of the urinary and generative organs not quite as good; whilst the percentage from casualties and suicides is unusually large.

I have made special note of the cases of cancer, because in some similar organizations great importance has been attached to this as a cause of death, by refusing admission to persons who near relatives have had any form of it. It appears that even including one or two doubtful cases, such as stricture of the œsophagus, which may or may not have been cancerous, there are but twenty-five in all the thousand and thirteen cases, which would tend to show that this disease is not a very important factor in life insurance; and I find it reported in the *Medical Record* of 1874 that of the twenty-three cases occurring in twenty-four years' experience of a life insurance company only one seemed to have been of hereditary origin, and that in this case it had existed only in one other member of the family, a sister. The two and a half per cent. which cancer shows in the Knights of Honor columns is a trifle more than in the Massachusetts report, or that of the New York Company, these being the only ones where it can be traced out.

Let us scrutinize more strictly now the cases of tubercular disease, one hundred and seventeen in all, which number, it will be remembered, was *not* unduly large. It will be observed, too, that though there were some who died within a comparatively short time after joining the association (four died within six months) there were but twenty-six who died within a year. The shortest time was that of a member from Missouri, who lived but four months after admission, and one each from Kansas, New Jersey, and Wisconsin, who died in five months; the longest that of one who lived over five years from the date of his entrance. The average time was a little over a year and eleven months, which would indicate that a reasonable amount of skill was used in the preliminary examinations.

The following table shows the number of deaths in each State from tubercular disease; Maine, Vermont, Connecticut, Maryland, Texas, Colorado, Minnesota, and Nebraska having had none:—

TABLE OF DEATHS BY TUBERCULAR DISEASE BY STATES.

Kentucky.....	21	New York.....	2
Massachusetts.....	13	Georgia.....	2
Ohio.....	12	South Carolina.....	2
Tennessee.....	11	Rhode Island.....	2
Indiana.....	11	Michigan.....	2
Missouri.....	6	Kansas.....	1
Illinois.....	6	Alabama.....	1
Virginia.....	6	Arkansas.....	1
Pennsylvania.....	5	Iowa.....	1
New Hampshire.....	5	Mississippi.....	1
New Jersey.....	3	North Carolina.....	1
Wisconsin.....	3	West Virginia.....	1

As it will be remembered that the number of members in these different States varies greatly, our next table shows the proportion of these deaths to the membership.

TABLE SHOWING THE PROPORTION OF TUBERCULAR DEATHS TO MEMBERSHIP BY STATES.

New York.....	1 death to 1706 members.
Michigan.....	1 death to 1264 members.
Kansas.....	1 death to 849 members.
Georgia.....	1 death to 793 members.
Mississippi.....	1 death to 792 members.
Arkansas.....	1 death to 758 members.
Alabama.....	1 death to 740 members.
Pennsylvania.....	1 death to 691 members.
Iowa.....	1 death to 595 members.
Massachusetts.....	1 death to 549 members.
North Carolina.....	1 death to 541 members.
West Virginia.....	1 death to 517 members.
Illinois.....	1 death to 414 members.
Tennessee.....	1 death to 392 members.
Wisconsin.....	1 death to 355 members.
Ohio.....	1 death to 317 members.
South Carolina.....	1 death to 296 members.
Missouri.....	1 death to 271 members.
New Hampshire.....	1 death to 221 members.
Virginia.....	1 death to 218 members.
Rhode Island.....	1 death to 208 members.
Kentucky.....	1 death to 203 members.
Indiana.....	1 death to 197 members.
New Jersey.....	1 death to 195 members.

In all New England there were 9353 members and 18 tubercular deaths, or a ratio of 1 to 520.

Still another question is interesting, which is the ratio of consumptive deaths to all other deaths in the association in the several States:—

PERCENTAGE OF TUBERCULAR DEATHS TO ALL DEATHS IN THE SEVERAL STATES.

States.	Deaths.	Tubercular.	Per Cent.
South Carolina.....	5	2	40
Rhode Island.....	6	2	33
New Hampshire.....	9	3	33
New Jersey.....	10	3	30
Illinois.....	21	6	29
Wisconsin.....	12	3	25
Virginia.....	25	6	24
Indiana.....	55	11	20
West Virginia.....	5	1	20
Kentucky.....	121	21	17
Ohio.....	71	12	17
Massachusetts.....	81	13	16
Michigan.....	12	2	16
Missouri.....	41	6	15
Iowa.....	7	1	14
Pennsylvania.....	46	5	11
North Carolina.....	10	1	10
Kansas.....	11	1	9
Georgia.....	23	2	9
Alabama.....	16	1	6
Arkansas.....	21	1	5
New York.....	44	2	5
Tennessee.....	243	11	5
Mississippi.....	60	1	2

One fact is of course made obvious by both these tables, which is that the number of deaths is too small to draw important deductions from; yet we cannot but be struck by the favorable showing which the State of New York presents, having but two deaths from phthisis in a membership of over 3000 and a mortality list of 41.

Michigan, Kansas, Pennsylvania, Iowa, and Massachusetts, as Northern States, show records which need not fear reproach, whilst New Jersey, New Hampshire, Indiana, Ohio, and other Western States have been less fortunate, and the States of South Carolina, Virginia, and Kentucky excite our surprise at the large number of consumptives in their favored climates.

The apparently good results in Tennessee and Mis-

Mississippi are evidently owing more to the large number of deaths from yellow fever than the small number from phthisis.

Leaving here this subject of tubercular disease, of which much more might be said, let us conclude by a brief investigation of the deaths by casualties and suicides.

These two are thus associated because there is no doubt in fact a connection between them, some deaths being attributed to accident which may have been suicidal, whilst there is, of course, a possibility that some may have been purely accidental which were considered self-inflicted. Many of the former are reported in such a way as to lead one involuntarily to at least think of suicide: thus the one caused by "strangulation," those by "poison," those by "drowning," and by being "shot."

The following table gives a list of the casualties which are certified to as the causes of the deaths of ninety-three members of the order:—

Railroad accidents.....	20
Falls (from buildings, etc.).....	15
Drowned.....	12
Shot.....	7
Explosions (of boilers, etc.).....	7
Stroke.....	6
Poisoned (by overdose of medicine, etc.).....	6
Crushed (by falling objects, etc.).....	6
Murdered.....	4
Killed by horses (runaways, etc.).....	4
Circular saw.....	1
Lightning.....	1
Strangulation.....	1
Suffocated by gas.....	1
Accidents (kind not stated).....	2
Total.....	93

As regards suicides, the large number of them has led to the apprehension that some persons may have joined the order for the purpose of committing suicide, so as to leave the insurance to their families; and an interesting question of casuistry has been raised on this point, whether such an action should be applauded as a sacrifice of life and a heroic deed for the benefit of those dependent on them, or be denounced as a fraud upon the insuring company.

It is, however, evident in most of the thirty cases reported in our list that these persons did not join the order with that intention in view, as they continued their membership and paid their dues and assessments for a considerable length of time before the fatal act,—this time averaging over a year and a half,—only one killing himself in fourteen days after joining, one other in less than two months, and but six in less than a year. The total time of the thirty members sums up to forty-five years and two months.

This concludes our inquiry into the results of 1013 deaths in cooperative life insurance, in an association where the medical examinations have been conducted by average men, chosen by a popular vote, probably in some instances more for their social qualities than their scientific attainments. I think the result of the inquiry speaks well for the ordinary medical practitioner of our country.

—The Connecticut legislature has recently passed an act authorizing the State Board of Health to prepare rules and regulations for the examination of railroad employees in regard to color-blindness. Every company in the State is obliged to hold such examinations on or before the 1st of October.

CASES OF OVARIOTOMY.

BY HENRY CLARKE, M. D., WORCESTER.

THE operation of ovariotomy has become of late so safe in the hands of a few skillful surgeons that it behooves every one who undertakes it to study well his failures, and see if they have not resulted from some fault of his own.

It would almost seem that such must be the case if we take the recent results of Dr. Keith and Mr. Wells for our standard. Yet many speak lightly of the operation, as one to be undertaken by any surgeon. Sometimes, indeed, it is a simple operation, but at other times quite the reverse. Certain it is that no surgeon has as yet had any great success either in simple or in difficult cases, except through thorough preparation, painstaking care, and unwearied devotion.

I cannot boast of any large experience, but I have had enough to suggest these introductory remarks, and I believe they will command the approbation of all operators of greater experience than my own.

After having had six successive recoveries from ovariotomy, I have had one case which resulted fatally. I will note only a few facts of interest in connection with the successful ones before passing to a fuller report of the last one, which is the chief object of this paper.

Of these six cases three were treated without the use of antiseptics, one with partial antiseptic treatment, and in two the operation was done under the carbolic spray. All were operated upon in private houses, but two of them were in localities with poor sanitary surroundings.

In five of the cases the pedicle was tied with silk or linen ligatures and dropped into the abdomen, and the abdominal opening was closed by sutures throughout its whole extent. In one only was the pedicle brought out and fastened in the lower angle of the wound, but this caused so much discomfort by dragging upon the pelvic organs that it was allowed to drop into the pelvis at the beginning of the second day.

In the first case the woman was delivered of her first child within a twelvemonth from the date of the operation.

In the fourth case there was general peritonitis at the time of the operation, resulting from a rupture of one of the cysts. The sixth case was a girl of fourteen, who weighed only sixty-five pounds. The uterus was undeveloped, and there were no indications of approaching puberty. The tumor was a dermoid cyst, which contained fat pieces of bone, resembling fragments of the skull, teeth, and hair. The girl made a rapid recovery, and was taken to drive within three weeks from the time of the operation by Dr. Leonard Wheeler, who had had the principal care of her. In the other cases there was nothing worthy of special mention.

This brings me to my last case, which terminated fatally, and I shall report it at greater length. The two special points of interest in it which will be particularly considered are the size of the tumor and the sloughing of the stump.

Miss C., aged forty-two, came under my observation in the latter part of November, 1879. The tumor was judged to be a monocus, and was very large. She had been advised by a distinguished ovariologist, two years before, to submit to an operation, but for several reasons she had postponed it. According to her

statement, the tumor had enlarged more rapidly during the two preceding months than at any other corresponding period of time since its discovery, about seven years previous. A comfortable apartment was procured, the patient antiseptically prepared, and the operation was performed December 1, 1879. I was assisted by Drs. Wood, Marble, Wheeler, Rich, Hammond, and Bull. A Colman and Shurtliff spray producer and a smaller steam atomizer were intrusted to an experienced assistant. Ether was administered, an incision three inches long made through the linea alba, and the cyst tapped with a curved trocar. The large sac, together with a mass of small cysts attached to it, was drawn out through the opening, no fluid escaping into the abdominal cavity. The pedicle, which was unusually short and thick, was tied in halves with carbolized silk, and then one half of the ligature was made to encircle the whole, and firmly tied.

After cutting away the walls of the cyst there was some oozing of blood from the stump, in consequence of which it was lightly cauterized by Paquin's thermo-cautery. There was very little bleeding from any source, and there was but a small quantity of bloody serum to be sponged from the pelvis. In fact, I never saw so dry an operation. As the pedicle was drawn up for a final examination before tying the abdominal sutures a little bleeding occurred, and while I held it between my thumb and fingers an assistant passed another ligature around it and tied it as tightly as possible, and, as I now fear, too tightly.

The intestines and omentum did not descend to fill up the pelvic cavity as much as is usual, although they were pulled down for that purpose. This was shown by a quantity of air issuing with a gurgling sound from the lower part of the wound when pressure was made laterally upon the abdomen before tying the last suture. I have omitted to state that there was an interruption of the spray, which occurred before the sutures were applied. The interruption was complete for two or three minutes, the tube of the smaller atomizer becoming obstructed while the larger machine was being put in order. The wound was, however, immediately covered by flannel wrung out in hot carbolized water. The antiseptic dressing, after the method of Keith, was applied, and the patient put to bed at one o'clock in a satisfactory condition.

A careful record of the condition of the patient was made at each subsequent visit, but I will not give unnecessary details.

The first four days were passed very comfortably. The highest temperature was 101.5° F., and the pulse varied from 100 to 115. No vomiting. Flatus passed by rectum on the second day. No distention or tenderness of bowels. Took a little nourishment by the mouth, but more by the use of nutritive enemata.

Vomited for the first time on the fifth day, and temperature rose to 102° F., and pulse to 120. Vomiting ceased, and on the sixth day temperature fell to 100° F., and pulse to 110. Sutures removed on this day. Wound apparently united, except at one point between the two upper stitches, where some pus escaped. The bowels were moved by an enema of spearmint tea on the seventh day. Some nausea, but no vomiting, and temperature and pulse as on previous day. Took a little nourishment by the mouth. Nutritive and stimulating injections continued.

Eighth day. Moistenance good; temperature 99° F.; pulse 98; skin moist, as it has been from the first day;

no pain and little tenderness of bowels; wound discharged more pus.

Ninth day. Temperature rose to 102° F., pulse to 125; vomited frequently and distressingly; stomach distended by gas.

Tenth day. Vomiting continues; transverse and descending colon much swollen and hard; stomach less so; bowels flat; pulse feeble at 125.

Eleventh day. As upon previous day; a large injection of spearmint tea was followed by a copious defection, and accompanied by a disappearance of the distention of colon, which was so hard as to suggest an accumulation of hardened feces. But this was not the case.

The patient sank rapidly from this, time and died in the early part of the twelfth day. It will be observed that there was very little pain, no marked tenderness, and no tympanitis of abdomen at any time.

Autopsy twenty hours after death, in which I was assisted by Dr. Wheeler. Abdomen but little swollen. The wound was found united upon its peritoneal surface, except at one small point near the lower angle. The pelvis contained about half a pint of thin purulent matter with a slightly pinkish tinge. Pedicle had sloughed up to the point of the ligature.

The peritoneal membrane was granular and reddened, and adhesions were quite extensive. Some strong, firm bands crossed and tied down portions of the transverse and descending colon. It was evident that these strong bands across the colon were what caused the accumulation already noted. No other morbid changes were observed.

Here we have a case of peritonitis of an asthenic type following ovariectomy performed under the spray. What was the cause of this unfortunate result?

Had the size of the tumor any causal relation to it? The weight was fifty-five pounds, and the intestines were pushed upwards, as were also the thoracic organs.

Schroeder, in his report of his second series of fifty ovariectomies, speaks of the increased danger in cases of ovarian cysts of unusual size. Upon the removal of a very large tumor, there is a redundancy of tissues forming the abdominal walls. The greater displacement of the intestines causes a cavity to be left in the pelvis, in which air may become inclosed. To avoid this danger, he packs the pelvis by drawing down the intestines and the omentum over them, and then pressing the abdominal parietes well in, before closing the wound. In this way the air is expelled.

It will be observed that the very condition of things spoken of by Schroeder existed in this case. Might not some air containing septic germs have remained in the abdominal cavity, and have caused the inflammation and suppuration? It should be remembered in this connection that a slight interruption in the carbolic spray occurred while dressing the wound, and before the sutures were tied.

Another question which has suggested itself to me is whether the pedicle could have been so tightly tied as to cause it to slough. As previously stated, it was tied twice, and the last time the ligature, which was of carbolized silk, was drawn very firmly by the strong hands of one of my assistants. Could it have been drawn too tightly, and is this one of the dangers to be guarded against? No such warning is given in any of the systematic treatises on ovariectomy.

The reasons that the stump does not slough are said

to be the following: First, an exudation of lymph forms over and around the ligature, which organizes and carries blood to the distal end. Secondly, the peritoneal membrane on either side of the ligature may bulge over the deep, narrow gutter made by the constriction, and unite, and thus give life to the part from which the circulation of blood has been cut off. Now, if these are the only means by which nature preserves the life of the stump, there can be no danger of drawing a small ligature too tightly, because the deeper it sinks the more certainly will the little gutter be bridged over by the bulging of the parts on either side.

That these processes do occur cannot be disputed; but do they always occur soon enough to prevent sloughing when the constriction is so great as to cut off all circulation from the distal end? I find one authority who answers this inquiry in the negative. I refer to an article by Dr. Alban Doran, published in the twelfth volume of Saint Bartholomew's Hospital Reports. Dr. Doran describes the post-mortem appearances of ten cases which had been operated on by different surgeons in the Samaritan's Hospital. In only a small minority of these cases could death be attributed to the intra-peritoneal treatment of the pedicle. The presence of a firm coagulum upon the end of the pedicle he considers a good indication, as showing that it had not been tied so tightly as to cause sloughing, and yet tight enough to prevent hemorrhage. He says the pedicle sometimes partially sloughs in consequence of being too tightly tied, and warns surgeons against this danger, which he considers a greater one than the possibility of hemorrhage from being tied too loosely.

It seems to me that here is a source of danger which is not duly appreciated by most operators, and I cannot help feeling that in the case here reported the second ligature was the principal cause of the extensive sloughing of the stump.

It is of course impossible to know certainly whether one of the above-mentioned conditions, or all of them combined, produced the peritonitis which was found to exist, but the points which I have raised in this case will not, I hope, be considered unworthy of the prominence I have given to them.

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

FREDERICK C. SHATTUCK, M. D., SECRETARY.

JANUARY 5, 1880. DR. BUSH read a paper on

A CASE OF ABORTION, WITH INSTRUMENTAL DELIVERY, AND DEATH ON THE FOURTH DAY FOLLOWING.

A woman thirty years of age miscarried during the fourth month, after prolonged use of the sewing-machine and accidental violence. The fetus was delivered with instruments, on account of the exhausted condition of the woman, who had a feeble pulse and irregular pains, causing great agony. The vagina was hot and tender, abdominal tenderness was marked, and as her condition was growing more alarming it was thought best to empty the uterus. The placenta was adherent and only partially removed, the reporter thinking there would be less risk in leaving the small

portion than in further manipulation. Four days later she died from septicæmia. In another case he should remove the fetus if possible, using the finger as a curette, and, if not successful in this, plug.

DR. INGALLS spoke of his great good fortune in never having had a case of puerperal septicæmia in a long obstetric practice. In cases of abortion he has sometimes left the placenta to nature, but has often removed the ovum with the finger, which he considers the very best instrument for the purpose. Within a few years he has in several instances introduced the whole hand into the vagina, thus having the thumb and forefinger with which to work. In one case, even after the introduction of the hand, he could not remove the placenta, and the woman had a foul, fluid, slate-colored discharge for six or seven weeks after this; but it then ceased, and she has been in perfect health ever since. This is the longest period which has come under his observation, the time generally varying between a day or so and two or three weeks. The treatment of these cases is certainly a very important and embarrassing point in obstetric practice, and it is often difficult to make the patient realize the importance of rest and quiet, she being very apt to think herself better than she is.

DR. C. E. INCHES said that in his experience plugging is the best treatment, and that he has become convinced of the truth of Dr. Meigs's statement that the blood dissects away the membranes. He always plugs with ordinary cotton, and after eighteen hours or so finds the membranes behind the plug.

SUBNORMAL TEMPERATURE.

DR. BRADFORD reported the case of a child who, after excision of the elbow by Dr. Ingalls some time before, was eating and sleeping well, and had no unfavorable symptom, but whose temperature was found to be 95° F. It being thought that there must be some mistake, other thermometers were used, one of them tested and vouched for at Kew not long ago, but all registered alike 95° F. The next day the temperature was 96° F., the next 97° F., and since then it has been normal, there being no other indication of change in the condition of the child.

DR. INGALLS remarked that it is very possible subnormal temperatures would be oftener met with if it were made an invariable rule to shake the index well below the lowest markings before using the instrument.

DR. STONE related the case of a child recovering from bronchitis whose father had bought a clinical thermometer, and, finding the temperature 96° F., went to Dr. Stone in alarm. He found the child asleep, bathed in perspiration, and verified the thermometric observation; the next morning the temperature was normal.

DIPHTHERIA, WITH LONG PERIOD OF INCUBATION.

JANUARY 19, 1880. DR. WELLS reported the case. A governess living in the family of a late New York surgeon had nursed, several weeks previously, two of her young charges through attacks of diphtheria. Two weeks after they were well enough to go out-of-doors they were taken to a summer resort on the coast of Maine. A few days after their arrival, and two and a half weeks after they had begun to go out, the governess, who had not been well in the mean time, was attacked with what the family supposed to be an ordinary sore throat. It proved, however, to be a well-marked case of diphtheria, from which she event-

ually recovered. Dr. Wells was led to connect her attack with her exposure, because it could not be accounted for in any other way. There had never been a case of the disease in town: the sanitary arrangements of the house were excellent; the drinking water, ice, milk, etc., pure; and so long a period of incubation, though unusual, is not beyond the bounds of possibility.

A paper entitled

CASES OF EMPYEMA

was read by DR. A. T. CABOT. He reported three cases, one of which was treated antiseptically, with rapid recovery, and invited discussion, particularly on the following points:—

(1.) How useful is aspiration in empyema, when should it be done, and how often should it be repeated before resorting to the more radical operation?

(2.) How important is the strict observance of antiseptic precautions in making a free opening?

(3.) What are the relative advantages of the different methods of treating the opening?

DR. MINOT strongly advocated a free opening whenever the consent of the friends can be obtained. Its necessity is unquestioned in adults, and in children, though aspiration alone is not infrequently successful, recovery is more sure and rapid after incision. He has often tied a condom to the end of the drainage tube in children to receive the discharge.

DR. PORTER said that empyema should be treated like any other abscess, and opened. As yet he has never used the antiseptic method in this operation, but means to do so in future. Lister says that when his method is rigidly carried out there never is any secretion of pus, but only an abundant serous discharge, requiring thorough drainage and a change of the dressing once during the first twenty-four hours, and then daily in an adult. In antiseptic surgery in general it is important to make sure that the spray does not give out before the operation and dressing are completed.

DR. TARBELL also expressed his intention to employ Lister's method in future in these cases. In some of his cases, in which objection was made by the patient or the friends to the knife, he had used a very large trocar, and introduced the drainage tube through the canula, then withdrawing the latter.

The reader inquired whether Dr. Tarbell had ever seen any trouble arise in these cases from the fibrinous clots which were retained in the chest.

DR. TARBELL answered in the negative, and then alluded to the unwillingness of some physicians to etherize a patient in operating for empyema. He always uses the anæsthetic, seeing no reason why he should not seek to avoid the pain of that as well as of any other operation. The treatment by frequent aspiration cannot be regarded as justifiable nowadays.

DR. ROTCH inquired as to the danger of carbolic-acid poisoning from washing out the pleural cavity with a solution of that substance. Several gentlemen stated that they had neither seen nor read of such an occurrence, and the reader said that his idea in washing out the cavity was simply to remove the coagulated fibrin,—not to render the cavity aseptic, which it is already if the proper precautions have been observed.

DR. BOWDITCH expressed himself as deeply interested in the discussion, and said that it is now almost exactly thirty years since Dr. Wyman first drew off

fluid from the chest. The patient was a woman, sick three weeks with a large effusion and terrible orthopnea. Dr. Wyman called the late Dr. Homans in consultation, and proposed tapping with an exploring trocar and canula and a suction pump. Dr. Homans thought it better not to interfere, but Dr. Wyman advocated the experiment so strongly that Dr. Homans said he would talk with his professional friends in Boston and return in the morning. When they met again he said, "Wyman, everybody is opposed to the operation, but, as the woman will die unless relieved of her dyspnoea, perhaps it is allowable to operate." Dr. Wyman immediately tapped, with prompt and entire relief, and in three weeks the woman was well. Gerhard, of Philadelphia, after the operation had been done in Boston, said, in reply to a question from Dr. Bowditch, that he would as soon put a bullet through the chest. Dr. Bowditch first operated in Boston because no one else would do so, but, owing to his want of surgical skill and experience, was in great fear and trembling before his first operation, and enjoined upon his friend, a young surgeon who accompanied him by special request, to take the instruments from his hand and complete the operation should he (Dr. Bowditch) be unable to do so. A wonderful advance has been made in the treatment of these cases during the last twenty years, but the tendency now is to make an opening under almost any circumstances, without regard to the age of the patient or the duration of the disease,—factors which should not be left out of account. It is often very difficult to decide whether to aspirate or to make a free opening, and he has seen cases run down under either method when the disease was of long standing.

DR. ELLIS expressed the opinion that aspiration, if resorted to, should be repeated as often as pus could be found, so as to leave as small a cavity and keep the lung as much expanded as possible.

DR. T. B. CURTIS said that with Lister success is apparently the rule, and neither in spinal abscess nor empyema is any pus secreted after the opening is made. He applies gauze from the axilla to the pelvis to insure against the entrance of air, and he never gets carbolic-acid poisoning, because he never washes out the pleural cavity; indeed, he seems to disapprove strongly of such a procedure.

DR. KNIGHT remarked that it is evident that little pus can be absorbed; if it were possible to get our trocar into the lowest part of the chest and remove the whole accumulation, we should probably succeed oftener in curing by aspiration. The annals of the Charité Hospital in Berlin during the last eight years illustrate well the change which has come about in the treatment of pleuritic effusions. In 1871 Traube and Fraentzel were beginning to take an interest in aspiration. The former inquired of the speaker, who was at that time at Berlin, as to Dr. Bowditch's results, got a pump, and convinced himself that there is no danger in the procedure. Their apparatus is now first-rate, and they have of late opened empyemata successfully, according to Lister's method. The point selected by most Americans for puncture is low in the back, but the speaker thinks it better to tap in the fifth inter-space between the axillary and the mammillary lines, as is done in Germany, for the reason that the fibrin naturally gravitates to the lower and posterior portion of the chest, and a "dry tap" is thus more likely to occur if the needle is plunged into that part.

DR. ELLIS said that he has now for a number of

years been in the habit of puncturing just in front of the edge of the latissimus dorsi muscle on either side of the chest.

DR. MIXOT alluded to the remarkable fact that spontaneous openings always take place high up, — in the second or third interspace.

DR. CHADWICK related a very early mention of the evacuation of empyema by incision in New England, which he had lately run across in the account of a voyage in 1662, by Felix Christian Spöri, of Zürich, surgeon. The author speaks of the fog rising, February 12, 1662, and revealing Cape Cod; the vessel's course was turned north, toward Cape St. Anne, which soon came in sight. They then steered into the harbor, and cast anchor near Read Island, within view of the governor's house. A small boat immediately came along-side, with a servant of the governor, who inquired whether there was a surgeon on board. On learning that there was, he requested Dr. Spöri to accompany him ashore, where the son of the governor lay in a very low condition. He found the boy extremely ill, with an elevated point between the third and fourth ribs, and other signs which convinced him that the disease had started as a pleurisy, but, from lack of proper remedies, had turned into empyema. On advising the parents that death must speedily supervene unless the pus was evacuated, the doctor was requested to operate, and did so the next day in the presence of a large number of astonished spectators. Two pounds of offensive pus escaped from the incision, which the doctor then plugged with lint to prevent too great drainage, whereby the patient might lose his life. So immediate was the relief that the patient said he felt better than he had from the twenty purges and thirty clysters which had previously been administered. The same evening and the following days the pus was drawn off, the opening enlarged, and the cavity cleansed by injections. In three weeks the patient was able to return to his business. The doctor's fame spread throughout the neighboring country, so that many persons came to consult him. For this reason he wished to establish himself permanently in practice, but was not allowed to do so by the captain of the Black Horse.

CHRONIC RHEUMATIC ARTHRITIS AND FIBRINOUS RENAL CALCULI.

DR. ARNOLD reported the case and showed the right hip and ankle joints and the kidneys. A single man of forty-five never had had acute rheumatism, but began as a school-boy to suffer from pain and stiffness in his joints, which increased gradually, and disabled him completely by the time he was twenty-five. Three or four months ago nausea and vomiting appeared, and his strength failed more rapidly. One month ago large quantities of pus began to pass with his urine, and continued to do so till his death; about ten days ago a number of small black bodies were voided in the urine, according to the description of his attendant precisely similar in character to those found in the kidneys at the autopsy. Death was rather sudden and unexpected. At the autopsy nothing remarkable was found about the internal organs except the kidneys, which were much atrophied, especially in the cortical portions, and contained numerous cysts of varying size. The contents of some of these cysts was clear fluid, of others blood, and of others again pus, mixed with which, especially in the right kidney, many of the cavities contained also large numbers of dark-colored bodies,

about the size of a millet seed. The pelvis, the lining membrane of which was dark and injected, contained masses of these bodies as large as a robin's egg, easily broken down, and with a slightly gritty feel. The ureters were generally dilated to at least twice the normal size, and the mucous membrane showed marked evidence of chronic inflammation. One of the dark masses from the pelvis of the kidney was sent to Professor Wood, who reported that it was an example of the so-called fibrinous calculus or blood concretion.

TUMOR OF THE CEREBELLUM.

DR. WEBBER reported the case and showed the specimen.

T. S., aged fourteen years, entered the City Hospital December 13th, and stated that three years ago he received a severe flogging at school, and the back of his head was forcibly bumped several times against the floor; the teacher also struck him several blows in the pit of the stomach, which caused him to vomit. He was laid up in bed, unable to go to school for two months, having severe headache and some vomiting.

Soon after getting about he noticed that while going down-stairs he was troubled with dizziness, and has been thus troubled ever since. He has had more or less headache every day since, the pain being located in the back part of his head, below the occipital protuberance. He has felt sleepy much of the time. There has been no trouble with speech or hearing. Vision began to fail nine months ago.

Since last winter he has had six attacks of convulsions; four of these occurred in the night while in bed, two immediately after breakfast. During these attacks, which last ten or fifteen minutes, he is paralyzed and cannot move, vomits, cannot speak intelligibly, does not bite his tongue, is unconscious. When the attack has occurred during the day he has had warning of its approach by a numb feeling beginning in the left side of his head, gradually extending over the whole of his body. Has slept after each attack, and has trouble in walking, from weakness, for half a day. He has had numbness of left half of his head and tongue, and occasionally prickling sensation in left side of his tongue, without the severer convulsion.

On examination a peculiar impairment of speech was noticed; some words were uttered slowly, with an evident effort, not stuttering. His gait was unsteady; he walked with legs far apart, bringing the left foot down more heavily than the right. With the eyes shut he stood steadily, but the unsteadiness in walking was still more marked. Sensation was impaired in the left leg and right hand; in the face it was about the same on both sides. There was trouble with vision, and he could not read well. Dr. Williams examined the eyes and found marked atrophy of both discs.

While in the hospital he had two severe attacks, similar to those described above, and several of the *petit mal*.

On December 18th he was as well as usual, or even brighter; there was no complaint in the evening of any increased discomfort. On the following morning he was found dead in bed, the clothes not disturbed, as if he had died quietly without any struggle.

Autopsy, 3.30 p. m. Brain only was examined. There were a few spots of increased opacity of the pia mater over vertex. Convolutions universally flattened. The ventricles contained a large amount of serum, twelve to fifteen ounces, much of which was lost and not

measured. On the under surface of the cerebellum in the median line, between that organ and the medulla oblongata, extending a little farther to the left than to the right, was a tumor; this involved both lobes of the cerebellum, and measured about three inches transversely. The medulla oblongata was much compressed and flattened. The tumor contained five cysts: two of which were very large, and two others very small; a large cyst projected anteriorly from above the cerebellum below the corpora quadrigemina. Several of the nerves arising from the medulla were thinned, and less white than usual.

The peculiarities of this case are the great freedom from headache during the stay in the hospital, — it was learned after death that headache had previously been severe, — and the small amount of motor and sensory disturbance, notwithstanding the long duration of the case and the size of the tumor: the incoördination was very much less than I have seen in cases where there was a smaller tumor; the general muscular weakness was comparatively slight; there was also little or no mental disturbance. The slow growth of the tumor will explain these peculiarities, the brain adapting itself to the changing relations; indeed, it is quite possible that the tumor had ceased to grow, and the cessation of headache would favor such a supposition. Death was probably caused by a sudden effusion into the ventricles, increasing the pressure beyond the limits at which the nerve centres could act. Perhaps the medulla oblongata was suddenly subjected to a pressure which paralyzed the vital centres contained therein.

Owing to the slight amount of headache, as it was understood, and the slight motor, sensory, and intellectual disturbance in comparison with the length of time since the commencement of the symptoms, a tumor was thought to be less probable than an abscess or chronic thickening of the membranes.

LOCALIZED SUPPURATIVE MENINGITIS AND SOFTENING WITHOUT LOCALIZED PARALYSIS.

DR. J. J. PUTNAM showed a hemisphere of the brain of a child who had died at the Massachusetts Infant Asylum, sent him by Dr. Call, who had charge of the case. The clinical history as reported to him was in brief as follows: Flora —, five months old, was a delicate child, but not distinctly sick till Christmas, 1879. She then lost her appetite, was restless, feverish at times, and the anterior fontanelle grew more tense. January 4th she became unconscious, with strongly contracted pupils, muscular twitching of the right leg, and tonic spasm of the right side of the face and the right arm. January 6th she died. On autopsy marked suppurative meningitis of the whole parietal and posterior part of the frontal region on the left side was found; the vessels of the pia were ensheathed in a thick layer of pus, and the membrane itself was greatly thickened, both at the lower extremity of the fissure of Sylvius and at the upper extremity of both transverse convolutions. At the upper extremity of the right transverse convolution the thickening had obstructed the circulation, and given rise to red softening of the cortex and white substance immediately beneath it.

Dr. Putnam remarked that if the patient had been an adult the localized softening would probably have given rise to localized paralysis, and that the specimen was also of interest in that it showed so well the distribution of the meningeal vessels.

FEBRUARY 2, 1880. A paper was read by DR. CHADWICK on the

HOT RECTAL DOUCHE,

and reserved for publication. The reader was led to employ this method of treatment in gynaecological practice as a substitute for the vaginal douche, which entails so much trouble that in many cases it cannot be, or is not, efficiently employed. The rectal douche is far more easily used, and cases were cited showing its efficacy in peri-uterine inflammation after the more active symptoms have subsided. He had also found it of great service in several cases of chronic diarrhoea and dysentery.

DR. ELLIS inquired how far the water penetrates. The reader replied that he has often heard and felt it gurgling in the right iliac region, the patient lying on the left side. — DR. ELLIS said that he found it difficult to understand how a quart of water — the maximum amount used by the reader — can find its way so far. The quantity is not sufficient to distend the whole large intestine, and under these circumstances it is only by reversed peristaltic action that the force of gravity can be overcome. The reader observed that perhaps we do not estimate retrostalsis at its proper value. In a case of ovariotomy operated on by him, during a period of five days absolutely no food was given by the mouth; enemas of beef tea were, however, administered, and at the end of the above-named period the patient vomited stercoraceous matter. This was examined microscopically by Dr. Cutler, and beef fibre was found. After the injection of a certain amount of water the patient has a desire to void it; but this soon passes off if the current be stopped for a short time, and the injection can then be continued. The fluid usually passes upwards out of the rectum, as he had convinced himself by keeping a finger in the vagina in several cases while giving the douche.

DR. DWIGHT thought the discussion as to how far the fluid penetrates of scientific rather than practical interest, and doubted whether it often goes beyond the sigmoid flexure.

DR. N. FOLSON spoke in favor of the practical bearing of the question, and mentioned a patient with fibroid tumor of the uterus under his charge who gets an evacuation only by means of large injections. She has learnt by experience that the bowels will not move until she has felt the water in her right side. If an enema, not too hot, be given standing and the desire to void it resisted, it certainly disappears from the rectum, as is shown by the way in which subsequent defecation takes place.

DR. F. H. DAVENPORT said that one does not really appreciate the capacity of the rectum until one introduces the whole hand, as was practiced by Simon, of Heidelberg, and finds how easily the hand can be moved about.

DR. CUTLER spoke of a patient at the Carney Hospital, with peritonitis, on whom colotomy was finally done, and whose pain was much relieved by the hot rectal douche.

DR. A. T. CABOT said that Monti, of Vienna, in 1876, used the rectal douche very freely in children for catarrh of the lower bowel. The water was not as hot as that employed by Dr. Chadwick, and it was used for its mechanical action in removing fecal matter and cleansing the parts rather than to allay hyperæmia.

In reply to a question from Dr. Buckingham the reader said that he was inclined to think it safer not to use the douche during the active stage of pelvic inflammation; in two cases in which he had employed it early he rather regretted having done so.

DR. BUCKINGHAM said that he had used the hot vaginal douche in one case of pretty acute pelvic cellulitis with comfort to the patient.

EXTENSIVE VENOUS THROMBOSIS.

DR. H. E. MARION reported the case and showed the specimens. A delicate woman of twenty-nine aborted at the end of the fifth month of pregnancy, December 4, 1879, having suffered for four weeks previously with occasional "cramps" in the stomach, and for two weeks with frequent desire to go to stool, straining, and small bloody discharges. She denied having taken steps to procure abortion. Soon after the abortion it was noticed that a cluster of veins just above the pubes were swollen and tender, that the legs were edematous, and the pressure along the course of the femoral veins caused pain. The patient said that she had suffered from a similar condition of things after each of three previous abortions, — at eight, seven and a half, and two months respectively. The urine was free from albumen.

December 8th. General anasarca; the distribution of the veins over the abdomen was very marked, even to the smaller divisions.

January 1st. On examination of the chest a soft murmur was heard over the apex of the heart and a friction sound at the base, possibly pleuritic. In the left scapular region there was dullness with bronchial breath and voice sounds, and below the scapula flatness and absence of respiration. Crepitant râles were heard at the right base in the back, and sonorous râles in front. The urine was still free from albumen.

January 10th. Thrombosis of the right external jugular, hypogastric, and branches of the mammary veins, with marked swelling of the neck and right arm, were noted. The arm was punctured, with marked relief to the pain.

January 20th. No great change in the last ten days, except gradually increasing weakness. Cellular inflammation of the right arm set in, and free openings were made as soon as fluctuation was detected. January 30th she died.

Autopsy sixteen hours after death. The abdominal cavity contained about a pint of clear serum, and the peritoneal surfaces were extensively adherent. The left lung was compressed by about five pints of clear serum, and pleuritic adhesions were found on the right side. The heart was normal, the spleen enlarged to more than twice the normal size, and the kidneys were hyperemic. Portions of the small intestine were covered with blebs filled with clear serum, and about four inches of the ileum were sphacelous; the mesentery belonging to this portion was thickened and thrombi filled the veins. The uterus was subinvolted and bound down by adhesions, and there was very extensive thrombosis of the ovarian, peri-uterine, iliac, and femoral veins and their branches, as well as of a portion of the ascending vena cava.

— Dr. Auerbach has treated pruritus very successfully with the balsam of Pern, by thoroughly rubbing it into the parts affected.

Recent Literature.

The Pathology of Mind. Being the third edition of the second part of the *Physiology and Pathology of Mind*, recast, enlarged, and rewritten. By HENRY MAUDSLEY, M. D. New York: D. Appleton & Co. 1880. Pp. 580, 12mo.

Two years ago we had occasion to notice the *Physiology of Mind*, it being the first part of the work referred to above (*JOURNAL*, March 28, 1878). The present volume completes the author's task, and supercedes all earlier editions by reason of having been so largely rewritten as to be in effect a new work. A new book from the pen of so well-known an author as Dr. Maudsley needs merely a brief notice in order to be generally read. In his preface he says, when commencing the study of mental diseases, twenty years ago, he found an almost complete divorce between psychology and the physiology and pathology of mind. It was his original endeavor, and is still his purpose, to unite these separate methods of treating the same subject, so as to benefit by their mutual relations.

For similar reasons, no doubt, he has included in the present volume chapters on Dreaming and on Somnambulism and its allied states, a scientific knowledge of which is essential to the proper study of insanity. They are also properly placed first, as these conditions lead up to the more permanent pathological mental states. The phenomena of insanity would excite less surprise and be better understood if always viewed in the light of more transient and familiar mental disturbances. We are all insane at times, during sleep, and the incoherence of dreaming, if prolonged into a state of muscular activity and carried out in action, would soon bring one to the asylum. The social importance of a knowledge of the frequency of varying states of consciousness with more or less automatic mental and muscular activity is great. Forms of religion, methods of healing, and questions of legal responsibility depend on it. The growth of intelligence in this direction would tend to destroy superstition by explaining many of our modern miracles, and would throw light on certain mysterious acts of violence and crime. The theory of separate cerebral centres of mental function is essential to the explanation of such conditions as hysterical catalepsy, mesmeric trance, mental epilepsy, hypnotism, somnambulism, and dreaming. The now generally admitted divisions of insanity into moral, intellectual, and instinctive mania, monomania, and other partial forms, with hallucinations of a single sense, also point to the same explanation; and the discovery of probable cerebral centres explains and supports these now well-recognized divisions of function.

Dr. Maudsley treats the causation of insanity from an evolutionary as well as a pathological stand-point. He regards mental degeneracy as a correlative of mental progress, and does not regret the humanization of the race at the cost of the individual. The advantage of studying insanity in its relation to social development is considerable, though we think the positivists sometimes overstrain their system in applying it to similarly complex subjects. Still there is no doubt great gain in the rearrangement of old facts on a new plan. By new associations, fresh and unsuspected relations are discovered. We hope the time is at hand when society will be compelled by the development of

a scientific conscience to act on the more recent result of sociology; when the social causes of insanity shall be as surely sought out and removed as bad drainage is soon likely to be. Vice, crime, pauperism, and insanity should be dealt with in the making, and our author's treatise goes far in pointing out the way. It should be thoroughly understood that when developed in the individual it is usually too late to eradicate these forms of mental degeneracy. But their propagation might be prevented, and their reproduction so interfered with as to reduce them to trifling proportions in two or three generations.

Dr. Maudsley devotes a chapter to the insanity of early life, which is instructive by showing different kinds of derangement corresponding to the stages of mental development. In infancy the reflex centres alone are affected, and convulsions instead of delirium occur from internal sensory irritation. A little later hallucinations with sensori-motor phenomena are observed. As soon as ideas have been organized in the child's mind insanity is possible, but as they are few and disconnected the disorder takes the form of very incoherent delirium, often with hallucinations and violent action. Choreic, cataleptic, epileptic, affective or moral, and instinctive insanity are the forms incident to the insanity of early life. Children have been the victims of misunderstanding for ages, and are still weighted with the odium of innate natural depravity, and this doctrine has derived support from the apparent precocity in vice of many undeveloped or mentally unsound specimens. There is no skill at concealment in children, and instinctive acts common to all animals often shock the observer, who attributes to the child a too mature and responsible mental development. The insane conduct of children and youth is specially horrible to contemplate. This dehumanization is the result of a pathological process, and exhibits a disorder of race acquisitions and not of the conscious traits of its individual being.

In describing the symptoms of insanity, our author treats it first generally as one disease, setting forth the symptoms as they occur at different times and stages of its course, and then delineates the different clinical groups of mental disorder which are met with in practice. We are unable, for want of space, to follow his accurate descriptions, careful analyses, and instructive theorizing. In regard to treatment, however, we desire to call the attention of those who have been in the habit of quoting Maudsley in support of their hostility to hospital treatment to his change of opinion on this subject. Many pages which our author formerly devoted to depreciation of hospital treatment have disappeared from the present edition. His former position was that none but dangerous lunatics should be sent to hospitals. He advised treatment in the families of physicians whenever possible, and indulged in some fine writing in favor of the personal liberty of the insane,—more creditable to his heart than his understanding, as it seemed to some conservative members of the specialty. He now admits that hospitals have greatly improved, as they evidently have in his estimation. He says, the difficulties, social, pecuniary, and legal, in the way of home treatment make few physicians, even if competent, willing to take the responsibility of it, though its possibility should be carefully considered in each case. He believes anti-social beings like the insane may be placed in confinement by society not only for the public safety, but for

medical treatment. He states very fairly the objections to private hospitals, and decides on the whole in favor of public asylums. The former, he thinks, will decrease and the latter increase with the growth of a more healthy public sentiment. He considers it hopeless to expect such a perfection of arrangements in either as will get rid of all complaints, since these grow out of the essential nature of insanity. The practice of placing patients in cottages under attendants, and at some distance from the hospital, he denounces in the strongest terms.

This change of tone and opinion seems to be the result of increasing experience, and is as creditable to Dr. Maudsley's sincerity as his former advocacy of personal liberty. I think but little exception can be taken to his present opinions, but they do not afford much satisfaction to lunacy reformers, who, like Dr. Hammond in this country, are using second-hand English ideas, never sound, and now becoming less prevalent where they originated.

Dr. Maudsley's style is so brilliant and forcible that his book will prove easy if not cheerful reading to all interested in its subject matter. If its stores of information could be wrought at once into shape and use, it would greatly benefit both individuals and society. We must confess to a feeling of discouragement, however, in view of the vast and overwhelming nature of inherited mental degeneracy, especially if a partially successful struggle against it is only to benefit the race. Is life worth living, in view of the numerous snares and pitfalls which preceding generations have prepared for us? Progress in humanization may prove to some an adequate motive for bearing up in the too often unequal struggle, but it does not support the instinct for life, as the hope of personal immortality would do. If none are in the long run fit to survive forever, what matters a few years more or less, or a little higher place in the social scale? If optimism and pessimism are matters of temperament only, why should we be cheered by hope or discouraged by adversity? "Let us eat and drink, for to-morrow we die!" and if sick and discouraged let us die to-day! T. W. F.

The Crayfish: An Introduction to the Study of Zoology. By T. H. HUXLEY, F. R. S. New York: D. Appleton & Co. 1880.

This volume is a very attractive addition to the International Scientific Series. Handsomely printed, and profusely illustrated with excellent wood-cuts, it at once prepossesses the reader; and the satisfaction is increased as he follows Professor Huxley's clear and most interesting descriptions of the marvels of the structure of the crayfish and of its relations to the lobsters and crabs. The work seems to us an example of the author's best style, and this is no small praise. Had Professor Huxley stopped with an account of the anatomy, physiology, and embryology of the crayfish, our notice might have ended with the last sentence, but unfortunately, as we think, he takes occasion to bring in a good deal of ultra-materialistic teaching. He presents this so skillfully and with such self-satisfied dogmatism that it is well fitted to mislead those who follow in the light of a great name without thinking for themselves. We cannot, of course, go into a discussion of biology, philosophy, and evolution, so we will take but a single instance. In speaking of the origin

of the crayfish Mr. Huxley says that it must be due either to creation, spontaneous development, or evolution. The first he dismisses at once as unscientific, the second he puts aside for want of evidence, and so we have only the third. Now we are perfectly ready to admit that it is most probable that crayfish, and indeed most animals, have been evolved from lower forms; but if we turn to the last lines of the book we find how unauthorized, not to say how silly a generalization Mr. Huxley indulges in. Returning to this same subject he concludes as follows: "By whatever verbal fog the question at issue may be hidden, this is the real nature of the dilemma presented to us, not only by the crayfish, but by every animal and every plant; from man to the humblest animalcule; from the spreading beech and towering pine to the *micrococci* which lie at the limit of microscopic visibility." That the dilemma is the same may be true without in any way implying that the answer is in all cases the same. Following out the author's idea, we of course must suppose an ancestor for the micrococcus, and another for him, and so on, as in the well-known case of the fleas:—

"All fleas have lesser fleas,
And these have fleas to bite them,
And these fleas lesser fleas,
And so *ad infinitum*."

So that unless we admit that some higher power created the first germ, which appears to be repugnant to Mr. Huxley, we must believe that it created itself, which is repugnant to common sense.

It is to be regretted that Mr. Huxley did not confine himself to the strictly anatomical side of the question, which he handles so admirably. T. D.

Experimental Researches on the Regional Temperature of the Head. By J. S. LOMBARD, M. D. London: H. K. Lewis, 136 Gower Street. 1879.

Dr. J. S. Lombard, formerly assistant professor of physiology in Harvard University, publishes in this book the results of extensive researches upon the temperature of different parts of the face and scalp, as obtained by surface thermometers or by a thermoelectric apparatus especially adapted for that purpose. His object was, first, to determine as far as possible the normal temperatures of those parts when the brain is comparatively quiescent, and then to study the changes produced in those temperatures by cerebral activity. He hoped that such observations might furnish reliable data for comparison with the temperatures of the head in morbid cerebral conditions, and that they might also throw some light upon the comparative importance of the parts played by different portions of the surface of the brain in intellectual work and in the various emotions. The formidableness of the task undertaken by the author may be surmised when we read the precautions which he finds it necessary to take in order to insure accuracy. "It is necessary," he says, "to know as much as possible concerning the various circumstances, both internal and external, affecting the subjects of examination: the general temperament, mental condition, occupation, — more especially what it has been just before the examination; the state of the circulation; the temperature of the atmosphere to which the individuals have been exposed before the experiment; whether they have been near a

fire, exposed to the rays of the sun or to draughts of air, etc., and if exposed to any of the above influences whether one part of the head was acted upon more than another; also the previous position of the head and body should be known, — whether one side of the head has been resting on a pillow, back of a chair, etc." In another place he adds that these numerous and unavoidable causes of interference may produce disturbances entirely beyond the control or even estimation of the observer. Indeed, when two parts of the head are exposed to the same external influences, one part may, for some unknown cause, be more affected than the other.

Then, again, the study of the effects of emotions on temperature would seem rather a difficult task to accomplish. One does not ordinarily keep his emotions on draught, as it were, to be dealt out in specified quantities on demand, nor can I conceive it an easy thing for a man to muster up pathetic or amorous emotions when his face is mapped out with chalk lines. On the other hand, a man in rage is hardly so docile as to submit to the gentle placings of a thermometer. Dr. Lombard does not consider that the temperature of any given point at the surface of the head is under the immediate control of the temperature of the portion of cerebral tissue lying directly beneath it, and that therefore a difference in the temperature of two points necessarily implies a similar difference in the corresponding portions of the brain; but he does think that the temperature of any given point on the scalp is "the resultant of its own temperature and of the different temperatures of all the parts lying beneath it." Imagine a cylinder cut out of the head; then the different layers of skin, muscle, bone, membranes, and brain will act as so many furnaces of different powers, and changes of heat production in one will affect the temperature of the others by conduction.

Dr. Lombard prepared cylinders of different substances, of poor heat conductivity such as paraffin, spermaceti, bees-wax, lard, and butter, and tested the rapidity with which a change of temperature at one end of the cylinder would affect a galvanometer pile applied to the other end. He found that a difference of temperature of 0.125° C. made itself manifest by conduction in three quarters of a minute, through 20 mm. of paraffin. He concludes that this experiment indicates that a slight change of the temperature of the brain may be quickly detected at the exterior of the head by a sufficiently delicate apparatus. With the possibilities of error so infinite and the probabilities of accuracy so minute, it would require a faith equal to a very large mustard seed to induce one to base very broad deductions upon data thus accumulated. However, Dr. Lombard has collected a large number of observations, — some sixty thousand, — and it may be that he has steered his way successfully through the forbidding obstacles which beset his path. The book is certainly a monument of great patience and painstaking. G.

— Hydrofluoric acid evaporated in the proportion of one gramme to each cubic metre of the sick-room, and thus inhaled by the patient, is said by Henri Bergeron to be a certain remedy for diphtheria. The evaporation should require three hours. "All who have been submitted to this treatment for forty-eight hours recovered."

Medical and Surgical Journal.

THURSDAY, APRIL 8. 1880.

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THE ADMINISTRATION OF CHARITIES IN NEW YORK.

ON the 29th of March a meeting of representatives of the principal charitable institutions of New York was held at the rooms of the State Charities Aid Association, for the purpose of discussing the system of public aid for charities now in operation, and taking action in regard to the proposed reduction by the legislature of the *per capita* allowance granted by various special acts to these institutions. Fourteen societies were represented, and on taking the chair Mr. Theodore Bronson, of the State Board of Charities, by whom the conference was called, stated that within a few days several bills affecting their interests had been introduced in both houses of the legislature. The greatly increased cost of maintaining the poor of the city, he said, had long attracted attention, and the introduction of the bills mentioned, whose design was to cut down the *per capita* allowance, showed that unless some measures of economy were suggested by the societies themselves it would be forced upon them from without. The following facts showed that the time had come at least for some movement of inquiry as to the cause of this increased expenditure: "In 1865 the amount paid by the city to various asylums, reformatories, and other charitable institutions for the support and maintenance of inmates chargeable to the county was \$136,650, and the amount appropriated for the year 1880 is \$996,257. To arrive, however, at the whole amount to be paid during the present year to private institutions for the support of the poor, the excise fund must be added; and in 1879 this was \$342,513. In 1865 the amount appropriated for the Department of Public Charities and Correction was \$988,450; in 1880 it is \$1,318,383. That is, the city of New York paid \$1,125,000 for the support of its defective, dependent, and criminal classes in 1865, when the city had a population of 726,386 (or about \$1.50 per head); while in 1880, only fifteen years later, with an estimated population of 1,115,000, the city will spend about \$2,600,000, or more than \$2.50 per head."

After statements from representatives of various societies and hospitals (most of whom strenuously opposed any reduction in the *per capita* rates allowed them), Mr. Elbridge T. Gerry, of the Society for the Prevention of Cruelty to Children, remarked that within the last three months many cases of attempts to foist unnecessary burdens upon the city had been discovered, and read the first section of a bill introduced by Assemblyman Mitchell, which he said he

hoped soon to see a law, and which is as follows: "No child under the age of twenty-one years shall be committed to any prison, corporation, institution, or association whatever in the city of New York; nor shall any such child be received thereby or therein, except upon a warrant duly made by a justice of the supreme court, or by a court or magistrate having criminal jurisdiction." He thought the best remedy for many of the abuses now existing would be the establishment of a special central body or board to go behind the commitments of the police magistrates, and find out the circumstances of each case. This would prevent the bringing of children from other counties, or even other States, to be placed in the city institutions; and it has sometimes been found that a number of irresponsible persons hire a house, crowd it with children, and get the *per capita* allowance for the payment of salaries and the starvation of the children.

Mrs. Josephine Shaw Lowell, of the State Board of Charities, then made a forcible and practical address, in the course of which she said: "In regard to these charitable societies which you represent and which receive this *per capita* allowance, you may say that you have a moral responsibility, that the system which you have introduced is a good system to a certain point, and that it is certainly fair that if you give all your thought and time to this work you should have help from the public. But this system is open to the very grave abuse which Mr. Gerry has pointed out. Our board feel this, and on account of the relation which we bear to the charities of New York our attention has been called to these charities as a whole, and to the fact that this great increase in expenditure mentioned has occurred. And we say that as other and stranger and bogus societies are seeking to put themselves on a footing with those which you represent, you are the persons to whom we come, naturally, to get suggestions: in the first place, how the increase should be stopped in your own societies; and, again, how this increase in disreputable outside societies should be stopped. And I should like to say, what may seem very strange to some of you, who look upon this in a different light from what I do, that I do not consider these charities as a matter of pride to the city of New York. It seems to me that in this country, with the great facilities for earning a living, to have so many deserted children, so many paupers, so many criminals, so many persons sick in the hospitals, simply because they are drunken and bring on diseases by their vices; that to have their children left to the public to care for, to have such a mass of this deserted and criminal class, which it costs us two and a half millions of dollars, and over, to support,—I think that all this is a shame and a disgrace to the city of New York, instead of a matter of pride! It is not a matter of humanity. We are taking children that we ought not to take. If these went to private institutions only, if this fund were provided only by private benevolence, why, we might say the State is willing to give the \$2,000,000 to support the poor. But it is not so; every dollar of these two or three millions is taken from people who do not want to give

it. This is not charity. So long as the money comes from the taxpayers, they are not administering charities. Of course, your work is charity, but the money is not charity. And now it seems to me that, practically, the question is, How are we going to diminish this immense mass of dependent criminal population? Is not the trouble that it is too easy to gain admission to your institutions? We all know that, unfortunately, we cannot depend upon our magistrates, and there should be some means devised for going behind the commitments by them. There should be a central board, I think, which should undertake that piece of work, in some such manner as is done by the Hebrew Benevolent Society; for in this way you might cut off all the unworthy applicants. Then, another point is, whether the inmates — the children — are not kept too long in these institutions.

"My idea is that there might be some central board formed by representatives from the different institutions that are receiving the *per capita* allowance; that this board should attend to the investigation of cases of application, and have the power of granting permits; that each separate board of managers should not have this power; that the central board should be more or less a distributing centre; and that the most important part of the work, both of the central board and of the various institutions, should be the disposition of the children, because we all know that after all, no matter how good your care is in the institution, the main question is, What is to become of the inmates afterwards?"

After some further discussion a motion was passed to the effect that members of each of the societies represented should be selected to form a committee for consultation as to the best mode of remedying the evils which had been developed in the course of the conference, with Mr. Gerry as its chairman, and the meeting then adjourned.

MEDICAL NOTES.

— Von Schmidt, the notorious cancer curer, whose doings in London were exposed by the *Medical Press and Circular*, migrated to Paris, and is now in the hands of the police of that city for illegal practice.

— Dr. James Nevins Hyde has succeeded Dr. Byford in the senior editorship of the *Chicago Medical Journal and Examiner*.

— The ninth congress of the German Surgical Society will meet in Berlin in April.

— Rudolph Buchheim, professor of materia medica at Giessen, is dead.

— Dr. Notschawa, of Moscow, reports a case of double uterus with double conception. In consequence of hæmorrhage from both uteri, an embryo of one month was extracted from the left uterus, and from the right a fetus of three months.

— Dr. Alfred Carpenter has been urged to become a candidate for the representation of East Surrey in Parliament. Much to the regret of the English medical journals he has declined.

— The medical staff of Guy's Hospital have at last firmly asserted that they cannot perform their duties with a matron in authority over them. The governors, who heretofore have never interfered with the administration of the hospital, but have supported the lay treasurer and his scheme of nursing, have been forced to take up the question. What they propose to do remains to be seen, but the existing condition of things seems very curious.

— The coming meeting of the American Medical Association will be held in June, in the city of New York. Unusual efforts for an interesting meeting are being made by the committee of arrangements.

— Diphtheria is reported as prevailing to an alarming extent in Austria. It is said that not less than forty thousand persons have been its victims within a few months.

— A German railway physician asserts that railroad employees are more liable to affections of the spinal cord than any other class of men.

— Dr. Wilks, of Guy's Hospital, has been appointed physician to the Duke and Duchess of Connaught, in succession to Dr. Murchison. — Mr. Alfred Willett has been elected Surgeon to St. Bartholomew's Hospital, *vice* Callender, deceased.

— Alluding to the *Practitioner* of London, *Le Practicien* of Paris, the *American Practitioner*, of Louisville, the *Country Practitioner* of New Jersey, and, recently born, *The Practitioner* of Baltimore, the *Medical Press and Circular* says, "The new candidate for professional favor is bright, as most new things are, and we wish it the success its editors so confidently predict; but if gentlemen with literary aspirations cannot coin something fresh in the way of titles for their mushrooms, the *Index Medicus* will become muddled."

— At the thirty-third annual session of the Wisconsin State Medical Society, held at Milwaukee, June 4, 1879, the following resolution was offered by the secretary, Dr. J. T. Reeve: *Resolved*, that the State Medical Society of Wisconsin recommends the adoption of the metric system of weights and measures, and that in future that system be used in its printed transactions. Dr. Reeve stated that the metric system had been adopted by the American Association at Atlanta, that it was largely in use throughout the civilized world, and that he believed it right for the society to encourage its introduction in this way. Dr. Wilber seconded the motion, and after some discussion the resolution was adopted. On motion of Dr. Whiting the secretary was directed to insert in the next volume of the Transactions tables showing the relative values of the weights and measures in common use and those of the metric system. This has been done in the volume of Transactions just published.

— Professor Rouget has been appointed to the chair of general physiology in the Museum of Natural History, Paris, in the place of Claude Bernard. — Pettenkofer has received the Bavarian order of the Royal Crown.

— The scheme to bring sea-water to London has

been nipped in the bud by the Parliamentary Committee. The subsoil of the streets is already so crowded with pipes that it was deemed impracticable to introduce more.

—On the 7th of March Sir Thomas Watson, Bart., M. D., celebrated the eighty-eighth anniversary of his birth.

—San Francisco pharmacists are making the attempt to put an end, by legislative enactment, to the custom of paying physicians a percentage on prescriptions. According to *New Remedies*, physicians of San Francisco who thus share the profits of the apothecary write their prescriptions in cipher, and this journal calls the attention of the American Medical Association to this nefarious practice.

—The present inefficient and unscientific method of conducting executions was forcibly illustrated on Friday last. In one State a criminal of light weight was allowed to die slowly by suffocation, while at another execution, performed in a different State, the prisoner's head was completely severed from his body by the force of the fall. Sheriffs, generally unaccustomed to the task, are ignorant of the fact that this problem has been worked out scientifically, and that the elasticity or non-elasticity of the rope employed and the weight of the man must be carefully considered in estimating the number of feet "drop" required. As at present conducted, with its tedious preliminaries and clumsy make-shifts, the method may be considered little less than barbarous. If the poor wretches had happened to be dogs, we should doubtless hear of an earnest protest against the system.

PROVIDENCE.

—During the past two years the Providence Medical Association has been making efforts to establish a medical library on a plan similar to that of the Boston Medical Library. Mainly through the energy and perseverance of Dr. George D. Hersey, a large number of medical journals have been obtained, comprising files of nearly all the medical periodicals published in this country. In addition to this a reading-room has been maintained, open at all hours to members of the association, and furnished with the principal English and American journals. At the annual meeting of the association, held March 1, 1880, it was voted to transfer all the material thus accumulated to the Rhode Island Medical Society as a nucleus for the establishment of a state medical library. A subscription in aid of the same project has been set on foot among the profession of the State, and sufficient money has already been promised to warrant the belief that the enterprise will soon be placed upon a satisfactory basis. The need of such a library has long been felt.

—A case which recently occurred at the Rhode Island Hospital is of interest from the extent of injury produced by a comparatively slight cause. The patient, a man aged forty, in good general health, was raising an ordinary wardrobe to an upright position, when it slipped, and fell upon his left leg. He was taken to the hospital, where examination showed com-

minuted fracture of the tibia and fibula at the middle third, fracture of the external malleolus, and dislocation of the ankle. There was a pin-hole opening on the outer side of the ankle, and another just below the point of fracture of the tibia. The dislocation was reduced, and the leg put into a fracture-box. On the third day the whole leg became oedematous, and bullae appeared filled with bloody serum. On the fourth day amputation was performed just below the knee-joint. The flaps sloughed, and the patient sank rapidly, and died from exhaustion on the fourteenth day after the receipt of the injury. The tibia was found to be broken into ten pieces, the fibula into eight, the os calcis into nine, and the astragalus into seven, besides numerous splinters and fragments too small to be counted. The soft tissues of the leg were completely disorganized.

NEW YORK.

—The Society for the Prevention of Cruelty to Children has purchased the property at the corner of Fourth Avenue and Twenty-Third Street, opposite the College of Physicians and Surgeons, for \$43,000. The other corners are occupied by the National Academy of Design and the Young Men's Christian Association.

—Governor Cornell has appointed Dr. William H. Smith, of Angelica, Allegany County, health officer of the port of New York, in the place of Dr. Vanderpoel. Dr. Smith is much better known in the State as a politician than as a physician, although of good standing in the profession. He was a member of the legislature in 1856, and at present is one of the republican state committee. During the war he was surgeon for three years in the volunteer service, in which he attained the rank of brigade-surgeon; and later he was surgeon-general on Governor Dix's staff.

—The abortionist known as "Madame Berger" has been sentenced to the penitentiary for five years. In March, 1879, she was found guilty of malpractice, resulting in the death of Cora Sammis, of Long Island, and sentenced to the penitentiary for twelve years; after which her counsel carried her case to the supreme court on appeal, and obtained a reversal of the conviction and an order for a new trial. At this second trial, which has just taken place in the court of general sessions, the prisoner pleaded guilty, and the judge, in giving the above sentence, stated that he would take into consideration the facts that she had already been for a considerable time in prison, and that in thus pleading guilty she had saved the State the expenses of a week's trial. The man who brought the patient to Mrs. Berger to have the abortion performed is now serving a four years' sentence in state-prison, having pleaded guilty, on the 8th of July last, of being an accessory to the crime.

—The last lecture in the Saturday night free course at the Cooper Institute was given on the 27th of March, by Professor Charles F. Chandler, president of the board of health; his subject being, *The Earth's Atmosphere: Its Ingredients and its Influence on the Human Organism.*

— At the March meeting of the County Medical Society the paper of the evening was by Dr. A. D. Rockwell, on *The Sequelæ of Acute Diseases, and their Treatment: Diphtheria, Cerebro-Spinal Meningitis, Typho-Malarial Fever.*

— Sister M. Philippine Beaver, of the Roman Catholic Church, who came to New York from Baltimore in 1834, and for forty-six years has devoted herself to the work of ministering to the sick poor, principally in the hospitals, has just died at the advanced age of ninety-one years.

— The seventy-third annual commencement of the College of Physicians and Surgeons was held on the evening of March 12th, at Steinway Hall, and one hundred and seventeen more doctors of medicine were then graduated into an over-crowded profession. The address to the class was by Mr. Richard O'Gorman, and the valedictory by Frederick T. Hume. Dr. Robert F. Weir, president of the Alumni Association, in awarding the annual Alumni prize for the best medical essay (which was won this year by Dr. R. W. Amidon, of New York), said that none was awarded in 1879, because no essay of sufficiently distinguished merit had been presented. The present year, therefore, the prize was increased to \$500, and this increase would be made permanent through the liberality of Mr. Benjamin Cartwright, of Newark, N. J., who had given \$10,000 to the college, the interest on one half of which was to be devoted to the prize fund while the interest on the other half was to go towards founding a lectureship. Hence, in 1881, the Cartwright prize of \$500 would be awarded, and in 1882 the Alumni prize of the same amount.

The annual dinner of the Alumni Association came off at Delmonico's on the following evening, and about a hundred and fifty gentlemen were present. In the course of his remarks in response to the toast "Our Alma Mater," Prof. T. Gaillard Thomas reviewed the recent progress which the college had made in improving its methods of instruction. The regular winter session, which had formerly been but four months, had been extended to five months, and in the coming season would be still further extended to seven months. Graded courses had been introduced, a most efficient physiological laboratory established, and so many clinics had been added from time to time that now every department of didactic instruction was practically illustrated by this means within the walls of the college. The system of written examinations had also replaced the old superficial plan of oral ones by the professors. In conclusion, Dr. Thomas advocated, in order further to increase the efficiency of the institution, the starting of a subscription for a new building, where it might be entirely independent of any relations, possible or probable, with Columbia College, of which it is now the nominal medical department.

— At the last meeting of the New York Public Health Association, March 10th, Professor Chandler was reelected president, and Col. W. P. Prentiss vice-president. On this occasion a paper on the problem of tenement-house building was read by Mr. James Gallatin, who has devoted much time and attention to

the subject, and in his remarks at its conclusion Dr. Chandler said that in regard to tenement-house requirements the Board of Health had during the past year endeavored to enforce the new law in every case; but there were few precedents for guidance under the law, and each case had its peculiar phase. After the discussion that followed, Dr. Janeway reported upon the sanitary condition of the city. During 1878, he said, there were 28,342 deaths, which was an increase of 1300 over the number occurring in the preceding year; but this was less than the average. The increase was due to the greater mortality among children, which was principally owing to the epidemic of scarlet fever last winter; so that there were 378 more deaths from it in 1879 than in 1878. There was, however, less of diphtheria, pneumonia, bronchitis, and phthisis. There were 404 fewer deaths in the city during January, 1880, than in January, 1879, and 92 less in February than in the corresponding month of last year. In conclusion Dr. Janeway urged the necessity of systematic and thorough vaccination. Small-pox was at present prevailing to a considerable extent in Philadelphia and Washington, and it might appear in New York at any moment.

PHILADELPHIA.

— Dr. Marion Sims was present at Dr. Levis's clinic on March 24th, having come from New York by invitation of the lecturer for the especial object of witnessing the use of hydrobromic ether. Wyeth's bromide of ethyl was used, which Dr. Levis prefers to ether or chloroform, on account of its transitory influence, speedy effects, and more agreeable odor. Several minor operations were performed; the smallest amount given (for a child about nine years of age, in order to open an abscess) was less than a drachm, the time required to get her under the influence being forty-five seconds. Dr. Levis recently "ethylyzed" five cases with less than ten drachms of the new anæsthetic. The results have been very satisfactory thus far in this city, but no operation extending beyond three quarters of an hour has been performed with its aid.

— At a recent meeting of the County Medical Society, the president, Dr. Albert H. Smith, presented the subject of intra-uterine stem pessaries, which, in properly selected cases, had succeeded in his hands after every other means of treatment had failed. He preferred the modification of Dr. Chadwick, made of hard rubber, and a slender, flexible stem, carefully gauged to a quarter of an inch less than the length of the uterine canal, which in all cases is required to be previously measured by the sound. The paper was decidedly a valuable contribution to the subject of the treatment of obstinate flexions of the uterus. Great care was urged in the use of these instruments, but high praise was accorded them in appropriate cases. It was asserted that it did not necessarily prevent impregnation, but if not speedily removed would necessarily cause abortion. No deaths nor bad results directly attributed to the intra-uterine stem had occurred in Dr. Smith's hands, but in the general dis-

cussion many of the members of the society expressed a fear of its effects, and Dr. H. Lenox Hodge believed that equally good results could be obtained by the lever pessary and general and local treatment.

— Dr. S. Weir Mitchell, at the following meeting of the society, read some clinical observations upon locomotor ataxia, and presented crutches of novel form to aid the walking. He repeated mainly the views expressed in his clinical lecture published in the JOURNAL a year ago, and expressed a preference in treatment for large doses of potassium iodide, with efforts directed to the improvement of general nutrition.

— The abuse of medical charities, which for more than a year past has been made the subject of investigation by a special committee of the County Medical Society, was reported upon at the last meeting, and the resolutions adopted as recommended by the committee of conference already referred to editorially in these pages (see issue for March 4th). These resolutions were ordered to be transmitted to the next meeting of the Pennsylvania State Medical Society, to be held in Altoona, May 19, 1880, with the approval of the society, and the request that copies be sent to other state associations.

CHICAGO.

— The past six or eight weeks have witnessed an epidemic of measles in Chicago such as we have not had for a dozen years. It seems as though hardly a child was to be spared the annoyance and danger of this disease. The cases are generally mild. Very few deaths, comparatively, occur.

— Dr. Thomas Bevan, one of the best known and most highly respected members of the profession, died suddenly on the 15th ult. He had practiced in Chicago a quarter of a century; had been for many years one of the physicians to the County Hospital; had occupied for several years the chair of hygiene in the Chicago Medical College; was a member of the Chicago Medical Society, of the Medical Press Association, and of the Medico-Historical Society. Perhaps no medical man has been held in higher estimation by all classes and people who knew him than Dr. Bevan. He had the early advantage of a classical education, studied several years abroad, and was in every way fitted to be an ornament and an honor to the profession, as he was.

— The annual Commencement exercises of the Chicago Medical College took place on the 30th ult., with a graduating class of thirty-seven. The Alumni Association held their reunion and banquet in the evening at the Tremont House. This college has instituted a course of instruction for practitioners, which began April 1st, to continue five weeks. Thirty physicians so far have paid the fee of thirty dollars for the course.

— Dr. Joseph P. Ross, for many years one of the physicians to the Cook County Hospital, has resigned this position. Dr. Norman Bridge has been appointed his successor.

— Chicago is having its share in the discussion of the abuse of medical charities. The oldest medical

society, at a recent meeting, had a report on the subject from a committee appointed for the purpose. The report will probably fail of any particular good, for the reason that it was chiefly devoted to the arraignment of the *rings* of old doctors, who, it was alleged, were managing the dispensaries in their own way, and denying the young men any voice in the same. The document apparently bears the finger marks of young men who feel hurt at something. Nevertheless, the little that is said against the real abuse of the charities meets the hearty approval of the profession. The secretary of the largest free dispensary (the Central) is busy trying practically to devise means for preventing people who own property and are receivers of rents from receiving free treatment at the dispensary.

Disclaim.

A NEW VERMICULAR SOUND AND CATHETER.¹

BY J. H. WARREN, M. D.

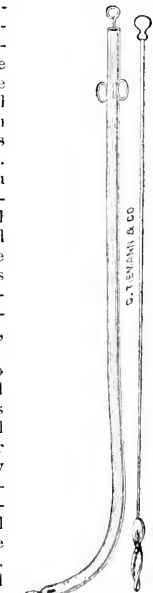
I TAKE pleasure in presenting to you a new urethral sound and dilator, which combines in its action the screw and the wedge. By its peculiar spiral motion it avoids to a very great extent the friction met with in using the sound and dilator of Otis and others in common use, since but a small portion of the urethral canal is in contact with the instrument at any one time. It will be seen that it partakes of the spiral twist in common with my new aspirator and syringe for injecting hernia. This new idea in surgical instruments was suggested to me while treating an old and difficult stricture last spring. I found that I could introduce the ordinary dilator with much greater ease and with far less pain by giving it a twisting motion. I think you will find, if any of you have under treatment long and tortuous strictures, that this dilator will glide through with great ease, and will fully accomplish its purpose with much less pain than the sounds in general use, and here rapid dilation is well borne, and it can be accomplished in half the usual time, with but little pain to the patient.

I hope it will be my pleasure to exhibit at each meeting for several months to come new instruments for the treatment of the male and female urinary organs, and for other surgical operations. Should they worm through contracted and strictured parts in your hands as perfectly as they have in mine, I shall think I have aided to revolve the wheels of advancing surgical science.

These instruments can be obtained of the varied sizes which are in general use, American or French scale.

CASE I. On January 12th Mr. — applied to me with a very severe stricture of several years' standing. He was unable to pass a stream of water larger than

¹ Read before the Suffolk District Medical Society.



a small knitting-needle. It was impossible to introduce the smallest sound through the stricture without the greatest pain, and it had been said by several physicians who had attempted it that, owing to the extent of the contracted and strictured canal, it would be impossible to pass again a catheter or sound. I passed this instrument which I now show you with such little pain to the patient that he asked if I had really penetrated through the stricture. Upon learning that I had, he said he never had one introduced so easily and successfully before.

The vermicular catheter is in shape like the catheter in common use except at its point. This point is about one and three tenths centimetres long, of the same peculiar wedge shape, and revolves in precisely the same manner as the vermicular sound and dilator. On account of its shape and power of revolving it is passed through and made to dilate the urethra with very little friction, and of course with far less difficulty, and with little or no pain when compared with the usual catheters.

CASE II. Mr. B., age sixty-six, has had an enlarged prostate, and for many years has passed his water with great difficulty, and in a very small and irregular stream. The parts were so compressed by this enlarged gland that it was impossible to introduce a common catheter or a soft rubber bougie, No. 9 French or No. 6 American scale, yet this vermicular catheter passed with perfect ease and without pain into the bladder. It has to be used only once to show its superiority over every other catheter in the ease and freedom from pain with which it penetrates the strictured parts during catheterization. These catheters are made for both male and female.

They are introduced in the ordinary way, the staff being held firmly in the hand; but the withdrawal should be gradual, little force being used in order that the mucous membrane may not close around the vermicular point.

THE ADMISSION OF WOMEN TO THE MASSACHUSETTS MEDICAL SOCIETY.

MR. EDITOR, — Having seen an opinion of mine referred to in your columns, perhaps it will not appear presumptuous in me to state some of the facts as they occur to me on that exciting subject, the admission of women to the Massachusetts Medical Society. Let me say just here that I am not and never have been opposed to the admission of women *per se*. Were I now to form a new Massachusetts Medical Society, I would by all means make a provision for the admission of women. But I cannot see how any unprejudiced person who studies the history and charter of the society can come to any other conclusion than that the society was not made for women. For almost one hundred years (the charter was enacted November 1, 1781) the society has been in existence, performing various important duties under the direction of the laws of the commonwealth, increasing its membership from twenty-seven to thirteen hundred or more, and no woman has ever been admitted as a resident or honorary member. And during this whole period there has been a large penalty for unreasonably refusing to examine any candidate offering himself for examination respecting his skill in the practice of physic and surgery, or for admission to the society. And no person has ever discovered that a great wrong has been

committed against the female practitioner. No gallant lawyer, among the many hundreds practicing in the commonwealth, who are ever ready to see that justice is done to the humblest inhabitant, has ever discovered that female physicians had rights that the censors of the Massachusetts Medical Society were bound to respect. The history of the society is an honorable one, and in all its acts where there has been a controversy it has been sustained by the courts. It has firmly adhered to its chartered rights, and has never invaded others.

So much for the history of the society. Now let us look at the charter. The legislature, on the first day of November, 1781, enacted "that Nathaniel Walker Appleton and twenty-six others be and they are hereby formed into, constituted, and made a body politic and corporate by the name of the Massachusetts Medical Society;" and they and their successors are to enjoy their rights without limit of time or reservation of power to alter or abridge them. Their duties and privileges are specifically defined, and penalties affixed for the non-performance of some of them. Twenty-seven physicians of Boston and the vicinity, gentlemen remarkably scrupulous in regard to all matters of propriety and ethics, composed this corporate body. Can any one believe that these gentlemen would have refused the admission of women if they supposed that the law intended to include them as the probable Fellows of the society? The intention of the act of incorporation is patent from a supplementary act passed March 8, 1803, twenty-two years after the first act, which provides "that the Fellows of the said corporation shall not be liable to be enrolled or mustered in the militia of the commonwealth" — a provision certainly not supposed to be applicable to females, but which was very acceptable, no doubt, to many of us during the last war. There is no subsequent act that provides for the admission of females. The law of 1859 only changes the word "candidates" to "persons," and does not pretend to alter the intent of the charter; and besides that law has never been accepted by the society, or its provisions acted upon as of any binding force. It therefore seems clear to me that the Massachusetts Medical Society was not made for females any more than the offices of judges of the courts or justices of the peace. What prevents our good governor to-day from appointing women to either of those offices? I know of no provision of the constitution or the laws that forbids it. The intent of the law alone forbids it. As was said to Governor Andrew, those offices were not made for women.

I only wish to say further a few words in relation to the opinion of Messrs. Hoar and Putnam. With all deference to the opinion of those gentlemen, I must be allowed to remark that I have found that the opinion of a lawyer, however eminent, is not *law*, and I respectfully submit that the censors have no questions to decide in regard to candidates except as to their knowledge of physic and surgery and their moral character. They must be governed by the usages of the society and the *intent* of the chartered rights in regard to whom they are obliged to examine; and that if the censors should examine any woman respecting her skill in the practice of her profession; and find her fitted for the practice of it, and approbate her with letters testimonial of such examination and approval, she would not *necessarily* be entitled to membership of the society.

What, then, shall be done in regard to the admission of women to the Massachusetts Medical Society? I would not hastily remove the ancient landmarks, or reverse the practice of the society for a hundred years, when at least a large and respectable minority would be grieved thereby. I would not admit women by a bare majority of any meeting of the councilors or of the society or both. It is not action worthy of the object. It is a sort of stealing into the fold which no

lady can desire. As the society is a corporate body, acting under a charter that did not contemplate the admission of women, let the legislature amend the charter so as to admit females, and let the society accept of that amendment, and then we shall avoid all future contention about the matter.

It is always best to accomplish a good work if possible in a natural way.

A. MILLET.

REPORTED MORTALITY FOR THE WEEK ENDING MARCH 27, 1880.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Deaths under Five Years.	Percentage of total Deaths from				
				The Principal "Zymotic" Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.
New York.....	1,085,000	543	219	16.02	17.68	5.34	.18	1.47
Philadelphia.....	901,380	328	122	13.72	9.15	5.18	.30	2.44
Brooklyn.....	564,400	257	96	15.18	16.34	6.61	1.17	.78
Chicago.....	—	171	87	27.49	22.22	13.45	4.09	.58
St. Louis.....	—	124	55	13.71	16.13	4.84	—	—
Baltimore.....	393,796	139	61	11.52	10.08	4.32	2.16	.72
Boston.....	365,000	148	55	11.49	22.98	5.41	.68	.68
Cincinnati.....	280,000	96	41	11.46	9.38	2.08	2.08	—
New Orleans.....	210,000	—	—	—	—	—	—	—
District of Columbia.....	170,000	58	26	6.90	24.14	1.72	—	—
Buffalo.....	—	38	14	—	—	—	—	—
Cleveland.....	160,000	77	34	27.27	11.69	2.60	15.56	2.60
Pittsburgh.....	145,000	76	36	31.58	22.37	3.95	1.32	7.89
Milwaukee.....	127,000	50	19	8.00	18.00	8.00	—	—
Providence.....	102,000	54	19	22.22	24.07	3.70	14.81	—
New Haven.....	60,000	26	5	7.69	19.23	—	—	—
Charleston.....	57,000	30	12	13.33	6.67	—	—	6.67
Nashville.....	37,000	12	3	16.67	16.67	—	—	—
Lowell.....	54,000	33	12	12.12	18.18	3.03	—	—
Worcester.....	53,000	33	10	15.15	12.12	—	6.06	—
Cambridge.....	50,400	24	7	8.33	12.50	4.17	—	—
Fall River.....	49,000	32	—	15.63	15.63	3.13	9.38	—
Lawrence.....	38,600	12	5	16.67	8.33	—	8.33	—
Lynn.....	34,000	13	6	7.69	15.38	7.69	—	—
Springfield.....	31,800	6	2	16.67	—	16.67	—	—
New Bedford.....	27,200	11	3	27.27	—	18.18	9.09	—
Salem.....	26,500	9	4	33.33	22.22	33.33	—	—
Somerville.....	25,500	4	—	—	—	—	—	—
Chelsea.....	21,000	6	—	16.67	—	16.67	—	—
Taunton.....	20,300	4	1	—	25.00	—	—	—
Holyoke.....	18,400	12	6	41.67	8.33	8.33	25.00	8.33
Gloucester.....	17,300	5	2	—	20.00	—	—	—
Newton.....	17,300	5	1	20.00	—	—	20.00	—
Haverhill.....	15,350	7	3	14.29	28.57	14.29	—	—
Newburyport.....	13,500	4	1	—	25.00	—	—	—
Fitchburg.....	12,600	4	3	50.00	—	25.00	—	—
Eighteen Massachusetts towns.	132,310	58	14	17.24	15.52	10.45	1.72	—

Two thousand five hundred and nine deaths were reported; 984 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 398, consumption 408, lung diseases 403, diphtheria and croup 144, scarlet fever 51, measles 51, whooping-cough 39, diarrheal diseases 35, typhoid fever 32, erysipelas 20, malarial fevers 17, cerebro-spinal meningitis 11, typhus fever two, small-pox one. From *measles*, New York 13, Brooklyn and Chicago eight, Philadelphia seven, Pittsburgh five, St. Louis three, Lowell two, Cincinnati, Buffalo, New Haven, Worcester, and Fitchburg one. From *whooping-cough*, New York and Pittsburgh six, St. Louis and Cincinnati four, Philadelphia and Boston three, Chicago, District of Columbia, and Charleston two, Brooklyn, Baltimore, Cleveland, New Haven, Worcester, Palmer, and Bridgewater one. From *erysipelas*, Philadelphia six, Brooklyn four, New York three, Chicago, Boston, Cincinnati, Cleveland, Pittsburgh, Lowell, and Fall River one. From *malarial fevers*, New York 12, St. Louis two, Brooklyn, Baltimore, and Cleveland one. From *cerebro-spinal meningitis*, New York three, Philadelphia, Chicago, and Worcester two, Pittsburgh and Providence one. From *typhus fever*, Chicago and Cleveland one. From *small-pox*, Philadelphia

one. One hundred and sixty-six cases of measles, 34 of diphtheria, 28 of scarlet fever, and one of typhoid fever were reported in Brooklyn; diphtheria 29, scarlet fever nine, in Boston; diphtheria 26, scarlet fever 14, in Milwaukee; scarlet fever 30, diphtheria 13, erysipelas two, cerebro-spinal meningitis one, in Providence; diphtheria three, scarlet fever two, in Cambridge; scarlet fever 13, diphtheria six, in New Bedford.

The total number of deaths reported is about the same as for the previous week, of deaths under five considerably greater. Lung diseases and measles were more fatal. In 37 cities and towns of Massachusetts, with an estimated population of 1,020,960 (population of the State about 1,690,000), the total death-rate was 21.96 against 21.47 and 19.46 of the previous two weeks, lung diseases and scarlet fever having been more fatal than during the previous week, typhoid fever less so.

For the week ending March 6th, in 143 German cities, with an estimated population of 7,673,279, the death-rate was 28.2 against 27.1 and 27.4 of the previous two weeks. Four thousand one hundred and sixty-three deaths were reported; 2051 under five; pulmonary consumption 601, acute diseases of the respiratory organs 550, diphtheria and croup 130, typhoid fever 68, scarlet fever 63, whooping-cough 54, measles and *roteln* 49, pu-

erperal fever 21, small-pox (Dusseldorf and Dresden) two, typhus fever two. The death-rates ranged from 14.1 in Duisburg to 42.7 in Halle; Königsberg 30.5; Dantzie 27.1; Breslau 32.2; Munich 38.2; Dresden 22.7; Bremen 23.3; Leipzig 31.0; Hamburg 28.2; Hanover 27.2; Breun 26.7; Cologne 25.0; Frankfurt 30.1. For the same week, Vienna 33.3; Paris 29.8, — small-pox, diphtheria, and typhoid fever continuing very prevalent.

For the week ending March 13th, in the 20 English cities, with an estimated population of 7,999,468, the death-rate was 21.4 against 22.1 and 23.1 of the previous two weeks. Three thou-

sand and seventy deaths were reported: diseases of the respiratory organs, 315, whooping-cough 173, scarlet fever 90, measles 80, fever 40, diarrhoea 35, diphtheria 17, small-pox (London) thirteen. The death-rates ranged from 15.6 in Portsmouth to 37.3 in Plymouth; London 30.5; Bristol 21.0; Birmingham 21.7; Liverpool 22.5; Manchester 25.9; Leeds 21.6. In Dublin 36, Glasgow 26, Edinburgh 18. In the 20 chief Swiss towns, lung diseases and diphtheria continued very prevalent, typhoid fever somewhat so; small-pox caused two deaths in Zurich.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.	
March 21	30.022	35	46	26	87	59	61	69	NW	N	W	20	5	10	S	F	C	—	.23	
" 22	29.937	40	56	26	57	28	63	49	SW	W	W	4	16	10	C	F	C	—	—	
" 23	29.807	42	55	30	61	37	59	52	NW	C	S	5	0	12	C	C	O	—	—	
" 24	29.649	28	43	21	61	43	45	50	W	NW	NW	13	28	45	C	F	O	—	.04	
" 25	30.065	22	34	12	65	47	29	47	NW	NW	NW	34	28	24	F	C	C	—	—	
" 26	30.267	30	39	18	43	38	58	46	NW	W	NW	16	23	5	C	C	C	—	—	
" 27	29.878	31	39	17	77	89	89	85	C	E	E	0	2	16	O	S	S	—	.06	
Week.	29.946	33	56	12				57	Northwest.										21.30	.33

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., snow; R., rain; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM MARCH 27, 1880, TO APRIL 2, 1880.

BREWER, J. W., captain and assistant surgeon. The sick leave granted him from A. G. O., September 22, 1879, extended three months on surgeon's certificate of disability. S. O. 67, A. G. O., March 26, 1880.

DEWITT, C., captain and assistant surgeon. To accompany Company B. Ninth Infantry, from Fort Sidney, Nebraska, to Fort Niobrara, and report to the commanding officer thereof for duty. S. O. 26, Department of the Platte, March 26, 1880.

MOSELEY, E. B., captain and assistant surgeon. Having relinquished remainder of leave of absence, relieved from duty with the Ute expedition, and assigned to duty at Fort Sidney, Nebraska. S. O. 26, C. S., Department of the Platte.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE, JANUARY 1 TO MARCH 31, 1880.

BAILHACHE, P. H., surgeon. Detailed as president board of examiners to convene in Washington, January 26, 1880. January 14, 1880.

MILLER, T. W., surgeon. Detailed as member board of examiners to convene in Washington, January 26, 1880. January 14, 1880. To proceed to Chattanooga, Tenn., as inspector. January 14, 1880.

WYMAN, WALTER, surgeon. Granted leave of absence for twenty-one days from February 7, 1880. February 6, 1880.

MURRAY, R. D., surgeon. Granted leave of absence for twenty days from April 10, 1880. March 16, 1880.

FESSENDEN, C. S. D., surgeon. Detailed as recorder board of examiners to convene in Washington, January 26, 1880. January 14, 1880.

FISHER, J. C., assistant surgeon. To report to board of examiners for examination for promotion. January 28, 1880.

WHITE, ROBERT, JR., assistant surgeon. Granted leave of absence for thirty days on account of sickness, from February 23, 1880. February 21, 1880.

O'CONNOR, F. J., assistant surgeon. To proceed to Evansville, Ind., and assume charge of the service at that port. March 17, 1880.

WHITE, ROBERT, JR., assistant surgeon, died at New York, N. Y., February 24, 1880.

SUFFOLK DISTRICT MEDICAL SOCIETY.—A meeting will be held at the hall, No. 19 Boylston Place, on Saturday evening, April 10th, at seven and a half o'clock. The following papers will be read: Dr. C. E. Wing, Modern Abuse of Gynecology. Dr. L. Foster, The False and the True in Therapeutics. Disputant, Dr. H. D. Hicks. Professor Butterfield, Visible Speech. All members of the Massachusetts Medical Society are cordially invited to be present and to take part in the discussion.

T. M. RORCH, M. D., Secretary.

ERRATA.—In the article entitled Death from Narcotism, on page 334 of the last JOURNAL, by Dr. J. W. Parsons (not T. W.), the amount of chloral hydrate in the prescription should have been printed *three ounces*, not three drachms.

BOOKS AND PAMPHLETS RECEIVED.—The Student's Manual of Venereal Diseases. Being the University Lectures delivered at Charity Hospital, Blackwell's Island, 1879-80. By F. R. Sturgis, M. D. New York: G. P. Putnam's Sons, 1880. (A. Williams & Co.)

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Original Articles.

THE SIGNIFICANCE OF ALBUMINURIA AS A SYMPTOM.

BY CALVIN ELLIS, M. D.,

Jackson Professor of Clinical Medicine in Harvard University.

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By albuminuria we mean the appearance in the urine of that variety of albumen detected by heat and nitric acid. Other albuminoid bodies have also been recognized, but as they are disclosed by different processes they need not occupy us here.

Since the discovery of this substance, the views in regard to its importance and significance have undergone continual modifications, and do not yet rest upon a perfectly stable basis. Albumen long ago lost its position as a factor in any one disease, but the demonstration of this error was accompanied by a large addition of truth, and stimulated new investigations, which have been carried on at the bedside and in the laboratory, until the literature of the subject has become so extended as to make a *résumé* of it indispensable to the student.

The attempt has been made to trace to their sources and verify the common statements and beliefs. Some of these have no foundation whatever, but are mere assertions copied by one writer from another. Many more are based upon cases which do not contain the elements for any legitimate conclusion, and others are so contradictory as to make any decision upon their merits impossible. But behind all these is a large amount of material, the fruit of the best scientific research, which throws a flood of light upon this most intricate problem.

DOES NORMAL URINE CONTAIN ALBUMEN?—This is naturally the first question which presents itself. The affirmative statements formerly made have been contradicted so decidedly by the best observers as to oblige us to answer in the negative (1. v. 9th) (11. v. 44, p. 18th). We must admit, however, that it may make its appearance under such conditions as to show only a very slight deviation from the natural state. Thus the urine of one hundred and nineteen healthy soldiers, tested immediately after rising, showed albumen in 4.2 per cent. (28). Still more recently, the urine of a large number of applicants for life insurance was tested with special care by Dr. Munn, of New York (46), and albumen was detected in 11 per cent., though in two doubtful cases only was there any reason to suspect disease. Notwithstanding these statements and others of the same character, we may still maintain that *normal urine does not contain albumen*. The highest percentage of its presence is so low as to demonstrate this law.

THE CONDITIONS UNDER WHICH IT OCCURS.

It is very difficult to give a complete statement of these, as more frequent and thorough examinations of urine are constantly extending the list, but the following table includes those most commonly met with, and some which are quite rare. These are arranged in alphabetical order, for convenience of reference, and because it would obviously be premature to make an attempt at classification at the outset of an inquiry like this, the object of which is to ascertain the significance of a symptom. It will be time after certain laws are established to apply the latter to cases or groups of the same.

Abdominal tumor, 20.	Delirium.
Acid, carbonic.	Diabetes.
Acid, hydrocyanic.	Diarthra, choleraic.
Acid, muratic.	Diphtheria.
Acid, nitric.	Dyspepsia.
Acid, salicylic.	Ecz.
Acid, sulphuric.	Euphysma.
Acid, uric, infarkt.	Epidemie.
Alcohol.	Epilepsy.
Anæmia.	Erysipelas.
Antimony.	Exertion.
Arsenic.	Fever.
Arsenuretred hydrogen, inhalation of.	Fever, intermittent.
Asphyxia.	Fever, milk.
Bile, absorption of.	Fever, puerperal.
Blood.	Fever, typhoid.
Brain, concussion of.	Fever, typhus.
Brain, hæmorrhage at base of, 15.	Fever, yellow.
Brain, hæmorrhage into.	Gout, exophthalmic.
Brain, lesion of peduncles of, 15.	Gout.
Bronchitis.	Hæmoglobinuria.
Burn.	Hæmorrhage, abundant.
Cancer (20) (91).	Health, in.
Cantharides.	Heart, disease of.
Caries (20, 91).	Hydrogen, arseniuretred, inhalation of.
Catarrh, intestinal.	Indigestion.
Cheese (4) (79, 555) (45, 333).	Infants, new-born.
Chloroform.	Intestinal catarrh.
Chlorosis.	Iodine.
Cholera.	Juniper, 1.
Chyle.	Kidney, amyloid degeneration of.
Cirrhosis.	Kidney, cancer of.
Cold bathing.	Kidney, hæmorrhage infarkt of.
Cold, exposure to.	Kidney, hyperæmia of.
Collapse.	Kidney, irritation of nerves of.
Convulsions.	Kidney, metastatic process.

1 The single numbers, or the first, where there are more than one, refer to the bibliography.

Lead.	Skin, application of gum arabic to.
Mania, transient.	Skin, application of mustard to.
Measles.	Skin, application of oil of acan-
Mental disturbance.	tion to.
Mercury.	Skin, application of oil of hemp
Milk, intravenous injection of.	or flaxseed to.
Mustard.	Skin, application of petroleum
Necrosis (20, 91).	to.
Nerves, irritation of posterior	Skin, application of storax to.
roots of fast dorsal, 16.	Skin, varnishing of.
Nervous system.	Spermatic fluid.
Nephritis, acute parenchyma-	Spinal cord, destruction of, at
tous.	last dorsal and first lumbar
Nephritis, chronic.	vertebrae, 16.
Nephritis, interstitial.	Spinal cord, division of.
Nephritis, suppurative.	Spinal cord, stimulation of.
Nitre.	Spine, disease of.
Oxaluria.	Squill.
Oxide, carbonic.	Stomach.
Paralysis, general.	Suppuration, 91.
Paraplegia, spinal (15).	Sympathetic, section of abdom-
Peritonitis.	inal portion of, 16.
Phosphorus.	Syphilis, 91.
Pleurisy.	Tetanus.
Pneumonia.	Thigh, fracture of neck of.
Pneumonia, catarrhal.	Trachea, compression of.
Position, change of.	Transfusion.
Pregnancy.	Tuberculo-sis, chronic.
Purpura.	Tumor, abdominal, 20.
Pus.	Turpentine.
Pyæmia.	Ureters, obstruction of.
Rheumatism, acute.	Vagus, section of.
Scarlatina.	Variola.
Scurvy.	Varnishing of skin.
Septicæmia.	Ventricle, fourth, irritation of.
Skin, application of canthar-	Youth, acute intermittent in.
ides to.	
Skin, application of croton oil	
to	

The changes produced by the above agencies, will be discussed under the following general heads:—

(a.) Albuminous matter in the pelves of the kidneys, in the ureters, the bladder, or the vagina.

(b.) Disturbances of the circulation.

(c.) Disturbances of the nervous system.

(d.) Diseases of the kidneys.

(e.) Changes in the blood.

(f.) Indigestion.

We shall attempt to show:—

(a.) That albuminuria frequently depends upon disturbances of the circulation of the kidneys, but, contrary to the common belief, that this disturbance is quite as likely to be *owing to the diminution of pressure* as to its increase or congestion, as it is commonly called, and that *dilatation of the vessels, with a diminished rapidity of the current, may be very important factors.*

(b.) That the action of the nervous system depends upon its influence over the circulation.

(c.) That in disease of the kidneys themselves the epithelium, if it have any connection with the appearance of albumen, acts rather mechanically than otherwise.

(d.) That the changes in the interstitial tissue cause disturbances of the circulation, and that serous infiltration or inflammation of this tissue may furnish albuminous products which escape with the urine.

(e.) That the blood-vessels may be so changed as to allow albumen to pass more readily.

(f.) That the blood itself may undergo certain modifications, but that a variation in the proportions of neither water nor albumen can be demonstrated.

(g.) That the products of digestion probably fail to undergo the usual changes, and consequently appear in the urine.

SOURCES EXTERNAL TO THE KIDNEYS.

In speaking of albuminuria dependent upon actual disease, we must remember that its cause may be found in other portions of the genito-urinary apparatus besides the substance of the kidneys, such as the pelvis of the latter, the ureters, the bladder, the urethra, or the vagina. In such cases it is attributable to the presence of the spermatic fluid, pus, or blood. It is sufficient now to speak of these forms very briefly. The abnormal ingredient being detected, its significance must be sought in connection with the fluid of which it is a part.

SPERMATIC FLUID.—It is stated that the presence of this may cause albuminuria (20, p. 121), and such would be inferred from the character of the secretion itself. The urine, however, must be passed under exceptional circumstances, and the amount of spermatic fluid must be considerable, as albuminuria can rarely be traced to this cause (68, p. 108). It is sufficient to call attention to the fact, to guard against error in diagnosis, as the presence of numerous spermatozoa, in the absence of all other causes, would make the case perfectly clear.

PUS.—This contains much albumen, but the quantity of the latter found in the urine is generally small (1), though derived from the serous portion rather than the corpuscles. Senator (38, p. 488) noticed in five cases of catarrh of the bladder only a moderate amount of albumen, much less than in true cases of renal albuminuria.

BLOOD.—The amount of albumen is greater in proportion to the quantity of blood than with the same amount of pus. It may be derived from the serum of the blood (42, p. 718) and from the red corpuscles, as in hemoglobinuria, which will be merely referred to here, as the full consideration of it belongs properly elsewhere.

SIGNIFICANCE OF RENAL ALBUMINURIA.

After excluding the above varieties, is it possible, on examining the various conditions under which albumen is found, to arrive at any satisfactory conclusion in regard to the cause or causes which influence its appearance? We have seen that it may occur in mere changes of position, almost inseparable from existence; in the simplest and most transient variations from the normal condition; in a great variety of diseases, affecting all parts of the body, with or without formative changes in the kidneys themselves, and with lesions of the latter alone. Often there are acting at once many supposed causes, each of which has been seen separately in connection with albuminuria.

Can we, without farther investigation, fix upon anything common to all of these cases, or can we divide them into groups, each of which has a separate explanation? The closest scrutiny of each case, the most comprehensive view of the mass of cases, fail to show anything but the extreme complexity of the problem. We cannot move beyond the stage of mere inquiry, suspicion, or suggestion. Can chemistry aid us by showing a difference in the albumen found under various circumstances, of such a character that, being detected, we can attach it to a peculiar condition or form of disease? It is difficult to make a perfectly satisfactory distinction between the different albuminoid substances, as their chemical elements are too little known (28, p. 180); but, if several bodies of this character appear in the urine under various circum-

stances, in varying quantity, and in variable proportions to each other, they are detected in different ways, by different reagents, so that the usual method of testing by heat and nitric acid would not disclose their presence, and they cannot, therefore, be the cause of error. They are, however, important to remember in case future observations should show that they have any special value in diagnosis.

It is sufficient now to know that chemical tests prove very clearly that *the form of albumen usually found resembles that of the serum of the blood* (11, v. 44, p. 520). In some exceptional cases, albumen like that of the egg may pass, after its introduction into the body, and we may therefore admit that such is possible under some special conditions to be mentioned hereafter. As, with this single exception, the albumen resembles that of the serum of the blood, we naturally suspect that it in some way escapes from the latter. To settle this point, let us examine the conditions under which it occurs, and see how far they are of such a character as to make the escape by filtration possible or probable. In such an investigation those cases should be considered first which are so simple in their character as to appear to depend upon mere disturbance of the circulation, without structural or other changes. Our attention is first attracted to the temporary albuminuria of persons otherwise healthy, apparently attributable to a change of position or to exertion; but here, though the change is simple, its cause is difficult to appreciate, as we have no other factor to work with. If we knew the condition of or the degree of tension in the arterial and venous systems, we might come to some definite conclusion in regard to the cause; but in the absence of this knowledge, *we must select some case or class of cases in which there is a single easily recognizable deviation from the normal state.*

VALVULAR DISEASE OF THE HEART.

Such is found in those instances of valvular disease of the heart where there is albuminuria without structural change of the kidneys. Here the albumen does not make its appearance until cardiac failure is shown through a feeble pulse and cyanosis, while at the same time the quantity of urine may diminish and its specific gravity increase. If this disability of the heart becomes permanent the albuminuria is also permanent (1, v. 9^e, p. 38), but if, by rest or the use of the proper remedies, the power of the organ is increased, the pulse rises, there is a greater flow of urine, and the albumen disappears. *The fact that no other morbid element is found in the urine, that this is no longer found when the derangement of the circulation is relieved either by rest or some other efficient remedy, makes it probable that there is no histological change in the kidney itself,* while the evidences of general venous congestion are marked. The kidneys participate so necessarily in this congestion as to lead to the almost universal belief (1, v. 9^e, 14) that it is instrumental in giving rise to the albuminuria by increasing the pressure. The supporters of such an interpretation apparently strengthen their position by citing as evidence cases of albuminuria occurring with thrombosis of the renal veins or of the lower vena cava (35, p. 55), with embolism arising from the transportation of coagula (7), or of fragments of pigment which originate in the spleen in intermittent fever (11, v. 45, p. 120). The same consequences have followed the compression of the vena cava by tumors (11, v. 45, p. 122), or by a distorted

spine (1, v. 9^e, p. 41), which in certain positions caused displacement of the heart, and thus interfered with the circulation, while the albumen disappeared when the position was changed.

Experiments seemed to confirm this view still farther. Thus albuminuria has occurred when the renal veins have been tied (7) (90) (21, p. 276), when the vena cava has been plugged, when the movements of the heart were interfered with by a small ball of india rubber passed down the jugular vein into the right ventricle, or when quantities of fluid were injected quickly into the jugular vein (7). Litten (103, p. 162) in his experiments found that after the renal vein had been tied two hours albumen collected in the capsules around the glomeruli and in the commencing portion of the convoluted tubes, sometimes mingled with a little blood. As the albumen increased with the congestion, (1, v. 9^e), and disappeared when the latter was relieved, even after it had persisted for a long time (35, p. 226), it seemed necessary to admit the effect of venous stasis and most observers accepted this conclusion without farther inquiry. Overlooking the peculiarities of the circulation of the kidneys, *they left congestion to do its work as in other parts of the body.* But we cannot overlook these peculiarities. We must remember that there are interposed between the intertubular capillaries and the arteries special structures, the Malpighian bodies. The latter appear to be under more favorable conditions in venous congestion than the other capillaries, and not to be subjected to the same pressure (38, p. 496), which must fall particularly upon the intertubular veins. At the same time there is less tension of the glomeruli, owing to the diminution of the arterial pressure, unless we assume that all parts of the closed circle through which the blood passes must necessarily feel equally the effects of an obstruction in any part. While we may admit that when the heart is acting with its usual force closure of the renal veins would necessarily increase the tension of the glomeruli, it must be borne in mind that the conditions are very different in valvular lesions, where the obstruction is so situated as to diminish arterial pressure, unless fully compensated for by hypertrophy; and it is precisely when this compensation falls below a certain point that the albuminuria begins. Though we have no data based directly upon observations of pressure in different parts of the circulation in connection with diseases of the heart, the natural difference between the tension in the arterial and venous systems appears to have an important bearing. Carpenter quotes Volkmann (63, p. 337) as giving a proportion of three to one in favor of the arterial over the venous pressure. *This great excess under normal conditions makes it impossible for us to infer that the tension of the venous system in obstructive valvular disease is such as to cause greater pressure in the glomeruli than in health.* Moreover, we are told by Rosenstern (1, v. 6, p. 34) that in the disease in question the pressure in the veins does not increase as much as that in the arteries diminishes. It must be doubted also whether, under any circumstances, the lateral pressure in the veins is as great as in the glomeruli (35, p. 229). Bartels himself, though an advocate of congestion, admits (1, v. 9^e, p. 39) that the glomeruli are not particularly distended in the cyanotic kidney, and the quantity of urine is diminished, not increased, as it is in distention (54, p. 97). With this evidence that all parts of the circulatory system of the kidneys are not

equally and similarly affected in obstructive disease of the heart, *we must attempt to decide from which part the albumen escapes*. The question is not closed, though some of the best observers, influenced by the above considerations, have declared that albumen must and does pass through the walls of the intertubular capillaries. But the distribution of these does not favor the escape of their contents into the tubuli, as they are not in immediate contact with the latter, but are surrounded by lymphatic spaces, which may receive the transudation from the capillaries and carry it away through the lymphatic vessels (35, p. 55). Still further, if the albumen escapes into the tubes, it must pass through the *membrana propria* and the epithelium, which experiments show is very difficult (35, p. 56). In connection with the albumen we frequently find blood globules, which, if derived from the intertubular capillaries, must pass through the thick basement membrane. If the latter occurred there should be evidences of intertubular hæmorrhage, which is, however, exceedingly rare, if seen, whereas it ought to be common if blood escapes into the tubuli from these vessels (33, p. 240).

These anatomical objections seem to be met, however, by the instances mentioned in which albuminuria has followed immediately the obstruction of the venous system of the kidneys, and still more completely by the discovery of albumen in the tubuli (103, p. 166). But we must bear in mind that all of these are not necessarily accompanied by increased pressure: that in some of them the pressure may be greater than in disease of the heart, and that in others various changes take place beyond mere congestion, as in hæmorrhagic infarct, in the inflammatory processes following thrombosis, embolism, and ligation of the veins. It is only necessary that the blood-vessels should be tied a very short time for the production of these serious secondary effects upon the kidneys (1, v. 9, p. 55) (11, v. 45, p. 24), though we may have only serous transudation (35, p. 262). Even the discovery of albumen in the tubuli (95), (103) is no proof that it transuded into them, as whenever found there it is also found in the capsules, and it must inevitably escape from the body through the tubuli. We are not aware that it has appeared in the tubuli and not in the capsules; but this might well occur, as, escaping from the glomeruli, it might be retained in the canals after the transudation had ceased at the original source.

The demonstrated consequences of venous congestion force us to admit, however, that *increased pressure may act upon the intertubular capillaries, and give rise to albuminuria*, just as obstruction of the veins elsewhere may cause dropsy, with which there would necessarily be albumen; but there is no evidence indicating that such is the case in diseases of the heart. We know that even greater pressure may be exerted without albuminuria.

Dr. Osler (64) has just reported a remarkable case of obliteration of the inferior cava between the diaphragm and renal veins, in which there was no albumen, although there was ascites and great congestion of the vessels of the cortex and medulla, while the veins about the bases of the pyramids were remarkably large.

Should it be urged that congestion may act indirectly, by exciting swelling of the cells and intercellular tissue (58, p. 426), it may be answered that such changes are certainly often wanting, and when present

are not necessarily associated with albuminuria (35, p. 226).

The result of this inquiry being most unsatisfactory, *the agency of the congestion of the intertubular veins being evidently inadequate to account for most cases of cardiac albuminuria, we have still to seek the cause in the remainder, and naturally ask whether the glomeruli yield albumen under increased tension*.

We have learned that the arrangement of the intertubular veins is not such as to favor transudation. If, on the other hand, we examine the minute anatomy of the glomeruli, we see bodies apparently constructed to promote the escape of fluid, while the extremity of the tubuli seems especially contrived to receive. All theories of the present time correspond in regard to filtration through their delicate walls (35, p. 46), and it seems clear that the quantity increases with the increase of pressure. But even if this view be correct, *can we show that albumen escapes here also?* Though there are great differences of opinion in regard to this matter (35, p. 46), there is good reason for believing that such is the case. But it is not proved that its appearance or amount depends upon increased pressure.

In regard to the first point, the escape of albumen, the investigation is attended by great difficulties. The most satisfactory results have been obtained from experiments on the frog, the arrangement of whose renal vessels is exceptional, there being an additional vein which conveys the blood from the posterior part of the body to the intertubular capillaries, as the *vena porta* of the liver conveys the blood to that organ. Availing himself of this peculiarity, Nussbaum (78) tied the renal artery of the living animal, injected from the heart, and found that though the intertubular veins were filled, the glomeruli were not (84, p. 141). Under these same conditions an injection of egg albumen was not followed by albuminuria, which occurred, however, if the artery was free. The injection of an amount of egg albumen, which was borne perfectly well by the animal in his natural condition, proved fatal in a few hours when the renal artery was tied (85, p. 584). Other substances injected at the same time appeared in the urine, while the albumen did not, showing a selective power in different parts of the kidney.

The experiments of Ribbert (95), though not altogether satisfactory, seem to show that, after interrupting the circulation in the renal artery, exciting inflammation of the kidney, injecting egg albumen, and then hardening the organs in alcohol, albumen was detected between the glomeruli and capsules, but also in the tubules.

Litten examined kidneys after the renal artery had been tied two hours, and found albumen in the capsules, with a smaller amount in the tubuli of the cortical substance; but the quantity was much less than when the vein was tied (103, p. 162). If the artery were tied from a quarter to half an hour only, the quantity of albumen was much larger (103, p. 163).

Having made it reasonably certain that albumen may escape through the glomeruli, *can we show it to be equally true that it passes under increased pressure?* Such is not the case in simple hypertrophy (35, p. 236) nor in aortal regurgitation (35, p. 59). Many experiments have been performed, resulting in increased pressure on these bodies, without the appearance of albumen (28, p. 155), unless the tension were such as to cause rupture and extravasation of blood. The aorta has even been tied below the origin of the renal

artery without the supervention of albuminuria (35, p. 256), and if both carotids were tied the result was the same. Recalling in this connection the fact that albumen appears in the urine in cardiac disease when the power of the heart has failed more or less, that in the cyanotic kidney the glomeruli are not distended, are we to conclude that the albumen escapes from the intertubular veins, and that the Malpighian bodies are in no way concerned, although we have shown that albumen generally escapes through them?

Before deciding this we must inquire into the physical laws which regulate the passage of albumen through membranes; for, notwithstanding the assertions formerly made to the contrary, it is now admitted that such a passage does take place (11, v. 44, p. 122). Though these laws are understood but imperfectly (35, p. 42), Runeberg's experiments show that solutions of albumen are only emulsions, which pass through membranes more or less readily, according to their character. The particles of albumen behaved like those of casein in milk when epithelial membranes were used. Water and soluble salts passed through, while casein did not. But this permeability depended upon the character of the membranes, albumen passing readily through those of the density of the capillary walls, while it was arrested by epithelial membranes (35, p. 47). But the changes incident to varying pressure always took place gradually (35, p. 43), an important point to remember in comparing these with other experiments. *Contrary to what was usually taught, he ascertained that the permeability was greater under low pressure than under high.* The same law was manifested if fluid were present on both sides of a membrane, a diminution of the difference in pressure being followed by increased permeability (35, p. 43). But objection may well be made, and is made (28, p. 156), that the walls of the vessels do not act in the same way as physical membranes in this connection. Runeberg asserts, however, that they do. Capillary vessels allow albumen to pass through, while epithelial membranes do not, though permeable to water and soluble salts, as shown in the secretion of tears and sweat (35, p. 46).

Experiments on living tissues seem to demonstrate the same law. Tying the renal artery furnishes us with the proof that diminished pressure of the blood in the glomeruli is followed by albuminuria (11, v. 45, p. 26) (35, p. 57). This may take place even when, on opening the clamp, the pressure is less than under normal circumstances, while the circulation certainly continues, and there is no evidence of any stagnation of blood in the vessels beyond the glomeruli which might cause pressure. The arrest of the movements of the heart, by inflating a bladder introduced within it, was followed immediately by the appearance of albumen, which disappeared in about an hour and a half (35, p. 235).

Cohnheim has shown that the permeability of the wall of a blood-vessel is increased by obstructing the flow of blood through it. When the blood is again let on, a more albuminous fluid transudes than when the veins were obstructed, the globules themselves even escaping (35, p. 263).

Taschenoff found that in poisoning by curare the blood pressure was much diminished and the white blood corpuscles passed through the walls of the vessels (35, p. 264).

Litten (103, p. 164) noticed that in animals poisoned by strychnia albuminuria followed the relief of the

spasm of the arteries, but diminished rapidly as the effects of the drug passed off. An examination of the kidneys while the vessels were contracted and no urine was passed showed the capsules empty, while after the appearance of the albumen they were filled with an exudation. If the ureters be tied so that the urine accumulates in the tubuli, and consequently exerts pressure upon the glomeruli, thereby diminishing the relative difference between the external and internal pressure, albumen makes its appearance (11). As still further evidence of this effect we may cite the fact that the fluid which accumulates first after tapping in ascites contains less albumen than the larger quantity which compressed the blood-vessels (35, p. 263).

To what conclusion does this evidence bring us?

We have seen that when general venous congestion reaches a certain point albumen may make its appearance; that obstruction of the renal veins, by disease or experimentally, is also followed by albuminuria; but we have not shown that the venous tension in cardiac disease even approximates to that of the above conditions, or is sufficient to produce similar consequences, while we have shown that very great pressure may be exerted on the blood in the renal veins without the supervention of albuminuria, and that in cases of obstruction where such has appeared there are other changes in the kidney, far beyond mere congestion, and that true renal disease may be present. We must also add that in some instances, after dropsy has supervened in other parts of the body, the kidneys would be very likely to participate in this, and furnish to the urine a certain amount of albumen, just as the latter may, perhaps, render the saliva albuminous when there is dropsy in some cases of Bright's disease (83); *we have not, therefore, proved that the albuminuria of cardiac disease is the consequence of congestion, and still less of congestion of the intertubular veins.* To assume the last would be to assume that, under the conditions involved, albumen escapes through the capillaries, which usually oppose its passage, while the common route through the glomeruli is avoided. On the other hand, *we have the most direct proof that the diminution of the pressure in the Malpighian bodies is, under various circumstances, followed by albuminuria,* where no other change can explain it, but such a result is not inevitable, either with diminished pressure or extreme oliguria (97, p. 356). Though Litten attributes the escape of albumen to *dilatation of the vessels of the capsules* (103, p. 163), and thinks it less dependent upon variation of pressure than has been assumed, he admits that his own results do not conflict with those of Runeberg, the advocate of diminished pressure, as the blood moves more slowly in dilatation, and is, consequently, in contact with the wall of the vessel a longer time (103, p. 166). *This dilatation of vessels, with diminished rapidity of the circulation, certainly merits the fullest consideration.*

AFFECTIONS OF THE NERVOUS SYSTEM.

We now come to another class of cases, in which the simplicity of the phenomena and the temporary character of the albuminuria seem to offer an inviting field for investigation, namely, the affections of the nervous system. In considering the physiological and pathological data upon which rest the conclusions in regard to the connection of albuminuria with impressions produced upon the nervous system, it is very difficult to separate this influence from others acting at the same

time. We shall therefore first give the *evidence furnished by physiological experiments*, as clinical cases are rarely, if ever, so free from complications as to permit the reference of the albuminuria to a single exciting cause. These effects are so immediate and transient, we can hardly attribute them to a change in the blood or the tissue of the kidney, but rather to *some modification of the action of the heart or blood-vessels* (35, p. 247) *through the influence of the vaso-motor nerves, which probably implies some variation of pressure* (35, p. 59). Such a variation may depend upon dilatation of arteries through paralysis, or contraction of the same through cramp (35, p. 242).

Let us first consider the *general principles* shown by the disturbance of the circulation through the vaso-motor nerves. The pressure of blood in the capillaries of the kidneys is greater when the force and frequency of the pulsations of the heart are increased, or when the small arteries in parts of the body other than the kidneys are contracted. If the renal artery itself is relaxed there is a diminution of pressure upon this vessel, but an increase on the capillaries beyond, provided other arteries are not also relaxed so as to form an enlarged reservoir for blood, which would prevent the increased pressure upon the capillaries of the first vessel. The effect will be greater if other arteries are constricted. If, on the contrary, the renal artery be constricted, the pressure in the capillaries is diminished, unless there is a compensating constriction elsewhere. The effect of this is increased by dilatation of other vascular areas (61, p. 278) and diminution of the general pressure of the blood, either through a failure of strength of the heart, or by general dilatation of the small arteries or of vascular areas not connected with the kidneys. Seeing that such changes in the blood-vessels may take place, *we must ascertain whether they actually do occur in the cases cited*. Let us first examine the phenomena accompanying the

SECTION OF THE SPINAL CORD BELOW THE MEDULLA,

which is followed by a great decline, perhaps a complete arrest, of the secretion of urine and albuminuria. By this operation the arteries of the body as a whole are cut off from their vaso-motor centre, and we have paralysis of the muscular coats with dilatation and diminished blood pressure. The increased capacity of the vessels prevents the distention of the capillaries. Though the renal arteries suffer with the rest, they bear so small a proportion to the whole, the lowering of pressure is very great (61, p. 279). If we have interpreted correctly the effects of diminished pressure, in considering the disturbances of the circulation, we have here also an explanation of the appearance of albumen after the serious lesion of the spinal cord. *But we have still stronger evidence to show how far the permeability of the walls of vessels may be thus affected.*

DESTRUCTION OF THE SPINAL CORD.—The experiments of Gergens (87, p. 591) prove that this not only is followed in a very short time by œdema, but by the appearance in the fluid of the latter of coloring matter injected into the heart, which did not escape from the circulating blood while the spinal cord was uninjured. The same results were obtained by poisoning frogs with large doses of curare, and introducing into the circulation granular matter, which appeared in the fluid of œdema as before (87, p. 595), with blood globules, though there were less of the latter than when the spinal cord had been destroyed.

These results were certainly not owing to increased pressure, as that was less than in health.

STIMULATION OF THE SPINAL CORD BELOW THE MEDULLA.—The same deficient supply of blood and lessening of pressure is seen in this, which causes such constriction of the small arteries as to render the kidneys pale and bloodless. At the same time the pressure on the larger arteries may be increased (61, p. 279).

IRRITATION OF THE RENAL NERVES.—The appearance of albumen is explained by the contraction of the minute arteries, which interferes with the flow of blood to the kidneys, the other arteries of the body not being affected, and therefore allowing the local action to exert its full power (35, p. 246). **SECTION OF THESE NERVES** does not produce albuminuria, because the pressure is not diminished as it is when there is general paralysis of the small arteries (35, p. 264).

Though the remaining direct lesions of the nervous system are not reported with such complete details as the above, they still seem to admit of a similar explanation.

PUNCTURE OF A CERTAIN POINT IN THE FOURTH VENTRICLE (59, p. 398).—In this, we have the same consequences as those which are noticed after the division of the spinal cord, namely, a diminution in the amount of urine and often albuminuria. We may fairly interpret in the same way the results of **LESIONS OF THE CEREBRAL PEDUNCLES** in animals (15).—of the **DESTRUCTION OF THE SPINAL CORD ON THE LEVEL OF THE LAST DORSAL AND FIRST LUMBAR VERTEBRÆ** (16, v. 2, p. 858).—of **IRRITATION OF THE POSTERIOR ROOTS OF THE LAST DORSAL NERVES** (16, v. 2, p. 859).—and of **SECTION OF THE VAGUS** (16, v. 2, p. 858).

RENAL DISEASE.

Thus far we have considered the more or less remote causes of albuminuria, the kidneys themselves not being diseased, at least not primarily. We have now to investigate the connection of albuminuria with histological changes in the kidneys. To avoid repetition, and present the various changes in as concise a manner as possible, we will enumerate briefly the modifications which the organs undergo in those forms of disease most commonly met with, such as the different varieties of nephritis and amyloid degeneration.

ACUTE PARENCHYMATOUS NEPHRITIS.—Without claiming that Bartels' division of nephritis into acute and chronic parenchymatous and interstitial is entirely satisfactory and final, as parenchymatous and interstitial may be combined (58, p. 437), it expresses with sufficient accuracy the principal differences and pathological changes to justify us in following it. A few cases have been reported which show that albumen may not be present at certain times in the course of this acute form of disease, though there be general anasarca; but in these few exceptional instances, both albumen and other unquestionable indications of nephritis have made their appearance subsequently (1, 9, p. 247). In regard to the quantity of albumen, there may be great variations, but the amount is never so large as in the chronic form,—never more than 0.5, frequently only 0.2. The statements of much larger amounts (20, p. 305; 21, p. 55; 14, v. 14, p. 291) must be taken with caution, as cases spoken of by some writers as acute might now be classed under the head of chronic. In fact, such changes have taken

place in the nomenclature of the varieties of nephritis within a few years as to make it impossible to compare the earlier with the more recent works in this respect. Still, if the quantity be large, we should always suspect some form of parenchymatous disease.

Though the appearances vary according to the stage in which the examination is made, we may state briefly that we have hyperæmia, as a rule opacity of the epithelium, swelling of the latter, sometimes sufficient to dilate the canals, and perhaps fatty degeneration. With this there is an exudation of clear serous fluid, and an accumulation of lymphoid elements in the interstitial tissue, followed, perhaps, by increase of the latter which may become two or three times as thick as usual (53, p. 636). The vessels of the glomeruli may be covered with nuclei, which fill the capsule (53, p. 646), or may be so thickened that their calibre is materially diminished (54, p. 99). Hemorrhage, though not constant, may occur both in the tubuli and capsules (51, p. 94).

CHRONIC PARENCHYMATOUS NEPHRITIS.—Though the amount of albumen may differ in different cases and in different periods of the same case, increasing in acute exacerbations, it is never absent, and is greater when the disease is at its height than in any other condition, at times reaching five per cent., but diminishing in secondary shrinking. As the chronic may follow the acute, it is evident that the changes must to a certain extent resemble those described above, but the processes are carried farther.

The changes in the tubuli are of the same character as those just described, but still more marked, the interstices between the canals being, perhaps, twice as wide as usual (53, p. 640), partly from swelling caused by fluid exudation, partly through the growth of the elements of the connective tissue or the escape of white corpuscles. The epithelium within the capsule may also occasionally increase and be accompanied by great diminution of urine (54, p. 92), while the walls of the glomeruli may be thickened, as previously described (54, p. 99).

INTERSTITIAL NEPHRITIS.—Albumen may be absent temporarily, or perhaps for a considerable time, but it is always found sooner or later, increasing as the disease makes progress, and declining toward the close. In one patient, in whom it was occasionally absent, there was great debility, and in three others the absence coincided with rest in bed (1 v. 3^d, p. 397). The amount is much less than in the other inflammatory processes, being hardly as much in a thousand as in one as in a hundred in the other. This holds good when the amount of urine diminishes towards the close (14). We must, however, except some cases in which convulsions have occurred, where the amount has been large, but here we have a special and additional agency at work. The essential lesion is the presence of an unusual proportion of connective tissue, owing either to an increase of the latter or to the disappearance of other structures (58, p. 426). The tubuli may be normal, or may gradually contract until they become impervious (53, p. 641), and the capsules of the glomeruli may undergo similar changes, being thickened and transformed into connective tissue, which surrounds the body as a broad, concentric ring. The afferent arteries may also be thickened, and form dense, solid cords. There has been described a thickening of the vessels of the glomeruli (38, 505), which may render them impervious.

AMYLOID DEGENERATION.—The amount of albumen is likely to be very small at the beginning, but increases gradually, though perhaps intermittently, varying from time to time, and finally becoming considerable (1, 9th, p. 464), and remaining so permanently. The change in some cases may be sudden and the quantity continue abundant, but then the amount of urine is always small. A sudden augmentation of urine will be accompanied by a diminution in the relative amount of albumen. The presence of the latter is so necessary that the diagnosis cannot be made without it, though a case is reported in which it was absent through the whole (20, p. 326).

The loops of the glomeruli are the first portions attacked (53, p. 672); then follow the afferent arteries, more rarely the efferent vessels and the cortical capillaries, and finally the arterie rectæ, in which the disease sometimes preponderates. The vessels increase in size, and their walls in thickness (1, 9th, p. 473), until, when the change is very marked, injections will not enter. Though similar disease may be noticed in the tunica propria and epithelium of the tubuli, or in the interstitial tissues, such is not the rule. The epithelium, however, may be opaque and fatty.

SUPPURATIVE NEPHRITIS.—This can be fully considered only in connection with its various exciting causes, which do not concern us here. The lesion consists in an inflammation of the intercellular tissue. The changes are of course similar to those previously described, terminating in the formation of pus corpuscles. Even then the amount of albumen may be small (58, p. 246). It is hardly necessary to add that where blood and pus escape into the urinary passages albuminuria must be more or less marked.

Having acquired this knowledge of the various changes which take place in the epithelium of the tubuli and capsules, in the intertubular tissue and the blood-vessels, we have still to consider their separate agency in the production of albuminuria.

CHANGES IN THE EPITHELIUM OF THE TUBULI AND CAPSULES.

These may act in various ways, either through the circulation, or independently of the latter, which may remain normal.

(a.) They may produce a mechanical effect upon the blood-vessels through the pressure necessarily connected with their enlargement. (b.) According to Johnson (33, p. 242), they may interfere with the circulation by a suspension of their normal activity, which implies a cessation of that natural interchange of elements which is supposed to favor the movement of the blood. (c.) If it be assumed that, under normal conditions, albumen escapes through the glomeruli and is afterwards absorbed by the epithelium, the disease of the latter may prevent this action, and allow the albumen to escape with the urine. (d.) The cells may, after taking up the albumen in any way, yield it again to the passing current of urine. (e.) The cells, being diseased, may secrete albumen. (f.) The albumen may be the product of the dissolution of cells. (g.) The natural position and condition of the cells preventing the escape of albumen through the membranes they cover, their disease or absence might allow such a translocation to take place. (h.) By obstructing the tubuli, they may prevent the escape of urine, and thus diminish the inner tension on the glomeruli.

Let us now consider these points in detail.

(a.) **PRESSURE ON THE BLOOD-VESSELS.** — The increased size of the kidneys suggest an increase of tissue rather than of blood, especially where the organs are pale. A number of writers have considered this swelling as an important agent, and some as the agent, in the production of albuminuria. Senator (33, p. 502), among the former, and Bartels among the latter, regard diffused affections of the kidneys as causes of transient or permanent albuminuria by this interference. The enlargement of the tubuli, when crowded with their contents, is very noticeable, and it would seem that this must necessarily be followed by more or less compression of the adjacent vessels, though it may be difficult to appreciate the exact effect upon any particular vessels, or restrict it to them.

(b.) **CONGESTION CAUSED BY A FAILURE OF CELLS TO ACT UPON THE BLOOD.** — Johnson asserts (33, p. 242) that the urine does not become albuminous, nor is there evidence of great congestion until the cells are so far destroyed as to interfere with the performance of their functions. This will hold neither as a fact nor as a deduction. We have already cited a number of instances in which the urine has been decidedly albuminous without any visible change in the cells, and it has not been shown that congestion is necessary for the production of albuminuria. In regard to the point that the circulation ceases when the cells have been destroyed, the latter may have disappeared owing to a deficiency of nourishment from disturbance of the circulation.

(c.) **ABSORPTION OF ALBUMEN BY CELLS.** — The view that albumen always escapes from the Malpighian bodies under normal conditions, and is afterwards absorbed by the epithelium, is plausible, and we may explain most, if not all, the cases of albuminuria by assuming that where it appears in the urine the cells have been unable to perform their usual work, owing to disease, or that when in a normal condition they are unequal to the demand which excessive filtration makes upon them (28, p. 154). But it is very difficult to believe that the cells would ever be equal to their work, if we accept Ludwig's calculation that, with a great flow of urine, from three hundred to four hundred grammes of dry albumen must be absorbed every twenty-four hours (35, p. 49). Still less favorable to this view is the fact that the amount of albumen is not in proportion to the extent of the degeneration in the cells (35, p. 71). On the contrary, it diminishes both in per cent. and in absolute quantity in the most advanced stage of disease, when the epithelium is changed as much as possible (35, p. 64), and many observations show that the cells may degenerate and be destroyed without albuminuria occurring. But more direct evidence is furnished by Litten's experiments (103, p. 162), which seemed to show that albumen did not escape from the glomeruli in health.

(d.) **YIELDING ABSORBED ALBUMEN BY CELLS.** — The epithelium has been supposed by some to play an important part in the causation of albuminuria, by giving up albumen which it has absorbed, but such a supposition is not supported by any fact (1, v. 9, p. 58).

(e.) **THE ACTION OF EPITHELIAL CELLS AS SECRETING ORGANS.** — This action is very difficult to appreciate, but we must remember that the cells certainly form no albumen in their normal state, and such action can only be studied as a result of disease. The only reason for attributing to them this singular function is

that the albumen appears very frequently at the same time that they undergo certain visible alterations. We must first determine *whether some lesion in these is necessary in order that albumen may make its appearance*, or, if such is not absolutely essential in all cases, whether there is not, at times, some special modification which can be recognized as directly connected with this result. In regard to the first point, that some change always exists, we are told by Cornil (66), Johnson (33, p. 241), and Spring (16, v. 2, p. 856) that such is found. Even if it be true, as Cornil asserts, that hyperemia alone may cause changes in the cells, such as opaque swelling or fatty degeneration, there is no proof that hyperemia is always present, and good reason for believing that in some instances the opposite is true. Moreover, we have abundant evidence of the appearance of albumen where it seems impossible that the cells should be diseased, the appearance and disappearance of the albumen is so rapid, as in intermittent fever, mere change of position, exertion, or epilepsy (35, p. 63). Bartels (1, 9) states decidedly that *albumen may be found in the urine during life when no histological change can be detected in the kidneys after death, either in the cells or interstitial tissue*.

Having thus shown that albumen may be found where there is no histological change, we have next to inquire *whether it always appears when such a change is present*. There is abundance of evidence that it does not. Bartels and Rosenstein declare (1, v. 9, p. 49) that *there may be extensive fatty degeneration without albuminuria*, and the former adds that the same exemption is noticed where, perhaps, both cells and intercellular tissue are much diseased. The cases of rapid fatty degeneration under the temporary influence of phosphorus, arsenic, and sulphuric acid are very valuable, as the structural changes are much simpler than those of ordinary nephritis, in which the circulation is necessarily much deranged (11). Although the introduction into the system of these agents may be followed by acute nephritis, the morbid process may stop short of this, or the change may be so slight as to make it easy of comprehension. According to Runeberg (35, p. 257), albuminuria in poisoning by phosphorus is by no means the rule, and, when it occurs it is in the later stage, in connection with diminished activity of the heart, weak sounds of the same, and frequent small pulse. Yet we have here marked fatty degeneration (35, 257). Stockvis states that in clinical cases of phosphorus poisoning but an extremely small quantity of albumen has been found, and in some instances none at all, where there was marked fatty degeneration of the epithelium. This was confirmed by his experiments (11, v. 45, p. 438), in which no albumen was seen, although the degeneration was striking, after a dog had been fed with large quantities of phosphorus.

We have shown that such *morphological changes are not necessary for the production of albuminuria*, and that *they may be present when the latter is absent*, though we have not proved that they play no part; and it is impossible to do so; but we are justified in concluding that, if they have any agency, it is not essential. If there be any special lesion of the epithelium connected with the formation of albumen, we cannot say what it is. The most careful microscopic tests can show no change in the cells which is characteristic of the cases in which albuminuria has been seen during life. Rune-

berg (35, p. 63) sums the matter up very concisely, saying, The granular infiltration of epithelial as well as the endothelial cells of the vessels is as marked in cases where there has been no trace of albuminuria, and *vice versa*. Where there has been albuminuria, the change may be inconsiderable or absent.

(f.) DISSOLUTION OF CELLS.—Though the presentation of this as a cause implies the advancement of certain views which, if more or less plausible, are hardly more than conjectures, we will, for the sake of completeness, speak of it very briefly. Senator (38, p. 478) suggests that the cells of the tubuli might be transformed into albuminous matter and dissolved in the urine, although he admits that in cases where the destruction of cells is most marked, as in poisoning with phosphorus, and in acute atrophy of the liver, or in small-pox, no albumen may appear.

The various statements made are not such as to convince us that albumen is derived from the dissolution of cells; they can only be regarded as hypotheses.

TRANSDUDATION OF ALBUMEN OWING TO DISEASE OR ABSENCE OF EPITHELIUM.—We have seen in the experiments of Runeberg that the presence of epithelium makes a great difference in the transudation of certain elements dissolved in fluids, and it is reasonable to suppose that the presence of epithelium on the surface of the tubuli and Malpighian bodies serves rather to prevent the escape of albumen, as the arrangement of the blood-vessels is such as to favor it. *It is not improbable that such should transude when this epithelium is diseased or absent* (14), just as we see exudations on the surface of the skin when the epidermis is lost (16, v. 2, p. 857).

DIFFERENCE OF PRESSURE IN THE GLOMERULI AND TUBULI. We have already spoken of the doubtful character of the cases in which obstruction of the ureter has been followed by albuminuria, as other agencies than mere obstruction may be operative, but the results of experiments make such an agency appear very probable. Thus, tying the ureters has been succeeded by albuminuria, attributable, it seems, to the equalization of the pressure on the two sides of the capsule, and of course diminishing that on the inside. But this result may admit of another interpretation, namely, that the distention of the tubuli increased the blood pressure in the veins (35, p. 59).

Runeberg, in his experiments with gummi gutti emulsions found that no particles passed through under a certain pressure; but the escape of the fluid after it had filtered through being prevented, so that it exerted a backward pressure, the particles transuded (35, p. 241). The same result may follow congestion of the intertubular veins, such as is seen in compression of the renal veins and of the vena cava, above the opening of the latter (35, p. 229). This congestion, by compressing the tubuli and interfering with the discharge of their contents, tends to equalize the pressure on the two sides of the glomeruli. This condition is not hypothetical, but is observed in a microscopic examination of the kidneys, which shows not only the veins dilated, but the canals narrowed. It is also made to appear very probable by the experiments of Ludwig, who found that a solution of gum and salt, forced into the renal artery under strong pressure, escaped through the veins, while the fluid was allowed to flow from the ureter. If, however, the veins were tied partially or wholly, the flow through the ureter diminished or ceased altogether, although the pressure on the ar-

tery was the same. The flow was reëstablished when the compression of the vein was relieved (35, p. 231). Even if the vein were only partially closed, so that the blood continued to flow, though with less pressure, the result was the same.

The filling and obstruction of the tubuli by the diseased cells might well have the same effect. It may be that the accumulation of uric acid in the tubuli of the kidneys of new-born children acts in the same way, by interfering with the escape of the urine (47, v. 1, p. 148).

Compression of the glomeruli by an accumulation of cells in the capsules. We have described such a multiplication of cells in connection with acute and chronic nephritis. It is difficult to estimate the effect of this on secretion, for there are other changes in the kidney, the precise agency of which we cannot appreciate (54, p. 100). But that it plays a part seems very clear, as, where it has been found, the quantity of urine has diminished very much. In one case it fell to three hundred cc. (54, p. 95), and we may have complete suppression (53, p. 646). In a case of granular atrophy where it was found there was much albumen, although the quantity is usually small (54, p. 100). If the albuminuria were dependent either upon this accumulation of cells within the capsule or a change in the capillaries themselves, the former must have been the active agent, as the greater part of the capillaries of the glomeruli were normal (54, p. 96).

CHANGES OF THE INTERSTITIAL TISSUE.

These must play an important part, whether there be increase or diminution. The *albuminous fluid* formed in connection with inflammation, as in other parts of the body, *may transude into the canals and escape with the urine* (14), constituting, probably, a *very important element* in the causation of albuminuria. It is in such cases that we have the largest amount of albumen.

The marked changes in interstitial nephritis must exert a great effect on the circulation, but it is difficult, if not impossible, to show that the action of the dense tissue is confined to any special set of blood-vessels, and the amount of albumen is so small as to suggest the atrophy of many of the glomeruli (33, p. 245).

(To be continued.)

RECENT PROGRESS IN ORTHOPEDIC SURGERY.

BY E. H. BRADFORD, M. D.

REST OR MOTION IN THE TREATMENT OF JOINT DISEASES.

THIS subject has been under discussion before the Society of Surgery in Paris during the last six months of the past year. Both sides of this question have been well presented. M. Verneuil, in an able paper, states his opinion that the dread of ankylosis leads surgeons to a great deal of bad practice. "He opposes with all his power this 'anchylophobia' and the practice of passive motion." He denies that a single fact can be cited in the whole science of surgery to prove that prolonged and continued rest has caused ankylosis of a healthy joint. Certain experiments have shown that absolute rest has caused a thinning and

alteration of the cartilages of the joint, a limitation to motion, a diminution of the amount of synovial fluid; but these experiments and the autopsies which are quoted he does not consider convincing, and not sufficiently reliable to counterpoise the testimony of many cases of perfect recovery of motion after prolonged rest. In diseased joints ankylosis sometimes occurs after prolonged rest, but this Verneuil thinks is not a result of the treatment, but in spite of it. Ankylosis is due to the contraction of the periarticular muscles, reflex from the irritation at the joint. He makes a distinction between mechanical rest produced by devices for immobilization and that which is produced by the action of the surrounding muscles (immobilization active). This latter is in the end destructive to a joint, and the tendency of this muscular spasm is to increase the pressure of the diarthrodial surfaces. The former is effective in diminishing muscular contractions and the destructive changes which accompany them. Ankylosis is the result of several causes; inflammation is one of them. It is absolutely certain that rest is an antiphlogistic of the first order, and it is illogical to think that it produces precisely the effect (that is, ankylosis) the cause of which it combats successfully. Passive motion as a preventive to ankylosis Verneuil thinks is useless in cases where stiffness is not likely to be permanent, and powerless where ankylosis is likely to be established, and in many cases certainly dangerous. The treatment advised by Bonnet and Malgaigne, of occasional passive motion during the treatment of prolonged immobilization, he regards as unnecessary. Ankylosis is not liable to occur in all articular affections, and is a rare termination; the exaggerated dread of this has given rise to two important faults of treatment, namely, too early discontinuation of mechanical rest and commencement too early of passive motion. Motion which can be employed in treating arthropathies is either, first, passive or artificial; second, physiological or active, as he terms it, that is, by muscular action, voluntary or involuntary. Passive motion should be reserved for the correction of existing deformities, but never be employed to prevent them; but the second method, active motion, when employed at the proper time, is very useful, and will in the end restore the articular functions to a remarkable degree. The two chief agents for treating joint affections are artificial immobilization and natural motion,—the first to attack the pathological lesion, and the other to bring about the physiological restoration of the affected parts. The only purely surgical methods at our disposal (excluding mechanical rest) to combat the progress of articular inflammation are continued extension and preventive excision.¹

M. Desprès believes that the theory of absolute rest was carried too far by Verneuil, and cited cases cured by bone-setters as an illustration; in white swelling, osteitis of the epiphysis, and in arthritis during the painful stage, immobilization should be used at first. When, however, motion is spontaneously made by the patient, this can be allowed with precaution. Articular stiffness after fractures requires passive motion after a short period of complete rest. In fracture at the elbow Desprès never immobilizes.²

M. Le Fort³ disagrees with Verneuil in the opinion

that immobilization does not injure a healthy joint, and mentions cases of fracture which showed the contrary. He believes in the use of passive motion after the acute inflammatory stage has passed. He does not advocate the employment of passive motion by the hands of the surgeon, but the use of instruments of feeble action, exercising a continuous and slow motion by means of rubber straps.

In regard to white swelling, certain forms of inflammation occur in certain joints. Fungus arthritis is more frequently found at the knee, elbow, and ankle. Ankylosis is the result of one mode of cure, and immobilization is the treatment. M. Le Fort does not try passive motion after the recovery, and believes ankylosis should be respected. In coxalgia, however, motion is a basis of treatment. At the hip and shoulder joint fungus disease is rare. When there is severe pain he immobilizes his patient, using also permanent extension, and no motion should be allowed while there is pain. He first employs slow extension to rectify a faulty position if any exists, then applies an extension splint while the patient walks.

PAINFUL AFFECTION OF THE FOOT.

In the *American Journal of the Medical Sciences*, January, 1876, Dr. T. G. Morton, of Philadelphia, described an affection hitherto overlooked in surgical literature. He has recently collected and reported a few additional cases. The disease is characterized by intense pain localized in the joints of the third and fourth metatarsophalangeal joints. Females are not more frequently affected than males, nor the right foot than the left. Swelling is seldom present. Most cases result apparently from injury, as a sudden twist of the foot in walking, especially on rough roads. Any exercise which may suddenly displace the toes when confined by a shoe may produce the trouble. Nothing abnormal is to be found in the joint, and on section through the bone the parts are seen to be normal. According to Dr. Morton, the cause of the trouble is the anatomical relations of the metatarsophalangeal joints. The first, second, and third metatarsophalangeal joints are on a line, but the head of the fourth metatarsal bone lies one eighth to one fourth of an inch behind the head of the third, and the head of the fifth lies three eighths of an inch behind the head of the fourth. The joint of the third is slightly in advance of the joint of the fourth, and the joint of the fifth is considerably behind the joint of the fourth. There is slight lateral motion at the first three metatarsophalangeal articulations; this is greater in the fourth and fifth. Lateral pressure brings the head of the fifth metatarsal bone and the phalanx into direct contact with the fourth metatarsophalangeal articulation, and to a certain extent the extremity of the fifth metatarsal rolls above and under the fourth. This gives an opportunity for bruising the digital branch of the external plantar nerve, and it is to this that Dr. Morton ascribes the pain. The treatment should consist of rest at first with the foot elevated, anodyne applications, and perhaps local blood-letting. A narrow flannel bandage can be applied around the foot to give moderate support to the toes. After the subsidence of the pain, the patient can be allowed to go about, but should wear a shoe with a thick, broad sole. A thin-soled shoe is not to be used. The shoe should lace, and in some cases should open beyond the irritable joint. There should

¹ Bulletin de la Société de Chirurgie, July 5, 1879.

² Gazette des Hôpitaux, December 15, 1879, page 1150.

³ Gazette hebdomadaire, December 5 and 12, 1879.

be no lateral pressure on the toes, so that the foot may spread in walking. In one case no treatment was of service until the excision of the fourth metatarsophalangeal joint. Perfect recovery with an entirely useful foot resulted.¹

CHRONIC DISEASE OF THE KNEE.

In the last Report on the Progress of Orthopedic Surgery,² the views of many modern surgeons were mentioned in support of the opinion that the so-called joint diseases were *primarily* not joint diseases, but affections of the epiphyses of bone in close proximity to the joint. Dr. Berry,³ forming his opinion from the clinical observation of thirty cases of knee-joint disease, inclines to this view. He believes a primary inflammation of the synovial membrane in children to be almost invariably of an acute nature; true articular osteitis is always chronic. "Formerly the type of disease which is known by Virchow as osteomyelitis, and by Nélaton as tuberculous osteitis, was not so fully recognized as an aetiological factor in chronic articular affections, most authorities locating the primary changes in the synovial membrane."

The opinions of Volkmann,⁴ Schüller,⁵ Smith,⁶ La Sègne and Duplay,⁷ and Mac-Namara,⁸ are mentioned in support of the theory of the bony origin of these joint affections.

Sometimes in knee-joint affections the morbid changes result in the formation of pus, which manifests itself quite late in the affection, and is seen external to the joint, usually above the condyle of the femur, the tumor dissecting its course upwards between the tissues of the limb, often as high as the upper third. Absorption may take place, but as a rule it will discharge itself spontaneously. The constitutional disturbance is ordinarily slight. In other cases the osteitis near the joint invades the joints and excites an acute inflammation. This is, however, a process of many months' duration. The existence of subluxation, apart from other evidence, is not pathognomonic of disease of the bone, for any degenerative process about the knee-joint would produce the same result. There is enlargement of the bone, most frequently of the internal condyle. In many cases where during life there had been infiltration about the joint, which alternately improved and relapsed, at autopsy no evidence of caries was found on the surface of the bone, but on section of the condyles caseons and purulent degeneration was discovered in the bone.

Dr. Berry did not find that the diminution of irritability to the faradic current in the muscular tissues about the joint in bony disease, and the normal condition in purely synovial affections which has been stated to be of value in diagnosis, were reliable for that purpose.

In regard to treatment, Dr. Berry mentions that many cases where the limb was flexed firmly at the knee, with apparently no hope of future motion, gained ground in mobility under the influence of continu-

ous extension, so that locomotion was comparatively easy.

REFRACTURE FOR DEFORMITY FROM BADLY UNITED FRACTURES.

Dr. Roberts⁹ has collected the cases recently coming under his observation of refracture for this class of deformity. The objections usually urged against this mode of procedure are the dangers of fracturing at a point below the callus, the possibility of non-union, and the usual surgical complications of sloughing of tissue, erysipelas, etc. Non-union is not known to have occurred after refracture. There is, according to Dr. Roberts, no danger of fracturing at a point other than the site of the former fracture, if it is possible to fracture at all. After complete ossification it is true that the united bone may be as strong as, if not stronger than, normal bone; but the time needed for this is quite long, and before perfect ossification has taken place the point is weaker than any other part of the bone. Dr. Roberts does not think it possible to fracture sound bone by manipulation with the use of force which can be applied, and he supports his opinion by experiments in attempting to fracture sound bone. He concludes, therefore, that where it is possible to refracture at all, the seat of the fracture will necessarily be at the original break. Cases which are suitable for refracture are those where locomotion is prevented or impeded by the deformity, or where pain is caused by the displacement. The most favorable cases are of course those where fragments have united at their extremities, but not in the same line. Where there is union by lateral apposition of the fragments, it has been thought that refracture is impossible. Dr. Roberts is not of this opinion. In attempting refracture the force should be applied in such a way as to bring transverse strain upon the uniting fibro-cartilaginous union. If the bones are lapped, with the anterior surface upon the posterior surface, the power should be from the side. If the union is simply from lapping, with one side against another, the force should be directed from before backward. The easiest way to fracture is with the hands, placing a hard pad as a fulcrum. In order to avoid injuring the joints, and at the same time gain leverage, in fracture near the joint, splints can be bandaged along the limb over the joints. Where more power is needed a screw force can be employed, and in some cases it may be advisable to drill the bone before the use of force. In breaking a badly united fracture of the femur, of six months' standing, powerful extension was applied before sudden direct fracturing force was used upon the convexity of the deformed thigh. The patient was twenty-nine years old, and two and three quarters inches shortening existed. Cure was effected, with only one quarter inch shortening. The duration of the treatment was only ten weeks. To arrange for powerful extension with a compound pulley in this case, a flat plate was bandaged to the thigh, with a hook at the lower end, into which the cord could be fastened. The plate was furnished with a ridge on the sides, serrated by deep notches. A cord wound around the plate and the thigh closely bound them together, and enabled the employment of a great deal of force.

The results in all the cases reported by Dr. Roberts were thoroughly satisfactory.

¹ Report on Surgery in the Pennsylvania Hospital, 1880, T. G. Morton.

² JOURNAL, October 15, 1879.

³ New York Medical Record, January 21, 1880, page 113.

⁴ Sammlung klin. Vorträge. Alton Eilbroth and Trüba.

⁵ Centralblatt f. Chir., Bd. xix., 1879.

⁶ On certain points in the Pathology of Bone, especially Tubercle, Philadelphia, 1878.

⁷ Archives gen. de Méd., September, 1879.

⁸ On Diseases of Bone, London, 1878.

⁹ Surgical Report, Pennsylvania Hospital, 1880.

ASYMMETRY OF LIMBS.

Dr. Morton has examined the length of the lower extremities in 513 boys from eight to eighteen years old. In 272 there was inequality; 91 showed a difference of one eighth of an inch; 100, one fourth; 41, three eighths; 22, one half; 12, five eighths; 2, three fourths; 2, one and one eighth; 1, one and five eighths. One boy, eleven years old, was found to have three and one fourth inches shortening without being aware of the fact. He had sustained a fracture of the femur several years before. In the other children no injury or disease could be traced. Measurements were not made by means of the tape, but by the apparatus devised by Dr. Stacy B. Collins.¹

CLUB-FOOT.

The best recent paper on the subject of treatment of club-foot was published in the JOURNAL² by Dr. Buckminster Brown. An abstract of this will not be needed by the readers of the JOURNAL.

Dr. Morton, of Philadelphia,³ reports the use of a "foot crusher" in the treatment of old, relapsed, and adult cases, where all treatment has failed. This is of simple construction, and its application, which has to be frequently repeated, appears to be unattended with danger. By its means the bones of the foot, tenotomy having been performed, are gradually forced into position. He does not advise tenotomy in infants, and thinks the operation is not necessary. He, however, admits that the treatment in children under six months of age is unsatisfactory, and should be mainly conducted by manipulations by the hand of the nurse.

Dr. Reeves⁴ advocates what he terms the "rapid treatment of club-foot." This consists of plaster-of-Paris bandages and tenotomy, when needed, with the rectification of the deformity, and immediate application of plaster-of-Paris bandages.

OTHER RECENT PAPERS OF VALUE.

Club-Foot. Bauer, A Case of Talipes Equino Valgus, St. Louis Clinic, 1879-80, vi. 265. *Diseases of Joints.* Poore, Fatal Case of Double Hip Disease; Dislocation; Autopsy. New York Medical Record, 1879, xvi. 484. *Disease at Elbow-Joint.* Guy's Hospital Reports, 1879, third series, xxiv. 51. *Disease at Ankle-Joint.* New York Medical Record, 1880, xvii. 126; *ibid.* 1879, xvi. 582. *Disease of Bone.* Bryant, Drilling and Trephining, Guy's Hospital Reports, 1879, xxiv., 5-16. *Ostitis.* Busch, Archiv für klinische Chirurgie, 1879, xxiv. 331-338. *Removal of Ecostosis.* Ormsby, Medical Press and Circular, 1879, xxviii. 63. *Disease of Spine.* Mechanical Treatment, New York Medical Record, 1879, xvi. 327, 349. Sayre, Plaster-of-Paris Jackets, Transactions American Medical Association, 1879, xxx. 659, 790. *Lateral Curvature.* Roth, Journal d'Hygiène, Paris, 1879, iv. 423, 425; British Medical Journal, 1879, ii. 1023. *Adaptable Porous Felt Jackets.* Lee, Proceedings Philadelphia County Medical Society, 1879, i. 48, 54. *Unclassified.* Shaffer, Hysterical Element in Orthopaedic Surgery. Archives of Medicine, New York, 1879, ii. 277, 298. Reid, Synovitis of Tendons of Wrist, New York Medical Journal, 1880, xxxi. 49.

Hospital Practice and Clinical Memoranda.

A CASE OF MALIGNANT DISEASE OF THE UTERUS.

BY F. GORDON MORRILL, M. D.

THE following brief notes are offered as possibly throwing a little light on a somewhat rare form of uterine disease.

December 6, 1878, I was asked to see Mrs. X., aged sixty-three, whose history previous to the commencement of present trouble (with the exception of a miscarriage and consequent pelvic cellulitis fifteen years before) is unimportant. In August, 1878, her attendant noticed for the first time a purulent discharge from the vagina, at times tinged with blood, and on inquiry ascertained that she had suffered from pain in the region of the uterus for some weeks. I may remark here that the patient was a lady of most amiable and patient disposition, and rarely complained of anything which affected her personal comfort only. This discharge and pain continued up to the date of my first visit, when inability to sleep on account of the severity of the latter symptom had excited alarm. On examination induration of the cervix and impaired mobility of the uterus were apparent. A small polypus, which grew from the inner surface of the anterior lip, and hung down into the vagina, was twisted off, and its base enterized. Warm vaginal douches and opiate suppositories were prescribed.

December 22d. Pain so severe as to require a grain of morphia subcutaneously every twenty hours. Dr. Baker saw the patient in consultation with me, and the conclusion arrived at was that the case was one of malignant disease, although the os presented nothing characteristic. During the next six weeks the symptoms were pain, progressive emaciation, and slight hæmorrhage. Constipation was also added to the already existing train of evils, and was treated with tamar at first, and later with means of which I shall speak before concluding. The uterus had now become fixed, and examination per rectum discovered two hard nodules in its posterior wall, the larger being apparently the size of an English walnut. Up to the middle of April, 1879, all symptoms increased in severity; morphia was given to the extent of five grains daily by means of the hypodermic syringe, every form of opiate administered by the mouth causing instant nausea. The tamar now ceased to act, and large rectal injections failed to relieve, besides causing intense pain. Various internal medicines were tried, but all proved inert and nauseating. Finally a tablespoonful of glycerine in a tumblerful of warm water was thrown into the rectum, and with the happiest possible result. The rectum had become so far encroached upon by the growth in the posterior wall of the uterus as to require the use of a French elastic perforated bougie in injecting. For some years previous to her present illness the patient had lost all taste for ordinary solid food, and her diet consisted almost exclusively of cream, coffee, Bass's beer, and occasionally a milk biscuit. She continued this same diet throughout her sickness, and the disproportion between the small amounts of nourishment taken and the excretion as shown by the discharges brought away daily by the glycerine was almost startling, the latter being large even for a person in robust

¹ Dr. T. G. Morton, Surgical Report, Pennsylvania Hospital.² 1879, ci. 715-720.³ Surgical Report, Pennsylvania Hospital.⁴ Medical Times and Gazette, 1879, ii. 475.

health, with a vigorous appetite. I have noticed this fact in other cases of wasting illness, and know of no theory to account for it. The glycerine never failed to act satisfactorily, and usually within fifteen minutes.

May 1st. There was now no discharge whatever from the vagina.

June 15th. The patient's condition was most pitiable, and no less than *eighteen grains* of morphine subcutaneously and one hundred drops of laudanum per rectum were required daily to ease her pain; and even then the amount of comfort obtained was only comparative, and she got but little sleep.

On the 22d the pain suddenly ceased without apparent cause, and several hours of quiet sleep ensued. From this time very little morphine was used up to the date of her death, which occurred July 1, 1879, the immediate cause being evidently an old heart trouble. There was no autopsy, but the history, including age, long-continued pain, and absence of broken-down tissue, points quite distinctly to spindle-celled sarcoma.

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

FREDERICK C. SHATTUCK, M. D., SECRETARY.

FOREIGN BODIES IN THE EAR.

FEBRUARY 16, 1880. DR. J. O. GREEN said that, a discussion having recently taken place in the society on the extraction of foreign bodies from the meatus auditorius, he would like to defend a possible method of extraction proposed by Von Tröltzsch and severely criticised by Professor Gross. The former has suggested the possibility of detaching the auricle from the bone behind the ear, and thus reaching a foreign body in the depths of the meatus after the failure of other means. The operation has never been performed as yet, but Dr. Green showed by a temporal bone that the upper wall of the osseous meatus arched upwards and the posterior wall backwards in such a way that there is a much larger passage in the osseous than in the cartilaginous meatus, and by detaching the cartilaginous meatus this larger space can be reached.

He also explained the anatomical reason which led Voltolini to recommend that in syringing out an ear to remove a foreign body the patient should lie on a table with the head hanging far backwards over the end. The angle formed by the membrana tympani with the lower wall of the meatus is very acute, and the arching of the lower wall upwards produces quite a deep cavity, into which foreign bodies not infrequently fall, and from which they may not be removed by the syringe. As the angle of the membrana tympani with the upper and posterior wall of the meatus is, however, very obtuse, Voltolini's idea is to reverse the head, making the upper wall for the time the floor of the meatus, and thus syringing the foreign body out down, instead of up, an inclined plane.

THOMAS'S ORTHOPEDIC SPLINTS.

DR. POST showed the splint and apparatus devised and used by Mr. Thomas, of Liverpool, for disease of the spine and joints. In the case of hip disease he disregards entirely extension, on which so much stress is

laid by American orthopaedists, and aims at what he calls "immovable fixation." His is not the only splint devised on this principle, but is simpler and cheaper than any other, and has hence a wider applicability.

DR. BRADFORD remarked that Mr. Thomas's book and methods deserve more attention than they have received in this country, and said that Dr. Post had been kind enough to apply the apparatus for him in a few cases. He thought that Thomas goes too far in neglecting extension entirely, but he enforces absolute rest for the joint, and attains it in his hip splint much more nearly than is customary here. A patient of his has now been wearing a Thomas's spinal apparatus for five or six weeks with marked benefit, but he has not as yet had an opportunity of testing the elbow and ankle splints. The cheapness of all these forms of apparatus is a great recommendation in hospital practice.

DR. COWLES read a paper on

NON-RESTRAINT IN ENGLISH AND SCOTCH ASYLUMS,

having visited a number of them during a recent trip to the other side of the water. The paper was reserved.

DR. FISHER said that he has watched this question closely for a number of years, and has known that such devices as iron window frames and seclusion have been resorted to in order to reconcile the safety of the patients and the popular feeling; which has, indeed, done great good. There are now signs of reaction in favor of restraint, which, it is to be hoped, will not go too far. The American superintendents have had the secret sympathy of their English brethren, and during a visit to Europe in 1867 he saw very little, either from a scientific or humane point of view, ahead of our own establishments. — DR. JELLY thought that every superintendent should make it a study to reduce mechanical restraint to a minimum; but it must sometimes be used, even four attendants not being sufficient to take care of severe cases. Our summer heat is so intense that many patients will prefer bars over the windows and the privilege of having the latter wide open at pleasure. — DR. BOWDITCH thought that the view was too commonly held that an insane person must necessarily be sent to an asylum; that very act will sometimes render a person permanently insane. — DR. LE BARON RUSSELL, present as a guest, said that an experience of fifteen years as trustee of the Taunton Asylum has convinced him that in many cases restraint is not only necessary, but humane. Repression by attendants is more irritating and seclusion is really a much more severe treatment than slight restraint. In one ward at Taunton the doors have been kept open lately, and the patients allowed to go freely out and in; of course, picked cases only are put into this ward. It is undoubtedly true that some cases of insanity can be best treated at home; but as a rule it is better to separate a patient from the circumstances and surroundings in which he became insane, and a hospital is the best place. In some chronic cases patients improve up to a certain point in hospital, and may then be sent home for a time as an experiment. We should have a larger number of attendants in our asylums, and these attendants should have more personal care for the patients, and endeavor to induce them to employ themselves as far as possible. — DR. J. B. AYER said that he has repeatedly seen patients who were continually struggling with attendants become calm very soon after the application of mechanical restraint, against which they felt the use-

lessness of struggles. — DR. WHITTEMORE thought that if physicians in general had a more intimate knowledge of insanity many patients who are now sent to asylums could be as well or better looked after at home. But it is often an expensive and inconvenient thing, as the private house must be turned largely into a hospital. — DR. JELLY said that he is in the habit of advising home treatment at first, when there is no great violence and no delusion or excitement about home.

FOREIGN BODY IN THE URETHRA.

MARCH 1, 1880. — DR. J. J. PUTNAM reported the case of a man who had come to his office that day. To overcome a supposed obstruction of the urethra he had introduced a long shawl-pin with a rounded glass head, and was unable to get it out again. The point of the pin protruded through the mucous membrane near the attachment of the frænum, and extraction was successfully performed by traction on the point until the head had nearly reached the meatus; the head was then turned out of the meatus, seized, and the pin removed. It measured six and one half inches in length. A catheter was then passed into the bladder with perfect ease.

CHRONIC INTERSTITIAL NEPHRITIS.

DR. M. H. RICHARDSON reported the case. A man of fifty-five was under the care of Dr. Bowditch three years ago, with albumen and casts in his urine and fluid in his left pleural cavity, for which latter he was tapped. Later he came under the care of Dr. Richardson, who found the urine slightly albuminous with a few granular and hyaline casts, and an hypertrophied and irregular heart. A diagnosis of contracted kidney was made. About a year later he began to have convulsions resembling those of epilepsy, recurring at intervals.

December 11th he passed 1820 cc. of urine, containing 29 grammes of urea; on the evening of that day he had a severe convulsion, followed by unconsciousness for several hours. December 12th, passed 900 cc. urine, containing 16.65 grammes of urea. December 14th, the urea amounted to 23 grammes; December 15th, to 14.65 grammes, and on the latter day he had another convulsion. After this he remained unconscious till death, the urine being drawn by catheter. December 18th he died, the quantity of urine secreted during the last twenty-four hours of life being 150 cc., containing 3.50 grammes of urea. While he was unconscious nitrate of pilocarpine, at first one sixth of a grain, later, one fourth of a grain, was injected subcutaneously; 230 cc. of saliva were collected in twenty minutes, containing 1.38 grammes of urea. After a subsequent injection 450 cc. of saliva were collected, containing 2.7 grammes of urea. An autopsy confirmed the diagnosis.

DR. J. J. PUTNAM read a paper on

A SERIES OF CASES CHARACTERIZED BY NUMBNESS OF THE HANDS,

which was reserved for publication.

DR. ELLIS expressed his interest in the paper, and said that patients with symptoms similar to those described by Dr. Putnam are often much alarmed by them, fearing paralysis, apoplexy, and the like, and it is very important to be able to reassure them. He found a lady waiting in his office one Sunday, weeping over her impending dissolution. She had been reading

a book in which similar symptoms were described, and forthwith found that she had them herself. — DR. FISHER remarked that in some of Dr. Putnam's cases the peculiar sensations came on early in the morning, a time at which suicide is very apt to occur, perhaps from diminished activity of the cerebral circulation.

AGORAPHOBIA.

DR. FISHER reported the case. A man of thirty is the picture of health, and in active business. He has been married eight or ten years; was formerly more or less intemperate, and once, while fishing and drinking freely in hot weather, had a transitory attack like sunstroke. For the last six years has been steady in his habits and unremitting in devotion to business, but has suffered somewhat from uncomfortable sensations in his head. About six months ago a feeling of insecurity in the region of the heart began to come on, and now attacks him whenever he attempts to walk alone, go into a church or theatre, ride in a horse-car, etc., and renders it impossible for him to do so. He drives down town in a buggy, is entirely well at home and at his office, and can transact business perfectly. This symptom is not infrequently associated with others, but alone is rare. — DR. PUTNAM remarked that the condition described by Dr. Fisher is analogous to the slight feeling of respiratory distress which ushers in a hydrophobic paroxysm, and is increased by apprehension and emotion.

THE PRINCIPLE OF THE SITHON APPLIED TO THORACENTESIS.

MARCH 15, 1880. DR. GARLAND reported two cases of pleurisy in the hospital service of Dr. Ellis, and discussed the feasibility of removing such fluid by drainage instead of by pump. His apparatus consists simply of a No. 3 Dieulafoy needle attached to a rubber tube one metre long and four mm. in diameter, with a bit of glass tubing inserted near the needle to serve as a window. With this instrument Dr. Ellis removed from one patient one hundred and thirteen ounces in sixty-five minutes, from another about fifty ounces in forty minutes. The flow was so gradual and uniform in both cases that the patients expressed no pain or discomfort. It has long been known that the negative force of the lung, at its best, is equivalent to a column of water thirty-nine cm. high; but when the retractility of the lung is diminished by reason of pleurisy it can no longer support such a column, and therefore if we employ a column of water sixty to one hundred cm. high it is evident that we can readily expand the lung.

The advantages which Dr. Garland claimed for this method were the ease with which it is performed, the comfort of the operator, who, having plunged in the needle, has nothing to do but to watch the flow, and the safety of the patient by reason of the slow and uniform aspiration. A good deal has been said of late about the danger of drawing off too much fluid at one sitting, but Dr. Garland thinks the chief danger lies in drawing it off too rapidly. Girgenson and others recommend this method of tapping, and report favorable results, but Girgenson employs a large canula, and thus empties the chest rapidly. Dr. Garland wished, on the other hand, to emphasize particularly the necessity of operating slowly.

After the insertion of the needle and before the fluid began to discharge from the chest, Dr. Garland con-

needed the drainage tube by means of a T branch with a mercury manometer. Then by opening the valve to the manometer he was able to read the amount of hydrostatic pressure in the chest. In Case I, the pressure was positive and equal to twelve mm. of mercury; that is, the tension of the effusion was sufficient to support a column of mercury twelve mm. high. In Case II, it was also positive, but equaled only two mm. of mercury. After removing fifty ounces from Case II, the pressure became decidedly negative, and fluctuated between eight and sixteen mm. This question of the tension of endopleural effusions has been tested by a number of observers, with results similar to the above. Homolle says the pressure is almost always positive at first, and becomes negative as the fluid passes out. If this diminution in pressure be gradual and uniform it is a favorable sign, but if it be sudden and abrupt it is very unfavorable; a low terminal pressure is also a bad symptom. The manometer may be of great service in distinguishing between effusions above and below the diaphragm, — a diagnosis which is sometimes difficult, as in a case reported by Pfuhl. When a collection of fluid is seated below the diaphragm it is evident that the descent of that muscle in inspiration will produce a positive pressure on the manometer. If, on the other hand, the fluid be above the diaphragm inspiration will produce a negative record.

Dr. Garland then discussed the deformity of the chest met with in large effusions. In Case I, the sternum was swung pediculum-like toward the affected side, so that the farther border of the bone occupied the normal position of the median line. Peyrot has found that this is the rule. He placed needles along the sternum, erected plumb lines at the head and feet of a corpse, and then injected one side of the chest with fluid. The sternum was carried toward the affected side in such a manner that the lower part of the bone traversed 4.5 cm. and the upper part two cm. This was concurrent with a marked bulging of the cartilaginous portions of the ribs on the affected, and flattening of the same on the opposite, side.

Dr. ELLIS testified that this siphon method works very smoothly and beautifully; it takes more time, but slow and gradual removal is what is required. The patients had no uncomfortable symptom whatever. — Dr. KNIGHT heartily indorsed the views of Drs. Ellis and Garland as to the desirability of slow removal. One class of serious, even fatal, accidents incident to thoracentesis can thus be avoided.

EMPYEMA.

Dr. J. G. BLAKE expressed his regret that he had not been present to hear Dr. A. T. Cabot's paper on empyema. He had lately operated on a case strictly according to Lister's method, but the pus reaccumulated, and contained so many clots that he was compelled to return to the old method.

Dr. A. T. CABOT suggested that perhaps the opening was not large enough; the chest may be washed out under spray every time the dressing is changed if it be deemed advisable. Since reading his paper he has operated on one case. About ten ounces of pus, smelling of sulphureted hydrogen, were discharged, and in ten days the patient was attending to his business in Boston, while living in Longwood, three miles off. The tubes were removed at the end of four weeks, and the opening healed during the three days following. Clots came away as late as the fourth dressing. — Dr.

KNIGHT expressed the opinion that the chest should be, once at least, thoroughly washed out. That this is not Lister's practice does not condemn antisepticism. — Dr. T. B. CURTIS remarked that Lister spoke of his method as rather difficult to carry out fully; the dressings must be changed daily, and many layers of gauze must be used. — Dr. A. T. CABOT said that it was well to make sure that the dressing is applied in such a way as not to obstruct the flow out from the drainage tube, and thus avoid coagulation as far as possible.

Recent Literature.

Ceremonial Institutions: Being Part IV. of the Principles of Sociology (the first portion of Vol. II). By HERBERT SPENCER. New York: D. Appleton & Co. 1880.

This little volume forms, as we learn from the title-page, the first portion of the second volume of the *Principles of Sociology* in Herbert Spencer's *System of Synthetic Philosophy*.

The author has decided to issue by itself this and each succeeding division of Vol. II. of the *Principles of Sociology*, for several reasons. Each division, though related to the rest, nevertheless forms a whole so far distinct that it may be fairly well understood without the rest. Volume second threatens to be even more bulky than volume first, and the author rightly thinks these large volumes are more alarming and less apt to be read than small, separate parts. Moreover, he wishes to avoid the delay otherwise inseparable from the completion of an entire volume. He has undoubtedly judged wisely.

This Part makes a very convenient, substantially independent little book, in which *Ceremonial Institutions* are discussed in twelve chapters, and traced from their earliest development in savage tribes to their comparative neglect in countries like England and the United States, where liberty and law go hand in hand. The manner of handling the subject is interesting as well as instructive, and in this form these chapters will be read and appreciated by many who would not have had the courage or the good fortune to get at them in a ponderous tome with an abstruse philosophical title. The references are collected at the end of the volume in a compact form, and give some idea of the laborious research compressed into the few pages between these covers. For its moderate price the book is well gotten up, but the type is not always as distinct as it might be, and on page 210 we notice such a mistake as the following: "And by so doing has aided in weakening Ceremonial, which implies subordinates the individual."

American Health Primers: Our Homes. By HENRY HARTSHORNE, A. M., M. D., formerly Professor of Hygiene in the University of Pennsylvania. Philadelphia: Presley Blakiston. 1880.

Our Homes is the ninth in the series of *American Health Primers* edited by Dr. W. W. Keen. It is written by Dr. Hartshorne, formerly professor of hygiene in the University of Pennsylvania, and contains many useful hints on the situation, construction, light, warmth, ventilation, water supply, drainage, and disinfection of houses; also a short chapter on population, and a few separate pages devoted to workingmen's homes.

Medical and Surgical Journal.

THURSDAY, APRIL 15, 1880.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly by HOUGHTON, OSGOOD AND COMPANY, Boston. Price, 15 cents a number: \$5.00 a year, including postage.

All communications for the Editors, and all books for review, should be addressed to the Editors of the Boston Medical and Surgical Journal.

Remittances by mail should be sent by money-order, draft, or registered letter to HOUGHTON, OSGOOD AND COMPANY, Boston, Mass.

FURTHER PROGRESS IN MEDICAL EDUCATION.

We are happy to be able to announce that the "boom" in education in this country is not over yet; that there still appears to be a very considerable amount of vitality in the movement, if we may judge from the announcement given below. The new plan at Harvard has had several years of trial, and has proved, as is now well known, a most gratifying success. Students have been quick to find out the great advantages of a thorough and systematic preliminary training, without which a medical education is but a house built upon the sand. The foundation having been provided for, it now remained to complete that system of personal instruction in various special departments which has proved so successful in some of the large medical centres, as Vienna. It soon became evident that although the sessions lasted a full academic year the time was altogether inadequate to carry out the numerous courses of instruction. The faculty has therefore decided to prepare a plan which shall extend over four full years, and to offer it to all comers who feel disposed to take it; for those who do not there will still remain the old three years' course, which has been changed in no respect. This step marks, we believe, a very important era in the history of medical education in this country; the experiment will be watched with great interest by professional men throughout the land. Had a majority of the faculty felt authorized to take a bolder step, and make the new course of instruction obligatory upon all, we believe that their action would have been justified by the result. As it is there is room for much congratulation that we are to be permitted to see whether so valuable a plant will flourish on American soil with sufficient vigor to bring forth fruit. We have ourselves no doubt that the soil is sufficiently fertile, and only awaits the opportunity to show its powers.

The following is the announcement of the course of study which is to take effect in and after the next academic year, 1880-81.

The course of study recommended by the faculty covers four years, the examinations being distributed as follows:—

First year. Anatomy (3 hours); Physiology (3 hours); General Chemistry (3 hours).

Second year. Topographical Anatomy (1½ hours); Pathological Anatomy (3 hours); Medical Chemistry (3 hours); Materia Medica (3 hours).

Third year. Therapeutics (3 hours); Theory and Practice (3 hours); Obstetrics (2 hours); Surgery and Surgical Pathology (3 hours).

Fourth year. Clinical Medicine (3 hours); Clinical and Operative Surgery (2 hours); Ophthalmology and Otology (1½ hours); Dermatology and Syphilis (1½ hours); Mental and

Nervous Diseases (1½ hours); Laryngology (½ hour); Hygiene and Legal Medicine (1 hour); Obstetrics, Clinical and Operative (2 hours); Diseases of Women (1 hour); Diseases of Children (1 hour).

But until further notice the degree of Doctor of Medicine will continue to be given upon the completion of three years of study, to be as ample and full as heretofore, to candidates who have passed satisfactorily the following series of examinations:—

First year. Anatomy (3 hours); Physiology (3 hours); General Chemistry (3 hours).

Second year. Topographical Anatomy (1½ hours); Pathological Anatomy (3 hours); Medical Chemistry (3 hours); Materia Medica (3 hours).

Third year. Therapeutics (3 hours); Theory and Practice (3 hours); Surgery and Clinical Surgery (3 hours); Obstetrics (3 hours); Clinical Medicine (3 hours).

The degree of Doctor of Medicine *cum laude* will be given to candidates who have pursued a complete four years' course, and obtained an average of seventy-five per cent. upon all the examinations above stated. In addition to the ordinary degree of Doctor of Medicine as heretofore obtained, a certificate of attendance on the studies of the fourth year shall be given to such students desiring it as shall have attended the course, and have passed a satisfactory examination in the studies of the same.

The preliminary examination has also been recast, and in its present form is a much more satisfactory one, both to students and teachers. Some portions of it have been strengthened,—the examination in English is now a reality,—while, on the other hand, it has been found advisable to adopt a standard of Latin more in accord with the requirements of the high schools, but the language is now exacted from all applicants. To the elective requirements are added algebra, geometry, and botany, as will be seen below:—

(1.) *English.* Every candidate shall be required to write, legibly and correctly, an English composition of not less than two hundred words, and also to write English prose from dictation.

(2.) *Latin.* The translation of easy Latin prose.

(3.) *Physics.* A competent knowledge of physics (such as may be obtained from Balfour Stewart's Elements of Physics).

(4.) *Elective Subject.* Each candidate shall pass an approved examination in such one of the following branches as he may elect: French, German, the Elements of Algebra or of Plane Geometry, Botany.

There is nothing in this course of study which should prevent the student of average means and ability from undertaking it. We must remember that this is the minimum exacted in European countries, where the emoluments or the chances of success are certainly not greater, if so great, as in this.

Its great advantages consist in the careful mental training enjoined upon the students, who thus acquire knowledge that cannot be obtained in after-life. The lectures of a brilliant teacher or the opportunities of celebrated clinics, according to our American system, are supposed to be the great recommendations of a school; but these are no substitute for the self-exertion and hard drill which the new system entails, an ordeal which no one will submit to after he has obtained his degree, and which alone can enable him to study disease at the bedside with profit.

SALE OF DIPLOMAS BY FRAUDULENT CORPORATIONS.

We have received from the Bureau of Education of the Department of the Interior in Washington a circular requesting information in regard to the sale of diplomas issued by fraudulent corporations in this country to subjects of foreign powers, and suggestions

for the suppression of this disgraceful traffic. In the letter from Philadelphia in our issue for March 18th, and again in a communication in the issue for April 1st, the extent and iniquity of this practice are quite fully described.

The offenders, or some of them, have been several times exposed, but these individuals, especially in Philadelphia, seem to be as irrepressible as the illicit distillers in the mountains of North Carolina.

For a number of years great complaint has been made in France, in Belgium, and in England of this traffic in spurious diplomas, and now complaints have reached the State Department at Washington through our minister in Berlin.

It is a thing which affects our good name, and there should be some way found by which this sort of knavery can be put a stop to.

Something more may reasonably be expected of us than a shrug of the shoulders, and the reply that foreigners cannot ask us to do for them what we don't do for ourselves.

We hope shortly to return to the subject again; in the mean time we should be glad to publish any remarks or suggestions which any of our readers may have to offer. It takes a good many such steps as Harvard University is just making toward a higher medical education to counteract the evil effects of these swindles engrossed on parchment.

THE SUPPLEMENTARY REPORT OF THE HEALTH DEPARTMENT OF THE BOARD OF HEALTH, LUNACY, AND CHARITY.

It will be remembered that only eight pages of the First Annual Report of the new complex Massachusetts Board of Health, Lunacy, and Charity were devoted to the consideration of matters pertaining to health; these constitute Part First of that Report, and cover a period of only three months. The papers and special reports relating to the public health were promised in a supplement. An appropriation has now been made for the printing of this Supplementary Report, and it has been resolved by the legislature that 4600 copies be printed and distributed as follows: 1600 copies for the use of the health department of the board; five copies to each member of the legislature, etc., etc.; and that there shall be held on sale, by the secretary of the commonwealth, 1000 copies at a price not less than their actual cost. Some of the papers to be published in this supplement are on especially interesting and important subjects.

CONTRACT SURGEONS.

In the recent discussion of the army appropriation bill before the House of Representatives, the medical department came in for its full share of debate, and the question seemed to turn principally upon the employment of contract surgeons, the impression prevailing with some that these were unnecessary, superfluous,

and expensive. In consequence, no doubt, of the nature of the matter under consideration, namely, the bloody combination of war and surgery as exemplified in the contract surgeon, one of the members became very warlike and defiant, but, as is usual, made parliamentary explanations, and thus quieted his conscience. The amendment to the bill, which embodied the matter under discussion, as finally modified and voted down, was as follows:—

“Contract surgeons shall not be employed until all commissioned surgeons shall have been assigned to duty with troops, and then only upon request of the commanding officer, approved by the general of the army; but this shall not be construed to require assignment to duty with troops of commissioned surgeons who are now, or may hereafter be, put in charge of the national soldiers' home, or those who are detailed to prepare the Medical and Surgical History of the War of the Rebellion, or those who may be detailed upon examining boards.”

It appears from the debate that there are one hundred and nineteen contract surgeons, and it was held that if all the commissioned medical officers eligible for duty were assigned to their posts the necessity for these contract surgeons would cease; or, if not, the corps of commissioned medical officers should be increased. The letter of Surgeon-General Barnes, as read, shows that the contract surgeon is in demand for temporary duties because the present medical force is insufficient, and because such contracts are economical and advantageous to the government, these contracts ceasing the moment that the services of the surgeon are no longer required. The letter further showed that the number of military posts, so dwelt upon in the debate, was no criterion for the number of medical officers required by the service, as a number of these contract surgeons were in demand for scouting parties.

In one of the arguments some of these contract surgeons were characterized as men who could not get into the army through the regular examination, and thus, by inference, the rest were implicated. This is indeed severe criticism if it is to be applied to men, many of whom undoubtedly have the choice between the life of a civil practitioner and that of an army surgeon, and have chosen the former, but who avail themselves of the opportunity to increase their income by taking a contract. The gentleman using this argument, in further commenting on the incompetence of some contract surgeons, as proven by the views solely of their for the time enforced patients, was probably not aware of the idiosyncrasy common with so many patients, both in and out of the army, of never being satisfied with the medical skill provided for them when independent of their own free selection.

Mr. Hawley, of Connecticut, paid a handsome compliment to Surgeon-General Barnes, and brought out the fact that neither to him nor to Assistant Surgeon-General Crane had the courtesy been extended of inviting them before the committee to explain their views. It seems to be a very small matter, and in-

judiciously urged, to attempt to trammel the surgeon-general of the United States army in his selection of contract surgeons to meet emergencies; and it certainly cannot be on the score of economy, for, if the statements in debate are correct, their pay is much less than that of any commissioned medical officer.

A curious amendment has been proposed, consequent upon this debate, which is in effect that an acting assistant surgeon, after five years of continuous service, shall have a month's leave of absence for each year of that service, with pay; shall then attend a course of lectures at some medical college, be allowed to present himself for examination, and, if passed, be commissioned as an assistant surgeon.

MEDICAL NOTES.

—The *Medical Press and Circular* says that those timid beings who are haunted by apprehensions of being buried alive, and who make testamentary provisions against such a contingency, may now take courage, for science has supplied an infallible means of determining whether or not the vital spark has quitted the mortal frame. Electricity enables us to distinguish with absolute certainty between life and death; for two or three hours after the stoppage of the heart the whole of the muscles of the body have completely lost their electric excitability. When stimulated by electricity they no longer contract. If, then, when faradism is applied to the muscles of the limbs and trunk, say five or six hours after supposed death, there be no contractile response, it may be certified with certainty that death has taken place; for no faint, nor trance, nor coma, however deep, can prevent the manifestation of electric muscular contractility. Here there is no possibility of mistake, as there certainly was when the old tests were employed. Muscular contractility under the faradic stimulus disappears gradually after death. It is instantly diminished, but only finally extinguished in about three hours; and hence Dr. Hughes Bennett has suggested that electricity may sometimes be of use in medico-legal investigations by affording evidence as to the time of death.

—Dr. A. A. Smith recently exhibited to the New York Clinical Society a glass pessary, which had been given him by a medical friend living out of New York, with the following history: In 1849—thirty years ago—it was introduced into a vagina, and had not been once removed until a short time ago. The woman recently fell down-stairs, and subsequently had a bloody vaginal discharge. The physician discovered and removed the pessary, which had become well imbedded in the tissues. It was incrustated with calcareous deposit, and was introduced for uterine displacement years ago, with no advice, according to the woman's statement, regarding its subsequent removal. The pessary was concavo-convex, and about three inches in diameter, with a small opening in its centre. To effect its removal, a catheter was passed through this opening and traction made upon it. Dr. Smith called

attention to the duty of physicians to impress upon patients the importance of the regular removal of pessaries. Dr. Peabody said he had found a pessary, thickly coated with calcareous material, in making a post-mortem examination. He mentioned an instance of the removal of a pessary, by Dr. E. K. Henshel, which had been introduced seventeen years before by the latter's father. Dr. Foster said he had cut out from the vaginal tissues a pessary which seemed to have been made of iron. Dr. Smith mentioned the removal of one by Dr. Sayre from the uterine cavity after its retention for ten years, and alluded to another case of prolonged retention of a pessary in the vagina, which finally gave rise to an attack of peritonitis. Dr. Weir remarked that he had removed a glass pessary eight years after its introduction, and asked whether glass pessaries were better borne than others, to which there was no reply.

—Opinions concerning the value of condensed milk as a food for infants seem to be strikingly various. The fact that one physician writes that condensed milk is injurious to children, while another asserts that no form of milk is either so reliable or so nourishing, indicates a difference in judgment so curious that we should be glad to collect opinions touching this matter. If physicians who have used this food will address to the *Boston Medical and Surgical Journal*, 47 Franklin Street, Boston, Mass., their views respecting its usefulness and effect, as compared with those of such milk as is ordinarily supplied by milkmen, we will make and in due time publish a *résumé* of the same.

—Of the audiphone the *Chicago Medical Journal and Examiner* says, "Messrs. Sharp & Sons have been carefully testing this instrument for several weeks, but thus far have not found any patients benefited by it. Out of one hundred and fifty successive cases they report that not one has noticed any benefit in its use.

—The notorious liver-pad (Holman's) is composed of drilling, and filled so as to be about one half an inch or more in thickness. The contents are ground fenugreek seed and ground flaxseed fifty per cent.; pitch, resin of galbannum, and resin of sandrac forty-five per cent. The remainder is supposed to be composed of aromatics. The fenugreek gives the peculiar odor, though this is modified by the resin and aromatics.

—The *Medical Press and Circular* makes the following comments on Dr. Wood's opinion of the professional status in England:—

"In a recent number of the *Philadelphia Medical Times*, a leading article is devoted to considering why the status of the medical man in England is lower than that of his brother across the Atlantic. The conclusion arrived at is that medicine will never be able to compare favorably with the other learned professions until it is placed on a basis similar to them; that is, 'until there are medical lords who have a right to speak upon the floor of the House of Lords, and who shall exert an influence on the decision of all questions of state medicine, comparable to that of the law lord in legal questions.' Only then, concludes the *Times*,

can the medical profession of Great Britain 'expect to control the governmental action as they do in America, or be recognized by the mass of Englishmen as entirely the peers of members of the other professions.' Whatever truth there may be in these remarks, we are ourselves of opinion that the adventitious aid of handles affixed to the names of a few will not materially advance the general professional dignity. One of the most powerful engines in this direction would be a union among medical men, by which common aims would be advanced and the elevation of the whole class be secured. To the want of cohesion among the members of our profession, and the absence of any centralization agency, is due much of its inherited weakness."

—The *Medical Press and Circular* publishes this interesting item: The inexhaustible usefulness of glycerine has received another illustration by the erection at the Kew Observatory of a glycerine barometer, the invention of Mr. Jas. B. Jordan, of the *Mining Record* office, where it is to be rigidly tested. The advantage it possesses over mercury is that its indications of minute atmospheric variations are more easily observable, and it is thought that for meteorological stations, collieries, and some other such institutions, this facility would be of advantage. Glycerine varies an inch where mercury only varies one tenth of an inch; but the mean height of its column against the air pressure is twenty-seven feet. A difficulty in the use of glycerine occurred in the fact that the exposed surface freely absorbed moisture, but this has been overcome by covering the surface exposed in the cistern of the barometer with a layer of heavy petroleum oil prepared specially for the purpose. The barometer fixed at Kew has its cistern in a room below that where the observations are taken, so as to obtain the necessary length of column. About three fourths of a gallon of glycerine, colored red by aniline, were required to fill it.

—When a death occurs in Fiji it has to be registered; and the native scribes not unfrequently fill the blank left for "cause of death" with the words, "medicines supplied by the missionaries."

—Scarlatina of fatal form prevails in St. Johnsbury, Vt., and vicinity. Three patients, one adult and two children, have died in the same week. This family resided over a meat market. The winter has been warm, the meat room damp, the drainage imperfect; the house is old; the rooms are low, badly ventilated, and worse lighted. In other tenements in the immediate neighborhood have followed other fatal cases. Typhoid fever and diphtheria of severe type prevail in the towns near the White Mountains.

—J. Matthews Duncan and Dr. Pirrie, of Dundee, each report a case of spontaneous dilatation of the virgin uterus with profuse hamorrhage.

PHILADELPHIA.

—At a meeting of the Board of Trustees of the Jefferson Medical College, held on the 12th inst., Dr. Henry C. Chapman, of Philadelphia, was elected to fill the chair of Institutes of Medicine and Medical

Jurisprudence, made vacant by the death of Professor Meigs. Dr. Chapman had, by appointment of the trustees, filled the unexpired term last winter; taking up the course at very short notice, and carrying it on without any delay or interruption, and with great satisfaction to the class. The appointment is considered a good one; and, in view of the distinguished positions of several who are named as his competitors for the prize, it is a very high compliment to Professor Chapman, though certainly not undeserved.

WASHINGTON.

—The United States Congress, during the past few days, has had several matters of medical interest for discussion. The resolution before the Senate for printing 10,000 copies of the Medical and Surgical History of the War of the Rebellion was indefinitely postponed in consequence of a letter from Surgeon-General Barnes, in which he states that the passage of the resolution would very seriously and injuriously retard the completion of the remaining two volumes, which are now in press, as the artists engaged upon the illustrations would have to suspend their present work to reproduce the illustrations for the four volumes already published. He further states that if the original edition of 5000 had not been increased to 10,000 after the first two volumes had been published, the whole work would have been completed before now, and its distribution have been more uniform. From this letter it seems to have been the intention of the surgeon-general to make a distinction between practitioners of medicine and surgeons in civil life, and to distribute the medical and surgical volumes in accordance with that distinction; sending the whole set alone to libraries, colleges, or the most eminent authors and teachers in the profession, from the fact that, when completed, the work would be made a basis of systems of military medicine and surgery, and thus be reproduced in a less costly form.

—On April 8th, there were presented to the House of Representatives the resolutions of the city of Savannah, Georgia, which declare the proposed conferring of increased powers upon the National Board of Health to be revolutionary in its tendencies and contrary to the spirit of our institutions.

DISSECLAMP.

THE MEDICAL LAW OF NORTH CAROLINA.

MR. EDITOR, — The discussions published in your JOURNAL in relation to the proposed law for regulating the practice of medicine in Massachusetts have so interested me that I am disposed to believe your readers may be correspondingly interested in a short account of the provisions and effect of such a law in my State.

Our board of medical examiners is composed of seven members, elected from the state medical society, and holding office for six years. After due examination they are empowered to grant, refuse, and even revoke a license to practice medicine or surgery in any or all of its branches. To practice without a license from this board is not a misdemeanor which can be

punished, but the practitioner without such license is effectually debarred from collecting by law any fee or reward for his professional services.

This law has now been in operation for twenty-one years. A glance at the accompanying copy of it will show you its tenor and scope. (If any of your readers desire a copy I will gladly supply them.) Despite its imperfections it has done incalculable good throughout the State in elevating the tone and character and standing of our profession, in fostering a higher standard of professional as well as general education, and in defining the line between regulars and irregulars. The public appreciates and supports the effort of the medical society and the board of medical examiners to give and maintain to the medical profession its deserved status and influence. By informing the people through the newspapers of the object and requirements of our board of medical examiners we bring a pressure to bear upon many who would otherwise be beyond our reach. They are forced either to apply for license or acknowledge their incompetency. (Inclosed is a copy of the notice we are sending out this year.)

NOTICE.

"The undersigned, a committee appointed for the purpose by the Medical Society of North Carolina, respectfully ask you to publish the following notice for the information of your subscribers.

"The Board of Medical Examiners of the State of North Carolina will meet in the city of Wilmington on Monday, May 10, 1880, to examine applicants for license.

"Without a license from this board 'no person shall practice medicine or surgery, or any of the branches thereof, or in any case prescribe for the cure of disease for fee or reward;' and, furthermore,

"He 'shall not be entitled to sue for or recover, before any magistrate or court in this State, any medical bill for services rendered in the practice of medicine or surgery, or any of the branches thereof.' (Laws of North Carolina, 1858-59.)

"PETER E. HINES, M. D.,
W. T. ENNETT, M. D.,
H. T. BARNSON, M. D. } Committee."

Last year we examined forty-one applicants. Of these, thirty-six were granted licenses, and to five they were refused. Four of the latter were graduates. It is our purpose to tabulate and publish the result of our examinations at the end of our term of service. It will perhaps aid in determining the character of examinations required by some of our American medical schools. Wishing my brethren in Massachusetts the success their efforts deserve, I am yours truly,

HENRY T. BARNSON,

Secretary Board of Medical Examiners of North Carolina.

SALEM, N. C., April 5, 1880.

THE DEATH OF WASHINGTON.

At a recent meeting of the Literary Society of Washington, the evening was devoted to an exhibition of relics of George Washington, and to a discussion of his life and history. Dr. J. M. Toner alluded to reminiscences of Washington, and finally remarked that before taking his seat he would say one word upon

the disease of which General Washington died and the medical treatment he received. This subject has frequently been discussed, and recently revived by one of our own papers. The physicians, Drs. James Craik, Elisha Dick, and Gustavus Brown, who attended General Washington, appreciating the propriety of giving some account of the character of his illness and death, published over their own signatures a circumstantial account of it in the first issue of the *Alexandria Times* after the melancholy event. Colonel Lear, the general's private secretary, within twenty-four hours after his decease wrote out an account of the disease. By reviewers and writers on this subject there has been much cheap criticism and sentimental declaration. But few have taken the trouble to ascertain all the facts, or, having the facts, have not had the medical knowledge to give them their due weight. To Edward Everett we are indebted for having had a thorough and comprehensive study of The Last Sickness of General Washington and its Treatment by the Attending Physicians, made by Dr. James Jackson, of Boston, confessedly at the head of his profession in America, and from whom we derive the following facts: The disease was acute laryngitis, and the severity of the attack allowed but brief time for medical treatment. It is a rare disease, and in its violent form almost uncontrollable; inflammation of the larynx (the upper part of the windpipe). The disease at the time of Washington's death had not been so clearly described as to distinguish it from all other diseases of the throat. It was about 1810 that Dr. Matthew Baillie, of London, one of the first physicians of that metropolis, published an account of two cases seen by himself, both in medical men, one of whom was his personal friend. They proved fatal. A third case was reported to him. Of each of these careful post-mortem studies had been made. It was ascertained in these examinations, as it has frequently been since, that the disease consists of an inflammation of the mucous membrane and subjacent tissue and soft parts of the whole larynx, including the epiglottis. From the altered form of the glottis by the swelling, swallowing becomes difficult or impossible, and from the lessened capacity of the larynx or windpipe by the swelling which takes place on the inside the passage of air to the lungs is effectually excluded, and death ensues from suffocation. In the rapid course such cases run, debility plays but a small part. Suffocation ensues from the swelling and inflammation of the inner walls of the larynx, and as effectually destroys life as would strangulation from pressure by a cord or other force applied from without. Thus the sudden destruction of life is readily understood. The disease, it is allowed, was one of acute inflammation, and after eighty years of progress in the science of medicine this disease, while better understood, is still a formidable one, and in its severe forms generally fatal. Dr. Baillie, recognizing the inflammatory and dangerous character of the disease, bled his patients both generally and locally, and applied blisters and other remedies similar to those used by Dr. Craik. This occurred at a period sufficiently near that of the death of General Washington to contrast their treatment. What do the best teachers and practitioners of the present day direct in such cases? Keeping the case in point before us, we do not hesitate to say, in a general way, that in violent cases they would recommend bleeding and blistering. A surgical operation that would have opened the larynx might possi-

bly have given some relief, and possibly prolonged, if it had not preserved, his life. It is not deemed desirable to go farther into the subject, and we confess, from the knowledge we have of the character and professional abilities of Dr. Craik, that he not only fully comprehended the character and gravity of the disease of which his illustrious friend died, but that he treated it with judgment, and that he and his friends did as well under the circumstances as would have any of his critics.

HYSTERICIS.

In reference to the treatment of hysterics, Dr. William Goodell said not long ago, in a clinical lecture, "I think that this woman told me that she suffered from falling of the womb, but, however that may be, she is certainly a very nervous woman, almost hysterical,—so much so that she cannot answer any of my questions. I try to calm her by holding her hand firmly, and endeavor to divert her attention by feeling her pulse. You will sometimes find this a very excellent means of quieting these hysterical patients. Her hysterical aphonia is very marked, but I gather, from her sobbing utterances between the spasms, that she is thirty-four years of age, and unmarried. This hysterical contraction of one or all of the sphincters of the body is a very strange thing for us to understand, but we very often meet with it. Now it is a spasm of the sphincter ani, with difficulty in defecation; again, it turns up as dysuria, with scalding sensations in the passage of the urine, due to contraction of the muscular fibres throughout the whole length of the urethral track; or we may have spasm of the internal os uteri, or, as in this instance, of the epiglottis and trachea.

"I introduce my hand into the vagina, and find a virgin os, long, sickle-shaped, and looking upward and forward, instead of downward and backward. But the examination gives rise to so much pain and such hysterical symptoms that I shall postpone it until after the lecture is ended. Meanwhile, let me say a few words to you regarding hysteria and its treatment.

"Hysteria is a disease to which every woman is liable, and which every physician will be, some time or other, called upon to treat. Most of you will find it very hard, in most instances, to distinguish between hysteria and organic disease, for, in many instances, it mimics exactly grave structural diseases. There is no difficulty in forming a diagnosis when you meet with a real hysterical attack, attended with screaming and groaning and kicking.

"When you are called to treat a young girl with a hysterical attack, there are three things which you had better do: (1.) Institute at once firm pressure in the neighborhood of both ovaries. This is very apt to quiet the patient at once. (2.) Administer an emetic. I have found that a woman who is well under the action of an emetic has not the opportunity to do anything else than be thoroughly nauseated. Give a full dose of ipecac with one grain of tartar emetic. (3.) And this method of controlling the spasm will often act charmingly: take a good-sized lump of ice, and press it right down upon the nape of the neck. This produces quiet by its powerful impression upon the nervous system.

"When the attack is entirely under control, the best method of preventing the occurrence of another attack

is to administer a full dose of assafoetida,—none of your small two or three grain doses, but ten grains all at once.

"I am in the habit of regarding a hysterical woman in the same light as a skittish, unmanageable horse, and just as I catch the one by means of a handful of oats, so I do not hesitate to entrap the woman by much the same means. I remember one instance in which I assured the husband of a hysterical woman that the drug I was giving—assafoetida—had a very powerful odor, and had come from a very great distance. I have no doubt that he thought I had sent all the way to the Orient after it, and gave his wife to understand accordingly; certainly my words acted like a charm in that case.

"There is everything in a doctor's manner in the sick-room, and he who looks and speaks hopefully, saying, 'Take this, and you will get well, and do that, and you will feel better the next moment,' is much more likely to cure his patient than the man who magisterially goes through the motions without a ray of light or hope in his face, ordering, 'This pill to be taken in half an hour,' and, 'So many teaspoonfuls of that prescription to be given at such and such times.'

LIFE INSURANCE RUN MAD.

MR. EDITOR.—Last week a certain very smooth-tongued agent, highly perfumed and gorgeously attired, presented himself at my office, representing himself as an agent for a Golden Legion of Methuselah, or something of the sort, of which he was desirous of establishing a lodge or council in this place; and after eulogizing its advantages in glowing colors, and appealing to me most earnestly to allow myself to become a sort of grand supreme commodore and medical examiner for this locality, with the high and mighty title of P. Q. R. X., etc., etc., he handed me a circular containing further information and instructions. Having already listened to numerous appeals of a similar nature, I scrutinized the circular with care, and noticed the following facts: Medical examinations pass from the hands of the local medical examiners to the headquarters of the *grand high chief medical examiner*. On the fly-leaf of this circular I discover the fact that this same chief medical examiner is no other than a notorious quack, inventor, and dealer in a certain *patent catarrh pad*. The same person is also a dealer in the regalia and other trumpery so necessary to this sort of life insurance, and hence his efforts in the frequent establishment of new orders.

There is quackery in life insurance as well as in medicine, and when educated physicians are induced to submit the results of their examinations for revision to a patent-medicine quack it is time their eyes were opened.

An epidemic of *cheap* life insurance appears to be sweeping over the country; when the bubble bursts the old proverb will be fully illustrated: "*You cannot buy more than a shilling's worth of pork for a shilling.*"

ETHICS.

—Mr. Christopher Heath, of University College has been elected chairman of the Board of Examiners in Anatomy and Physiology at the Royal College of Surgeons of England.

REPORTED MORTALITY FOR THE WEEK ENDING APRIL 3, 1880.

Cities.	Population estimated for July, 1875.	Reported Deaths in each.	Deaths under Five Years.	Percentage of total Deaths from				
				The Principal "Zymotic" Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.
New York.....	1,085,000	519	208	19.08	16.19	7.90	1.35	1.16
Philadelphia.....	901,380	378	144	9.26	9.26	2.70	.79	2.12
Brooklyn.....	564,400	242	79	18.87	13.68	7.55	1.42	.47
Chicago.....	—	234	127	26.50	20.09	12.82	3.84	—
St. Louis.....	—	133	50	19.55	13.53	.75	.75	3.01
Baltimore.....	399,796	142	47	14.09	6.34	5.63	4.23	1.41
Boston.....	365,000	157	52	8.92	10.83	5.73	—	—
Cincinnati.....	280,000	105	43	7.62	9.52	1.90	2.86	1.90
New Orleans.....	210,000	112	—	15.18	5.36	1.79	.89	.89
District of Columbia.....	170,000	75	30	4.00	28.00	1.33	1.33	1.33
Buffalo.....	—	56	18	8.33	19.64	1.79	1.79	1.79
Cleveland.....	160,000	65	25	20.00	13.85	6.15	9.23	—
Pittsburgh.....	145,000	87	35	39.08	18.40	3.45	4.60	21.84
Milwaukee.....	127,000	35	15	20.00	8.57	8.57	8.57	2.86
Providence.....	102,000	37	11	21.62	24.32	5.41	13.51	—
New Haven.....	60,000	37	10	21.62	21.62	2.70	5.41	—
Charleston.....	57,000	29	14	13.79	6.90	—	—	3.45
Nashville.....	37,000	19	4	15.79	15.79	—	—	—
Lowell.....	54,000	33	14	3.03	18.18	3.03	—	—
Worcester.....	53,000	22	3	13.64	31.82	4.55	—	—
Cambridge.....	50,400	14	3	—	21.43	—	—	—
Fall River.....	49,000	17	8	17.65	11.77	—	5.88	5.88
Lawrence.....	38,600	15	3	40.00	6.67	6.67	6.67	13.33
Lynn.....	34,000	11	5	—	36.36	—	—	—
Springfield.....	31,800	11	2	—	11.11	—	—	—
New Bedford.....	27,200	13	5	23.08	23.08	7.69	—	—
Salem.....	26,500	11	2	18.18	9.09	—	9.09	9.09
Somerville.....	23,500	12	4	16.67	8.33	8.33	—	—
Chelsea.....	21,000	8	2	12.50	12.50	—	—	—
Taunton.....	20,200	4	1	—	25.00	—	—	—
Holyoke.....	18,400	8	3	12.50	37.50	—	—	—
Gloucester.....	17,300	6	1	—	50.00	—	—	—
Newton.....	17,300	3	1	—	33.33	—	—	—
Haverhill.....	15,350	4	—	25.00	—	25.00	—	—
Newburyport.....	13,500	3	1	33.33	—	—	—	—
Fitchburg.....	12,600	6	3	—	33.33	—	—	—
Twenty Massachusetts towns.....	157,110	63	14	19.05	15.87	11.11	3.17	3.17

Two thousand six hundred and ninety-four deaths were reported; 987 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 442, consumption 415, lung diseases 387, diphtheria and croup 147, scarlet fever 60, measles 56, typhoid fever 54, diarrhoeal diseases 35, whooping-cough 31, malarial fevers 26, erysipelas 19, cerebro-spinal meningitis 13, small-pox one. From *measles*, New York and Brooklyn 13, Chicago 11, Philadelphia seven, St. Louis five, New Orleans, Buffalo, Pittsburgh, New Haven, Charleston, Lawrence and Holyoke one. From *whooping-cough*, St. Louis six, Chicago four, New York, Boston and Pittsburgh three, Philadelphia, Brooklyn, Cleveland, and New Haven two, New Orleans, Buffalo, Charleston, and Nashville one. From *malarial fevers*, New Orleans nine, St. Louis six, New York five, Brooklyn three, Baltimore two, Chicago one. From *erysipelas*, New York seven, Philadelphia four, Chicago two, Baltimore, Providence, Worcester, Lawrence, Chelsea, and Newburyport one. From *cerebro-spinal meningitis*, New York five, Chicago two, Boston, Cleveland, Pittsburgh, Worcester, Fall River, and Somerville one. From *small-pox*, Philadelphia one. Lung diseases and diphtheria were prevalent in Norfolk in March.

One hundred and fifty-seven cases of measles, 38 of diphtheria, 36 of scarlet fever, and one of typhoid fever were reported in Brooklyn; diphtheria 22, scarlet fever 10, in Boston; diphtheria 12, scarlet fever five, in Milwaukee; scarlet fever 14, diphtheria 12, cerebro-spinal meningitis two, typhoid fever two, erysipelas one, in Providence; diphtheria two, scarlet fever one, in Cambridge; scarlet fever five, diphtheria one, in New Bedford. Scarlet fever and diphtheria are declining in Cleveland; unusual prevalence and virulence of measles are reported in Brooklyn.

The total number of deaths reported was somewhat greater than for the previous week; of deaths under five about the same. Lung diseases showed a slightly increased mortality, pulmonary consumption decreased. Malarial fevers, scarlet fever, and

measles were more fatal; there was an excessive increase in typhoid fever, chiefly due to an epidemic in Pittsburgh; whooping-cough caused fewer deaths, and diphtheria remained without essential change. The death-rate of whites in Washington was only half that of colored. In 39 cities and towns of Massachusetts, with an estimated population of 1,045,760 (population of the State about 1,690,000), the total death-rate was 20.89 against 21.96 and 21.47 of the previous two weeks, with an increased mortality from typhoid fever.

For the week ending March 13th, in 145 German cities and towns, with an estimated population of 7,709,724, the death-rate was 26.9 against 28.2 and 27.1 of the previous two weeks. Three thousand three hundred and ninety deaths were reported; 1945 under five; pulmonary consumption 595, acute diseases of the respiratory organs 544, diphtheria and croup 138, scarlet fever 66, whooping-cough 57, measles and *rötheln* 55, typhoid fever 54, perneal fever 26, typhus fever (Pösen, Bronnberg, Brunschwiek, Berlin) 4, small-pox (Thorn and Dresden) two, trichinosis (Berlin) two. The death-rates ranged from 18.7 in Mannheim to 42.9 in Dortmund; Königsberg 25.7; Dantzig 27.5; Breslau 33.3; Munich 37.8; Dresden 22.2; Berlin 23.5; Leipzig 31.7; Hamburg 27.2; Hanover 21.9; Bremen 23.8; Cologne 27.5; Frankfurt 23.2. For the same week, Vienna 31.7, — small-pox and diphtheria very prevalent; Paris 31.7, — small-pox, measles, diphtheria, typhoid fever, and lung diseases very prevalent.

For the week ending March 20th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 21.4 against 21.4 and 22.1 of the previous two weeks. Three thousand and seventy-five deaths were reported: acute diseases of the respiratory organs 315, whooping-cough 169, scarlet fever 113, measles 91, diarrhoea 39, fever 30, diphtheria 23, small-pox (London) 11. The death-rates ranged from 10.7 in Brighton to 34.8 in Oldham; London 20.9; Bristol 18.3; Birmingham 18.4; Liverpool 23.6; Manchester 28.3; Leeds 19.8. In Ed-

inburgh 27, Glasgow 24, Dublin (small-pox three deaths) 37. In the 20 chief Swiss towns, lung diseases and diarrhoea continued very prevalent; typhoid fever caused a large number of deaths in Zurich, and one each in Geneva, Berne, St. Gallen and Fribourg; diphtheria was less prevalent; scarlet fever caused two

deaths in Zurich and one in Berne: diphtheria was reported in Lausanne, Berne, Winterthen, and Schaffhausen. No deaths from small-pox.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Dire-ction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.					
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.				
March 28	29.422	30	34	29	100	89	89	93	E	N	NW	28	18	1	Sl.	Sn.	T	—	.65				
" 29	29.885	32	36	26	66	61	70	66	N	NE	N	9	16	4	O	O	C	—	—				
" 30	29.933	34	39	28	58	54	70	61	NE	NE	NW	16	20	10	C	C	C	—	—				
" 31	29.823	38	48	27	78	46	55	60	NW	NW	NW	15	16	10	C	F	C	—	—				
April 1	30.048	40	44	34	53	56	58	56	NW	SE	W	8	11	9	F	C	C	—	—				
" 2	30.340	47	57	32	49	31	51	44	W	SE	S	1	10	6	Sm.	C	C	—	—				
" 3	30.134	56	57	41	92	81	93	89	SE	S	S	7	18	12	R	O	R	—	.32				
Week.	29.936	40	57	26				67	Northwest.													32.05	.97

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; Sn., snow; Sl., sleet; Sm., smoky; R., rain; T., threatening.

LIST OF CHANGES IN THE MEDICAL CORPS OF THE NAVY DURING THE WEEK ENDING APRIL 10, 1880.

PASSED ASSISTANT SURGEON E. Z. DERR detached from the receiving ship at New York, and ordered to the naval hospital, Norfolk.

Assistant Surgeon H. G. BEYER detached from the Colorado on the 14th inst., and wait orders.

PASSED ASSISTANT SURGEON W. R. DUBOSE detached from the naval hospital, New York, and ordered to the receiving ship Colorado.

Assistant Surgeon F. S. NASH detached from the U. S. S. Lackawanna, and ordered to the receiving ship Colorado, New York.

PASSED ASSISTANT SURGEON A. C. HEFFINGER detached from the naval hospital, Chelsea, and ordered to the Lackawanna.

PASSED ASSISTANT SURGEON GEORGE P. BRADLEY ordered to the naval hospital, Chelsea, Mass.

PASSED ASSISTANT SURGEON C. W. DEANE ordered to the receiving ship Wabash, Boston, Mass.

PASSED ASSISTANT SURGEON A. A. AUSTIN detached from the navy yard, Norfolk, and ordered to the U. S. S. Richmond.

PASSED ASSISTANT SURGEON J. T. BRANSFORD to be detached from the Richmond on reporting of his relief, and ordered home.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM APRIL 2, 1880, TO APRIL 9, 1880.

By S. O. 74, A. G. O., April 3, 1880, the following changes are made:—

Assistant Surgeon G. P. JAQUETT is relieved from duty in the Department of the South and assigned to temporary duty at David's Island, New York harbor, relieving Surgeon A. K. Smith. Surgeon SMITH, when relieved, will report in person to commanding officer, Department of Arizona, for duty as medical director of that department, relieving Surgeon J. C. McKee. Surgeon McKEE, when relieved, will proceed to New York city, and report arrival to the surgeon-general.

The following-named officers are relieved from duty in the departments set opposite their respective names, and will report in person to the president of the Army Medical Examining Board in New York city for examination for promotion, and upon completion of examination report by letter to the surgeon-general; Assistant Surgeon DANIEL WEISEL, Department of the Columbia;

Assistant Surgeon P. F. HARVEY, Department of Dakota; Assistant Surgeon C. K. WISNE, Department of the Platte.

Assistant Surgeon V. HASARD is relieved from duty in Department of the South, and will report to president of Army Medical Examining Board, New York city, for examination for promotion, and upon completion of examination report in person to commanding general, Department of Texas, for assignment to duty.

The following-named officers are relieved from duty in the departments set opposite their respective names, and will proceed to New York city, reporting arrival to the surgeon-general: Surgeon C. E. GONDARD, Department of Texas; Assistant Surgeon F. MEACHAM, Department of Texas; Assistant Surgeon J. C. AINSWORTH, Department of Arizona; Assistant Surgeon C. E. PRICE, Department of California; Assistant Surgeon M. W. WOOD, Department of the Platte; Assistant Surgeon W. C. SHANNON, Department of Texas.

Assistant Surgeon L. S. TESSON is relieved from duty in Department of Dakota, ordered to St. Louis, Mo., and report arrival to surgeon-general.

Assistant Surgeon W. REED is relieved from duty in Department of Arizona, will proceed to Richmond, Va., and report arrival to surgeon-general.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.—A regular meeting will be held on Monday next, at eight o'clock, in the hall at 19 Boylston Place. Reader, Dr. Denny. Subject, A Medico-Legal Study of Delusions. A. T. CABOT, Secretary.

BOOKS AND PAMPHLETS RECEIVED.—A Text-Book of Physiology. By M. Foster, M. A., M. D., F. R. S. From the third and revised English Edition, with Notes and Additions. By Edward T. Reichert, M. D., Demonstrator of Experimental Therapeutics, University of Pennsylvania. With two hundred and fifty-nine illustrations. Philadelphia: Henry C. Lea's Son & Co. 1880.

History of Medicine in New Jersey, and of its Medical Men, from the Settlement of the Province to A. D. 1800. By Stephen Wickes, A. M., M. D. Newark, N. J. 1879.

Observations on Fatty Heart, comprising Remarks on the Morbid Anatomy, Symptoms and Diagnosis, Prognosis, Etiology, and Treatment. By Henry Kennedy, A. B., M. B. Univ. Dublin. London: Baillière, Tindall & Cox.

Report on Surgery to the Santa Clara County Medical Society. By J. Bradford Cox, M. D. San José. 1880.

A Practical Handbook of Medical Chemistry. By William H. Greene, M. D., Demonstrator of Chemistry in the Medical Department of the University of Pennsylvania.

Lectures.

CLINICAL LECTURES ON ORTHOPÆDIC SURGERY.¹

DELIVERED AT BELLEVUE HOSPITAL, NEW YORK.

BY LEWIS A. SAYRE, M. D.,

Professor of Orthopædic Surgery and Clinical Surgery in Bellevue Hospital Medical College.

IV. CHRONIC DISEASE AND ANCHYLOSIS OF THE KNEE-JOINT.

GENTLEMEN.—As I have more cases of diseased knee at my command to-day than I can well crowd into one brief hour, I will endeavor to select from them such as I think will be likely to prove of most interest and service to you.

FIBROUS ANCHYLOSIS SUCCESSFULLY TREATED BY BRISEMENT FORCÉ.

The first that I shall introduce is one which you have seen before, but which I now show you again, in order that you may observe the progress that has been made since the treatment was commenced.

You will perhaps remember that four weeks ago to-day this patient was put under chloroform, and operated upon by the method known as *brisement forcé*. I spoke to you at that time of the importance of performing this in the most thorough manner, and so, in order to break up the adhesions completely, I first brought the heel close up to the buttocks, and then forcibly extended the limb; after which I repeated these movements again and again, till the desired object was accomplished. Then, you remember, I dwelt with special emphasis on the proper way of carrying out the after-treatment. Strips of adhesive plaster were adjusted on the sides of the leg, and secured by means of a roller, for the purpose of making extension, and the whole knee was neatly strapped with the same; the precaution of filling in the popliteal space with padding having first been adopted, in order to protect the tendons on either side. Then the roller was carried on up the thigh, but at the junction of the lower and middle thirds of the latter a piece of sponge of about the size of a man's thumb was placed over the femoral artery, so as to make partial compression of that vessel, and thus diminish the supply of blood to the knee-joint. This regulation of the blood supply is a matter of some delicacy, and great caution should always be used in applying the pressure, lest too great an amount of it should be brought to bear. Over the whole a plaster-of-Paris bandage was then placed, in order to keep the parts in a state of absolute rest, and this was allowed to remain undisturbed for about ten days. The operation was followed by no febrile reaction whatever; and this, I may say, has universally been the case in every instance since I have adopted this method of treatment.

Steady extension was kept up, and at the end of the ten days the bandages and adhesive strips were removed; when, after a very slight movement of the parts, the joint was again locked up as before, the dressing being precisely the same, with the exception that the sponge compress was not again placed over the femoral artery. After a few days longer, the knee was again uncovered, and an anæsthetic having been administered free movements of flexion and extension were once more made. A brief interval of rest was

allowed, and since then passive motion and frictions have been practiced daily. In making these passive movements I have found it of considerable service to observe the following rule: If the pain caused by these lasts at any time for more than twenty-four hours, the surgeon may know that he has carried them a little too far. The parts should then be given perfect rest for a short time; after which the movements should be renewed, but with less force employed.

To-day, you see, the man is able to flex and extend the limb voluntarily to a very considerable extent, and the passive movements should now be increased from day to day, until a complete recovery has been secured. I would recommend, also, that about once a week the patient should be put under chloroform, and more forcible motion made by the house-surgeon. From the marked improvement that has already taken place in the case, I have no doubt that in the course of another month he will have a perfectly good leg.

[This patient left the hospital the 1st of April with almost perfect motion.]

EXTRA-CAPSULAR ABSCESS IN A KNEE FORMERLY THE SEAT OF JOINT DISEASE, BUT NOW ENTIRELY FREE FROM IT.

The next case is interesting as an instance of an extra-capsular affection in a knee, which was formerly the seat of well-marked joint disease, but in which the joint is now entirely free from trouble. The boy was here a week ago, complaining of his left knee; and when we came to examine it we found a fluctuating swelling over its anterior surface. On first looking at it, one would have been very apt to suppose that this was caused by an ordinary suppurating synovitis of the knee; but a more careful examination showed that the latter was certainly not the trouble present. In the first place, when we pressed upon the joint from above, below, and at the side, it gave the patient no pain. Again, pressure upon and movements of the patella likewise gave rise to no pain. The motion of the joint, however, was limited.

On inquiring into the past history of the case, I ascertained that two years ago the boy had had an acute synovitis of this knee, and that five months since he had been discharged from the out-door department of the hospital, entirely cured of this. After that, he was struck one day on the same knee with a brick, thrown by a boy; and the diagnosis that I arrived at was extra-capsular abscess resulting from the injury thus inflicted. There could be felt, however, on the inner side of the knee a circular depression, which seemed to penetrate quite deeply, and which might possibly be found to communicate with the joint; though this was not probable. Such being the diagnosis, I determined to evacuate the abscess. I first endeavored to accomplish this by means of the aspirator; but no fluid whatever came away. I did not conclude, however, that on this account there was no fluid present, but merely that it was of too great consistence to flow through the middle of the aspirator. Hence, having no doubt in my mind that the pus was there, and remembering the old adage that an empty house is always better than a bad tenant, I made a free incision with the knife; and it immediately became apparent why no aspirator could ever have evacuated the abscess. In addition to a considerable quantity of very thick pus, there were enormous sloughs of the connective tissue and muscles, which had been actually

¹ Reported for the JOURNAL.

cut in two by the brick, although the integument had remained intact. Here, then, was abundant evidence that something with a comparatively sharp edge must have struck the knee while bent and the muscles were in a state of tension. The cavity thus made by the severing of the latter was found to extend almost down to the bone; but the joint itself remained free from all injury. After cleaning this out thoroughly, I filled it with Peruvian balsam, and then packed the wound with oakum.

To-day, on removing the dressing, we find in it a large white slough of muscle, which has been caused by the stimulating qualities of the Peruvian balsam; and when this is cleared away you can see distinctly the cut ends of the tendons and the sartorius and vastus internus muscles, which are now found to be red and healthy-looking. In the free space that is thus left between these severed parts granulation will go on until it is completely filled up, and after a little while the leg will be as good as it was before. The same dressing of Peruvian balsam and oakum will be continued for the present.

I will next show you a well-marked case of

CHRONIC INFLAMMATION OF THE KNEE-JOINT.

This affection may result from a wrench, bruise, or other injury, which may be so slight as scarcely to attract the patient's attention at the time. The woman who is now before you (and whom some of you saw a week and a half ago), while carrying a heavy basket, slipped and fell, striking her knee. She felt a sensation as of something giving way about the joint at the time, but after resting a while she was able to walk to her home. The knee began to trouble her more and more, however, and at the end of a month she had to be removed to a hospital. Here it was found that serious effusion had taken place into the joint, and an extension power of twenty-five pounds was applied. This not only gave her no relief from the pain from which she constantly suffered, but really increased it to such an extent that the treatment had to be abandoned, and the knee was put up in plaster of Paris instead. This likewise gave her no relief, and there was constant spasm in the part. The reason that the extension did not do her good was simply because it was not applied in the proper direction, and it was therefore given out as a case in which Sayre's treatment had conspicuously failed. It was not my treatment at all, however, as you will all soon appreciate.

Now I want you to notice the appearance and position of this limb very carefully, as you have here a very excellent opportunity to study the prominent characteristics of chronic inflammation of the knee-joint. The leg, you will observe, is flexed at nearly a right angle, while the peculiar deformity produced by this affection is very strongly marked. This consists in subluxation and rotation outward of the tibia, which is effected by the constant contraction of the biceps muscle at one spot, and the absorption to a greater or less degree of the external condyle of the femur in consequence of this. In cases where excision of the knee-joint is necessary, it is in this portion of the femur and the outer surface of the tibia that the bone disease is found to be mainly located. In performing such an operation it is always well to bear in mind Bryant's rule, to remove the smallest possible portion of diseased tissue that will answer the purpose for which it is undertaken.

As one of the great sources of trouble in this affection is muscular contraction, local treatment becomes an essential matter, and we resort to extension and counter-extension for the purpose of overcoming the deformity and relieving the pain present. If we do not adopt this course the disease progresses until excision or amputation becomes necessary, or else ankylosis of the joint in a very bad position results. What I want to impress especially upon you at this point is the importance of getting the limb into that position which affords the best opportunity for correcting the existing deformity, and in which the patient will be most free from pain, and then of keeping it there. As is ordinarily the case in this disease, you observe that there is present here the most exquisite sensitiveness of the part, and hence great care must be taken to *make the necessary extension in the direction that affords the most perfect relief to the patient.* The rule is that it should be made in a line corresponding with the degree of deformity which in any case may have been arrived at. Here, if we practice straight traction, we will nearly set the woman crazy, because, there being partial luxation of the tibia and absorption of the head of the fibula, it brings the latter against the femur, which gives rise to the most intense agony. When now, however, I make extension in the proper direction, and at the same time press up the fibula with my hand placed under the leg, the most complete and immediate relief is afforded, as you perceive, for the patient at once gives a grunt of comfort, which is unmistakable in its significance.

The question then is how to secure the limb in this desirable position; and this I will next proceed to explain and illustrate to you. In the first place, we apply strips of adhesive plaster, about an inch in width, all around the limb, and reaching from just below the knee to the ankle; and then secure these by means of a roller bandage, which is carried down to a point about four inches above the latter joint. The ends of all the plaster strips are left loose, for the purpose of making extension when the required instrument is put in position. In like manner, plaster strips, of somewhat greater width and extending upward for a number of inches, are placed around the thigh, and secured by means of a roller.

As I have none of my regular instruments for making extension of the knee-joint on hand that are sufficiently large to suit this case, I will apply here one of those cheap tin instruments which were first suggested by Dr. Rusch, a graduate of Bellevue, and which can be constructed by any ordinary tin-smith. This consists simply of two collars of tin, with projecting ears on either side, into which rods of wood are to be fitted. The ears at the sides of the larger collar, which is intended for the thigh, are swivel-jointed, so that the knee may be secured in any position that we desire. This large collar is first slipped up the thigh as far as it will go, and retained by reversing the adhesive strips over it. In turning these back, care should be taken to do this at the same time before and behind, so that the tin will not become tipped, and thus cut into the limb. The plaster having all been reversed, a roller is placed over it.

The ring for the leg has to be jointed, in order to admit of its passing over the foot and ankle. It is secured in position by the adhesive strips and roller in the same way as that upon the thigh; and in them finally slip the wooden rods into the sockets of the

projecting ears of the collars. The amount of extension is regulated by means of little pins, which fit into holes near the upper ends of the rods; of which there are several, at short distances from each other, so that any degree of extending force desired can be obtained. Of course, this is a very rough contrivance; but if proper care is used in its adjustment, it can be made practically to answer all the important purposes of the more elegant and expensive instruments devised by me. During its application, however, it is impossible to avoid occasioning the patient considerable more pain than in the case of the latter.

The next procedure is to strap the knee as tightly as possible with adhesive strips, for the purpose of promoting absorption of the deposition in and around the joint. In doing this, we must cover it completely; applying the plaster evenly and carefully, and finally making still further pressure by means of a roller over the whole. Having now done all this, we find that the patient is still not yet perfectly relieved from pain. There remains one thing more to be done, and that is to apply an additional bandage in such a way around the bars of the instrument and the limb above the knee that the femur will be forced backward, and another one below the knee in such a way that the action will be reversed and the tibia forced forward. At length we have succeeded in rendering our patient perfectly comfortable; and the great advantage of such a contrivance as this is that it enables us to maintain the limb in this same comfortable position indefinitely.

We have rendered her comfortable, because we have thus secured our two lines of extension: the first by the adhesive strips, drawing the diseased surfaces of the joint apart from each other; and the second by the bandages, which force the femur backward and the tibia forward, and so act in overcoming the existing deformity. I have thus endeavored to point out to you the principles which are to govern you in the treatment of chronic disease of the knee. Of course, their application with a rough apparatus like this requires more care than in a nicely adjusted instrument, such as I ordinarily employ; but the great fact remains, nevertheless, that when the extension had been carried to a sufficient degree and in the proper directions the patient became entirely free from pain, which shows that the end desired has been attained. In a case like this the double extension previously described should be kept up for some time while the patient is lying in bed, before the attempt is made to apply an instrument; and this has already been done here.

Now, however, this patient is capable of getting up and going out-doors with the assistance of crutches; and this, of course, is a great thing for her general health. She may, perhaps, have to wear an extra high heel on the foot of the unaffected limb, and also resort to crutches on account of her great weight. On account of the great obesity of the patient, this is one of the worst cases for the treatment that you could meet with, as it is impossible to get as much purchase upon the thigh as we could desire; but I have no doubt that, notwithstanding this, and notwithstanding the crudity of the instrument that has been applied here, the result will be quite a satisfactory one.

[One week later the patient was again brought before the class, and this time she walked into the arena herself, assisted by crutches. Owing to the great weight of the woman, and the shortness and thickness

of her thigh, it had been found difficult to keep the improvised instrument above described properly adjusted, and hence it had been deemed advisable to substitute for it one of Dr. Sayre's regular knee-joint instruments with a ratchet moved by means of a key. This had been applied the day following the lecture by Dr. Scudder, the house surgeon, and ever since the patient had remained perfectly comfortable. When seen on this occasion, the most marked improvement had taken place in the position of the affected limb, and the diseased joint itself was found to have improved already to such an extent that when the extending force was temporarily withdrawn almost entirely it occasioned her but little inconvenience; while previously such a procedure would have given rise to the most intense suffering. The case was doing altogether better, therefore, than could have been reasonably anticipated.]

ANCHYLOSIS DUE TO EXTRA-CAPSULAR DISEASE.

I have now finally to show you an instructive case, which it will be of great interest to contrast with the first presented; and I only regret that the patient did not arrive here a little earlier, in order that I might have brought the one in immediately after the other. This gentleman was first seen by me in the year 1876. He was then forty-one, and it was supposed that he had had disease of the knee-joint ever since he was thirteen years of age. After a very careful examination, however, I ascertained that the joint was not affected at that time, and came to the conclusion that in all probability it never had been. There were large sinuses all about the knee; but when I held the femur still, I could press the tibia firmly up against it without causing the patient any pain, and the same was true when I made pressure over the patella. So, also, no pain was produced when I pressed upon the outer portion of the head of the tibia, just over the insertions of the coronary ligaments. It is at this point that in chronic disease of the knee-joint the pain is always the most acute and the most easily developed; and hence I felt positive that the joint itself was not affected.

The real difficulty that was present was an extra-capsular abscess, which was now burrowing in different directions, and which had originally resulted from an inflammation of the bursa situated beneath the *quadriceps femoris* muscle. The only thing to be done was to make free incisions through the parts, but being taken ill about that time myself, the case was handed over to the care of the late Prof. A. B. Crosby. With the concurrence and assistance of Professor Wood he carried out this treatment, and the result was an excellent cure in a comparatively short time.

A few days ago, however, he came to me with ankylosis of the knee, and it is for this that he is now seeking relief. On examining the part, we notice first the large cicatrices of the free incisions that were made, and find that there is a well-marked ankylosis, though it is of an entirely different character from that which existed in the other case mentioned. In that the ankylosis was almost bony, although as it was incomplete it was possible to overcome it by means of *brisement forcé*; but here it is of a much less serious character, being constituted mainly by cicatricial contraction of the connective tissue. In such a case *brisement forcé* is entirely unequalled for, and it is mainly to impress this upon your minds that I have introduced this patient. Here I am confident that the whole difficulty may be overcome merely by passive and compar-

actively gentle movements repeated perseveringly and systematically, and the rule for making them is the same as in cases of firmer ankylosis after *brisement forcé* has been resorted to: that is, if the pain produced by such passive motion lasts for more than twenty-four hours, too much force has been used, and the parts should be allowed to remain at perfect rest for a time.

On making flexion in this case by placing the patient's knee over my own thigh, I find that considerable improvement has taken place since I first saw it a few days ago. You see that he is actually able to move the joint voluntarily already, and hence we augur the most favorable result here. From this case, taken in connection with the other, we learn, then, that ankylosis may originate from a variety of causes, and that the treatment of the condition should be varied accordingly.

Original Articles.

THE SIGNIFICANCE OF ALBUMINURIA AS A SYMPTOM.¹

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CHANGES IN THE BLOOD-VESSELS.

ALTHOUGH we have admitted that albumen escapes from the blood-vessels, we have alluded only incidentally to the condition of the latter, and it still remains for us to ascertain as far as possible *why they become more permeable*. Changes have been described in connection with various forms of disease. We are told that irritating substances, however introduced, may have an irritating effect upon the capillaries themselves (35, p. 265). In acute nephritis it is probable that there is a lesion of the wall of the vessel, though the strongest power of the microscope cannot reveal it to us in the beginning. If, however, recovery does not take place in the early stage, the vessels undergo visible alterations. The muscular walls of the arteries, as well as the coats of the glomerular vessels, are thickened by a hypertrophic process (33, p. 240), and in amyloid disease the change is very striking and characteristic.

These affections introduce a factor the action of which is deeper, more continuous, and more difficult to arrest than where there is a mere variation of pressure or parenchymatous swelling. Hence a return to the normal condition is not so likely (35, p. 265). But we have still to ask *whether the albumen escapes in consequence of the membrane becoming more permeable, or whether it is so modified as to cause obstruction to the circulation*. Stockvis attributes the albuminuria to the latter (11, v. 15, p. 120), while Runeborg (35, p. 65) connects it with the degree of tension or morbid changes. The instrumentality of both has been made evident by facts already cited, confirmed by the experiments of Hermann and Cohnheim (1 v. 9, p. 54), who have shown that *pathological changes in the walls of vessels render them more permeable*. We are also told that inflamed vessels allow a colloidal fluid to pass through under low pressure (103, p. 165). Admitting this, can we indicate the part which each plays in the more complex cases?

In regard to the consequences of simple irritation, they must be merely a matter of conjecture. In nephritis the difficulty is to separate the effects of al-

terations in the blood-vessels from those which belong to other lesions. This indeed is impossible. We can only say that *the quantity of albumen is largest in the inflammatory affections when, all the agencies are at work*, such as fever, change in the vessels and in the interstitial tissue, as well as swelling of the epithelium of the tubuli and venous hyperæmia. At this time the quantity of urine diminishes (35, p. 266), and, as it afterwards increases, the quantity of albumen diminishes. In amyloid degeneration, where the vessels are particularly affected, we have a clearer field, and are told (38, p. 500) that they allow the albumen to pass through more easily than in health. In pure cases of the kind the albuminuria is regarded as the result of serous transudation through the vessels (38, p. 505), though this may be mere assertion. That this form of disease plays an important part here is suggested by the variation from the usual law, albumen appearing with a large amount of urine and high pressure, while the glomeruli are certainly most gravely diseased (35, p. 268).

CHANGES IN THE BLOOD.

Having now considered the effect of the modifications of the different tissues of the kidneys, we have still to inquire whether some change does not take place in the blood itself which allows its albuminous element to transude. It is useless to dwell upon the theories which maintain that such is the case, as they are entirely without proof (35, p. 71), but there are certain facts bearing upon this point which are worthy of consideration. As might be expected, we have conflicting statements, concerning the blood as a whole as well as its component parts. In the blood as a whole, no change has been shown, except in febrile diseases, and in these it is not such as would be likely to give rise to albuminuria (35, p. 248). The sudden appearance of the latter in some cases will not admit of this explanation (35, p. 227). Although experiments show that a modification of the serum-albumen may facilitate its passage through membranes, we are not aware that such changes ever do take place in the body under similar circumstances (35, p. 68).

CHANGES IN THE AMOUNT OF ALBUMEN IN THE BLOOD.—Much stress has been laid upon the effect of these changes. In investigating this point we are at once confronted with the difficulty that we do not know the exact amount of blood in the body, and are without exact data as to variations in its condition before and after eating, at various ages, and after the use of various articles of food (13, p. 339).

THE DIMINUTION OF ALBUMEN has been supposed to play an important part in the transudation of serum from the vessels (13, p. 539; 22, p. 709), which would show itself in the urine as albuminuria; but experiments most worthy of confidence show the contrary (11, v. 44, p. 217).

AN INCREASE OF ALBUMEN may be temporary and relative, where the blood loses its water and salts, though but little albumen, as in cholera; but this disproportion does not probably last long, as water is taken up very quickly (13, p. 539). In regard to the more persistent increase, though it is difficult to imitate the conditions which obtain in the human body, experiments entitled to the greatest credit (11, 50) seem to show that such is not followed by albuminuria.

The serum of the blood of an ox, mingled with normal urine, was injected into the jugular vein of a dog

(11, v. 44, p. 415); then the serum was injected alone (11, v. 44, p. 304); and afterwards the albuminous urine from patients with organic disease of the kidney was injected under the skin and into the blood of dogs without the appearance of albumen (11, v. 44, p. 519). The same result followed the injection of serous fluid from a case of ascites connected with albuminuria (11, v. 44, p. 522), and of defibrinized blood and serum (11, v. 44, p. 301).

Albumen of eggs and normal urine were then injected, with very different results, as albumen was found (11, v. 44, p. 415); and this albuminous urine being injected into another dog, albumen appeared. The subcutaneous injection of egg-albumen was followed also by the appearance of this form of albumen very soon after the injection, not only in the urine (11, v. 44, p. 304), but also in the saliva.

Lehmann confirmed these results, injecting fluid albumen, which is not generally used as food in large quantities (50, p. 595). Great precautions were taken, an amount of blood equal to that of the fluid introduced being withdrawn before the injection, the effect of which was studied by a manometer. The pressure diminished somewhat after the withdrawal of the blood, and during and after the introduction of an equal amount of a solution of albumen fell still more. It was also noticed, in a minority of the cases in which egg-albumen was introduced into the blood, that the albuminuria was more or less persistent, and that the amount of the albumen secreted was very much greater than that injected (11, v. 44, p. 302). It was supposed that the passage of the egg-albumen through the kidneys produced a change, which allowed the serum-albumen to transude (50, p. 598).

Though Bernard observed albumen in the urine after the injection of serum-albumen, this result was probably owing to its rapid introduction, as other fluids, if thrown in quickly, may produce similar effects (7).

CHANGES IN THE BLOOD CORPUSCLES.—If it be probable, as is stated (22, p. 709), that a solution of the blood corpuscles furnishes a supply of albuminoid matter to the liquor sanguinis in health, we cannot apply even this questionable physiology to any known morbid condition except *hæmoglobulinuria*, the farther consideration of which is unnecessary here.

In regard to the *white corpuscles*, nothing definite is known about the changes they may undergo.

EXCESS OF WATER.—The statement of Roberts (20, p. 120) and others, that the injection of water into the veins is followed by albuminuria, is positively refuted by the experiments of Stockvis (11) and Hermann (39). Both showed that albumen might appear after the injection of water, but they also proved that it was absent when the precaution was taken to withdraw an amount of blood equal to that of the water introduced. Neither did albumen appear under any circumstances, unless in the form of hæmatoglobulin, which passes through the walls of the glomeruli more readily than albumen (39, p. 459). This was of course the product of the dissolution of blood globules; but the quantity of water necessary to produce this result was greater than is ever met with in disease. Indeed, a quantity larger than is ever seen in pathological conditions was introduced without causing a change (11, v. 44, p. 216). When hæmatin was detected it disappeared in about twelve hours with the albumen (39, p. 456).

Though we have not traced albuminuria to any change in the blood except in *hæmoglobulinuria*, it has

been demonstrated that the injection of egg-albumen is followed by its appearance in the urine. We ask, naturally, whether such or some other albuminoid matter may not enter the blood, and be rejected in the way described. The two sources which suggest themselves are the stomach and the tissues. Let us first ascertain the facts in regard to the connection of albuminuria with the ingestion of certain articles of food.

INDIGESTION.

Though not unquestionable (45, p. 333; 52 p. 184), the statements in favor of this are very positive (4) (60) (79, p. 555) (94, p. 929). Beneke found albumen in his urine four times in as many weeks, while suffering from dyspepsia (20). There were no symptoms of renal disease at the time, and he was perfectly well ten years afterwards (52, p. 184).

Among the special aliments, the use of which has been followed by albuminuria, lobsters, crabs (15), cheese, and pastry (4) have been mentioned. The consequences of indulging in such food are not confined necessarily to those who are generally dyspeptic. But no single article of diet has held a more conspicuous place than eggs. Barreswill (4) after eating ten eggs had albuminous urine for twenty-four hours. Though the experiments of Stockvis (11, v. 44, p. 298) upon himself and friend did not corroborate the above, he thought that the exclusive use of albumen might be followed by a different result. Other observations confirm the last view (50, p. 595), and show that, though a large amount given to rabbits and dogs at one time may not have such an effect, the continued use for six or seven days will. A difference was also noticed between the effects of liquid and coagulated albumen, the former being followed by albuminuria, while the latter was not (11, v. 44, p. 298). When there is positive renal disease the amount of albumen may diminish after abstinence from food, and in one extreme case there was scarcely a trace after fourteen hours' fasting (45). It may, on the other hand, increase after taking food (94, p. 929). The albuminuria may manifest itself, at times, only in connection with some predisposing cause: thus in bronchocele, where it is not infrequent, it may be noticed after a large meal eaten hurriedly (4). A striking example was afforded by a case of temporary albuminuria in a young man (57), whose urine was normal while he was in bed. On rising and taking milk only, it would continue so, but after eating a piece of bread the albumen would appear. As he improved, while lying in bed, meat even could be eaten without any change in the urine.

The albuminuria of *bronchocele* has also been attributed in part (4) to indigestion, as patients afflicted with this disease often have a great craving for food, and the change in the urine may follow a heavy meal which has been preceded by long fasting, the absorption being very rapid. We must admit, however, the action of some other agency at times, shown in a series of cases of temporary albuminuria occurring after the longest fast before the principal meal (97, p. 356). But if we admit that the introduction of certain kinds of food, under certain circumstances, is followed by the appearance of albumen in the urine, can we show why it appears? Can we trace it through the different channels of the body, and indicate the point where the usual metamorphosis fails?

Shall we accept the general statement of Parkes (45) that albumen undergoes great transformations

after its passage from the stomach, and that a large amount disappears in its passage through the liver, and conclude that such transformations may not take place, and that it in consequence appears in the urine? Or shall we consider the question settled by the explicit declaration of Robin (42, p. 102) that the liquefied albumen enters the circulation under the form of peptone and albuminose, through the vena portæ and lacteals, and that these substances are changed in the blood-vessels into plasmin and serine; or that albumen should be changed into uric acid (35, p. 71); and that if these changes do not take place albuminuria is the consequence? In such difficult questions it is impossible for the reader to distinguish the boundary between plausible conjecture and true demonstration. *It certainly cannot be claimed that the transformations of albuminoid matters in their passage through the body are settled physiological facts.*

DERIVATION FROM THE TISSUES.

In connection with this appearance of albumen as a result of indigestion, we may speak of the so-called *chylous urine*. This is very rare here, occurring particularly in tropical regions, and is but little understood. The urine is said to have the appearance of milk, and may contain colored and colorless blood corpuscles, with fibrin, but no casts. It has been seen in persons perfectly healthy, in nursing women, and after great fatigue (45, p. 358). It is supposed that some of the ingredients of the food pass into the blood, so that the serum becomes milky (45, p. 359), partly from finely divided fat, partly or perhaps solely from finely divided albuminous substance (45, p. 358). The urine may then also appear milky from the presence of the same materials.

In regard to the derivation of albumen from the tissues, *we can speak with still less certainty*; indeed, very little is known about the matter. If it be true that in the starvation of animals the urine contains varying amounts of albumen (13, p. 530), we might assume that this was necessarily derived from the tissues; but in the presence of so many changes in the body at this time, such an inference would be unwarrantable.

With the subject of changes in the blood we may properly class some instances in which matters not usually found in the blood are mingled with it.

INTRAVENOUS INJECTION OF MILK (75).—In the two cases reported, five and six ounces of milk were injected in anemia and Addison's disease. In the last a large amount of albumen appeared in the urine, but we are not informed about the condition of the latter before, and the fact needs corroboration. Admitting, however, that we have an instance of cause and effect, we must remember that the mere injection of water may have a similar result, unless proper precautions are taken.

BILE.—Numerous cases show that the urine may become albuminous when the coloring matter and perhaps some other ingredients of the bile are passing off through the kidneys (9) (94, p. 929), both when the absorption is connected with temporary obstruction of the duct, as in gastro duodenitis, as in other forms of disease, where the obstruction is permanent and the result fatal.

With this there may be casts, but all morbid signs disappear with the coloring matter. In acute yellow atrophy, however, albumen has almost always been

absent (45, p. 285). Excluding other morbid conditions which may coexist, the effect seems to be traceable to local irritation.

SEPTICÆMIA AND KINDRED DISEASE.—In addition to the albuminuria, which may be traced to disease of the kidneys themselves, or some other morbid processes, so common in septicæmia, we may have some *alteration in the blood attended by the dissolution of red corpuscles and the escape of the coloring matter* (20, p. 123). *We may now conclude that albuminuria never depends upon a variation in the character of the blood, unless traceable to the injection of some foreign matter, the presence of the products of faulty digestion or of some ingredients of the bile, or dissolution of the blood discs.*

APPLICATION OF FACTS TO VARIOUS MORBID CONDITIONS.

Having considered the various ascertainable causes of albuminuria, we are prepared to apply this knowledge to the solution of the large number of remaining instances in which this peculiarity has occurred, and in this way test the correctness of the views advanced.

We might group these separate examples under various heads, and establish a kind of approximative classification, according to the previous divisions of the subject; but as the explanation of the symptom in various diseases is to be sought not by reference of the latter to each other as much as to principles already laid down, we shall again adopt an alphabetical arrangement, which will, at least, be of use as an index. Some included in the first table are not introduced again here, as there is nothing to be added to the mere mention of their occurrence.

ACID CARBOLIC.—This being generally used as an external application, the statements probably refer to its absorption from various surfaces. Albuminuria has been seen, though it is not constant (1, v. 15, p. 230). The effect is probably owing to the irritating action of the drug, as it is secreted with the urine. We may infer from this that the condition of the kidney resembles that of *acute nephritis*, but we are without positive information in regard to this. Though granular degeneration is spoken of by Neumann (74), as this change requires time, we may suspect that it existed independently.

ACID HYDROCYANIC.—Having only the bare statement that albuminuria occurs in poisoning with this (16, v. 2, p. 364), with no knowledge of the condition of the kidneys, we can merely surmise that the result is *attributable to the profound impression produced upon the nervous system.*

ACID MURIATIC.—It is sufficient to say that the consequences of poisoning by this are *similar to those described in connection with sulphuric acid.*

ACID NITRIC.—See Sulphuric Acid.

ACID SALICYLIC.—Too little is known about this to express decided opinions, but it seems to be not uncommon for both albumen and blood to make their appearance after large doses (35, p. 256).

ACID SULPHURIC.—While it is admitted that albuminuria occurs, there is a want of unanimity about the anatomical changes, which are variable or even wanting, as is shown by experiments and clinical cases, and necessarily so, as the extent differs according to the amount of the poisonous agent. It is, however, impossible to doubt the accuracy of the following statements: In two cases of poisoning, reported by Leyden and Munk (12), proving fatal in twelve and eighteen

hours, albumen was found in one only two hours after taking the acid; in another about twelve hours after. The quantity was large, but on the following day had diminished very much. The acid leaves the body in the form of sulphates, and escapes within a very short time (1, v. 15, p. 38). It causes direct irritation of the renal tissue, and we find in consequence of this (12) blood, granular epithelium, hyaline and granular casts. An examination of the kidney in one case after death showed granular epithelium, dilated tubuli filled with numerous opaque cells, and more or less fatty degeneration of the cells. The glomeruli were large and filled with nuclei. The interstices between the tubuli were larger than usual, and contained many nuclei. In an experiment upon a dog, albumen appeared in the urine four hours after the acid was given, and with it blood corpuscles, numerous cell-elements, cylinder epithelium, and much finely granular detritus. On the following day the same elements were found, but decidedly less albumen. The animal was killed on the second day by opening the carotid. The changes in the kidneys were similar to those previously described in man.

We have here the general effect upon the circulation through the disturbance of the nervous system shown in the diminished force of the pulse, collapse, etc., at times hæmoglobinuria (35, p. 256), and morphological changes in the kidneys, of such a character that they may be classified with those of acute parenchymatous nephritis.

ALBUMINURIA, whatever its origin, is often accompanied by disturbance of the nervous system and the heart, such as delirium, stupor, collapse, and increased frequency of the pulse (35, p. 253). This seems to be an additional cause, subordinate to the original disease, but sufficient to aggravate the trouble.

ALCOHOL.—This agent is so frequently spoken of as an exciting cause it is somewhat surprising to see the *dearth of real facts* upon which statements ought to be based. In acute alcohol-poisoning albumen is seen only occasionally, and as a trace (35, p. 245). In chronic alcoholism without delirium, it may appear, but only rarely and in small quantity (81, p. 759); even in great drunkards there may be only a slight opacity. In delirium tremens, which shows at least excessive use, it was found in forty per cent. only, and here it was dependent upon the attack, lasted perhaps several days, and disappeared at once after sound sleep and the restoration of the mental faculties. The amount was in proportion to the delirium, and not muscular motion, as it was seen when the patients were quiet in bed (35, p. 245). Where the delirium was mild it might be absent (81, p. 758). Some hyaline or perhaps finely granular casts were occasionally found, but an examination of many cases which terminated fatally showed no lesion of the kidneys.

The result seems fairly attributable to some affection of the nervous system, as it depends upon the extent of the disturbance of this, and is temporary (35, p. 245). If there be, occasionally, renal disease, it may act as an additional cause.

ANÆMIA.—Nothing has been elicited by this inquiry into the changes of the blood itself which explains the albuminuria, mentioned in connection with so-called *anæmia*; but the term is used so loosely, it conveys no idea of the special features of any case, and it is upon these alone that we can base an opinion. Even in cases of *pernicious anæmia* the albuminuria is only

transient, the quantity of albumen is very small (93), and its presence might be attributed to the failure of the power of the heart (35, p. 259). Of course when blood escapes, with the formation of petechiæ, the cause is obvious, and when there is dropsy we trace the change in the urine to the escape of serum-albumen.

ANTIMONY.—We may also have blood as well as albumen (29, p. 145), and the same fatty degeneration of the epithelium as in poisoning by phosphorus and arsenic (101, p. 167). These seem to be owing to the direct irritation of the drug, as it escapes in part or altogether through the kidneys, and is found in the urine (52, p. 140).

ARSENIC.—Though arsenic escapes particularly through the kidneys (29, p. 358), the amount of albumen is very small, and there is the same want of uniformity in the observed results as in poisoning by phosphorus (1, v. 15, p. 340) (11). The fatty degeneration of the cells, found in experiments, has also been noticed in man (34, v. 99, p. 358) (32, p. 77).

ARSENIURETED HYDROGEN.—Vogel states (52, p. 117) that the inhalation of this gas is followed by albuminuria and the passage of very dark or blackish urine, attributable probably to the *dissolution of blood corpuscles*. If the latter be true the source of the albumen is obvious.

ASPHYXIA (16, v. 2, p. 863).—This is merely mentioned, without any accompanying facts, and we can only say that it must act by disturbing the circulation, and with this the nervous system.

BILE.—See page to follow.

BLOOD.—See page 363.

BRAIN, CONCUSSION OF.—The details given in connection with this (44, p. 143), where the albumen disappeared soon after the accident, show that its appearance was not dependent upon other disease, and was probably connected with the great disturbance of the nervous system.

BRAIN, HÆMORRHAGE INTO.—The evidence in connection with this is ample, but conflicting. The details given by Ollivier, however, are of such a character as to beget confidence in their accuracy (73). The albumen made its appearance perhaps half an hour after the attack; was at first scanty, then increased, and disappeared at the end of twenty-four hours, though at times it persisted till death. There was neither blood, nor pus, nor evidence of Bright's disease in the cases upon which the statements were based. It was attributed to paralysis of the vaso-motor nerves of the kidneys. Richter (80) failed to find albumen after many examinations.

BRONCHITIS.—Albuminuria is frequent in severe cases, though temporary. We have here fever with its consequences, and perhaps some tissue changes in the kidneys.

BURNS.—An extensive burn, if the patients live long enough, is likely to be followed by *inflammation of the kidneys*. This observation in man has been confirmed by Ponfick's experiments on animals (71). He showed that burns were followed in a few minutes by a *diminution of urine and an alteration of the blood*, the red corpuscles breaking up into minute colored particles, which were transported into various organs, and escaped from the kidneys as hæmoglobin. There were found also nephritis, fatty epithelium, and peculiar colored casts, with obstruction of the tubuli.

CARBONIC OXIDE.—As the urine is at the same

time saccharine, we have a complication; but the albuminuria lasts only a few days, and disappears with the other symptoms of poisoning (1, v. 15, p. 170). When death follows we have *hyperæmia, parenchymatous swelling, and fatty degeneration of the cell elements, as in poisoning by phosphorus and arsenic* (1, v. 15, p. 170). The albuminuria therefore admits of the same explanation.

CANTHARIDES.—Notwithstanding the adverse statements, it seems to be demonstrated that albuminuria may occur (1, v. 9, p. 173), and that the irritating active principle of the drug is eliminated by the kidneys. As it may excite inflammation of the bladder (29, p. 535), this last source of albumen must not be overlooked. The amount of albumen may be considerable, but it disappears when the exciting cause is removed, though a case is reported in which it persisted, with blood corpuscles and casts, for three weeks after the cantharides had been stopped (1, v. 9, p. 173). As patients generally recover, it is not easy to say what the true condition of the kidneys is (1, v. 9, p. 172), though hyperæmia (29, p. 536) and true inflammation are mentioned. But if we can draw an inference from the results of experiments on animals the histological changes may be marked. Lassar (101, p. 167) indicates that such may be the case. Browicz (55) injected cantharides subcutaneously, and after a time examined the kidneys. They were more or less swollen, and the convoluted tubes appeared to be closed by the opaque and swollen epithelium. The loops of the vessels were considerably enlarged, and between these and the capsule was a deposit of hyaline and finely granular matter which seemed to compress the vessels. In the interstitial tissue were some white cells, and perhaps groups of the same.

CATARH, INTESTINAL.—Cases are mentioned, particularly in elderly persons (76), in which the albumen appeared even a few hours after the commencement of the attack, and the urine at the same time diminished in quantity. This occurred whether the dejections were numerous or not, in connection with slight symptoms of collapse, and disappeared a few days after the catarrh. Though the temperature was at times higher than normal, this increase was not necessary (77).

At times the morbid elements from the tubuli were as marked as in acute nephritis, and again very few were seen. The casts were generally hyaline, though sometimes granular. Their appearance did not depend upon the number of dejections, though perhaps on their frequency. A little blood might also be seen, with some epithelium and pus corpuscles. Where the casts were numerous the albumen would be obvious by ordinary tests, but otherwise it might be difficult to find, or wanting. The pulse was smaller than usual and less full. The patients all recovered, and the intestinal trouble did not seem to be prolonged or intensified by the renal disease. There were no complications nor indications of any other diseases.

Such a condition would have a tendency to lessen the power of the heart, and consequently diminish pressure on the glomeruli (35, p. 237). The indications of temporary structural change in the kidneys add, of course, another agent for the production of albuminuria.

CHLOROFORM, INHALATION OF.—Careful observations on human beings and a dog (49, p. 437) show that albumen may appear during the deep narcosis

from this drug, lasting from half an hour to an hour and a half, but it is by no means constant.

This is in conformity with what we should expect, if we bear in mind the sedative power of the agent over the heart.

CHLOROSIS.—In this affection albuminuria is uncommon (45, p. 836).

CHOLERA.—Though not always present, it is common, and may be found in slight cases (45, p. 801). Detected at various periods (35, p. 238; 16, v. 2, p. 862; 58, p. 296), it disappears in from one to four days (45, p. 306), according to the severity of the case. The amount of albumen cannot be stated very accurately, but it seems to be small (1, v. 9, p. 212), and to bear a certain general relation to the cold stage (45, p. 301).

In some cases, although the circulation is restored, the urine is secreted in very small quantity, or not at all (1, v. 9, p. 55). There may also be found casts and renal epithelium (45, p. 308).

The attempt has been made to explain the albuminuria by the supposed stagnation of the thickened blood in the capillaries, but, unfortunately, this has not been demonstrated (1, v. 9, p. 55). Hemorrhagic infarct might be a sufficient cause, where present, but it is by no means an essential feature. It is quite as reasonable to attribute it to the depressing effect on the nervous system of the vomiting and purging, and this, with the great loss of water, would tend to diminish the pressure on the glomeruli.

CHYLE.—See page to follow.

CIRRHOSIS.—Albumen is seldom found in simple cases (45, p. 327). When it is, there is interference with the circulation of the kidneys, and almost always a diminished secretion of urine (4). This explanation seems insufficient, however, if we bear in mind the tolerance of much greater obstruction, without the appearance of albumen.

COLD.—Many of the cases in which albuminuria is attributed to cold are too incomplete to permit their acceptance as necessarily pure examples of the effect of this single agent, and some (9; 16, v. 2, p. 861) seem to be merely instances of renal disease produced by exposure, and the albuminuria must be attributed to this lesion of the kidneys themselves. But in the following the condition of the urine may be fairly connected with exposure to cold, though we cannot eliminate altogether the effects of exertion.

COLD BATHING.—Dr. G. Johnson (9) has reported the case of three healthy medical students, from twenty-two to twenty-five years old, who took cold baths in the months of June, July, August, and September, remaining in the water from a quarter to half an hour and an hour. The one who remained the shortest time had a sensation of fatigue and headache. The others noticed no special symptoms. In the first, the urine examined four hours after the bath contained albumen, which in a few hours more was much less, and on the following day absent, and so continued for a week, when, after another bath, the same symptoms returned with albumen, which was found to be present in almost every portion of urine passed for twenty days, when it disappeared.

In the second case, the urine passed after a bath contained a sixth of albumen. It was not tested again for three or four days, but was then normal.

In the third case the urine examined on three occasions before taking a sea bath, lasting from a quarter

to a half hour, was found normal. An examination after the bath showed a moderate amount of albumen, which disappeared in a few hours.

Four other students, after bathing from half an hour to an hour, and, on one occasion, for an hour and a half, detected no albumen in the urine. No casts were seen in any of the cases. The specific gravity was not taken.

In the fourth case, a boy sixteen years old had for some time bathed in the sea almost daily from half to three quarters of an hour; had felt fatigued and chilled on coming out of the water, and had once vomited. A few days after, when seen on June 28th, he was pale and languid, and the urine contained "an eighth" of albumen without casts. When next seen, on September 23d, there was only a trace of albumen, and this was absent on October 23d. There had been no previous illness except diphtheria, ten years before.

Dr. Johnson also stated that a bath of ten minutes in cold water might bring on albuminuria in some persons, and that the amount might be very much increased by prolonging the bath half an hour. In an article recently published (94, p. 929) the same writer reports observations which corroborate the above, and show that permanent disease may be traced to the effect of cold.

A number of writers concur in attributing the albuminuria to the impression produced upon the nervous system, through which the vaso-motor nerves are influenced (11, v. 45, p. 219; 16, v. 2, p. 864; 35, p. 245). It has been noticed that when an animal is cooled down to 68° F. the pulsations of the heart fall to sixteen or twenty, the respiration becomes very superficial, and the secretion of urine ceases (67). But the intensity of this action may be such as to produce structural changes, as is shown by the experiments of Lassar (100), who, after using every precaution to secure healthy rabbits, shaved them, allowed them to remain for a time in a high temperature, and then suddenly plunged them into ice-cold water. After an immersion of from one to three minutes, there was considerable fall of temperature, and the animals trembled for hours, though placed in a warm atmosphere. Not long after they appeared well, but, in one or two days, more or less albumen was found in the urine, with a few hyaline casts. This in many cases lasted but a few days, when it gradually diminished and disappeared, though frequently it persisted some weeks, and death followed. A repetition of the experiments after recovery was followed by the same series of symptoms, two rabbits being subjected to three different trials of the kind, with the same result and a favorable termination. On an examination of those which died, interstitial inflammation was found in various organs, especially the kidneys and liver, but the parenchyma of organs was not particularly affected. The vessels were enormously dilated in the lungs and liver, the arteries filled with thrombi, and in the neighborhood of the veins were white blood globules. Experiments upon young dogs showed the same effects. These anatomical changes must play an important part in the causation of the albuminuria.

In COLLAPSE we have a diminution in the quantity of urine, and often albumen; but the quantity of urine increases and the albumen disappears as the power of the heart increases (35, p. 259). This is in accordance with the view that connects albuminuria at times with diminished power of the heart.

CONVULSIONS.—Albumen is likely to follow these under any circumstances.—The occurrence of such as

are common in connection with the shrunken kidney may be followed by an increase of albumen (35, p. 269), showing clearly the influence of this perturbation of the nervous system.

DELIRIUM.—See Collapse.

DIABETES.—The frequency varies (45, p. 356), but it is not uncommon, though the amount is seldom above 0.2. It sometimes appears towards the close of cases in which tuberculosis has supervened. The changes indicative of nephritis are not necessarily present, nor is there any lesion which is peculiar to it. The causes are not perfectly clear. There may be, in addition to tuberculosis, already mentioned, great weakness, or true Bright's disease; but we may be sure that sugar is not the exciting cause, for albuminuria is seen only in a part of the patients, and for a short time even in these (35, p. 259).

DIARRHŒA.—See Catarrh Intestinal, page 392.

DIARRHŒA, CHOLERÆ.—We may have albuminuria in those attacks of diarrhœa and vomiting, which somewhat resemble true cholera, where there is no specific cause (35, p. 239). In exhausting cases of the kind in children, the first urine which is secreted contains albumen, but the latter diminishes as the flow increases.

DIPHTHERIA.—As epidemics differ in their character, statements must also differ in regard to the frequency and time of the appearance of this complication (1, v. 22, p. 580). The amount is at times very large, and in adults has generally been in proportion to the severity of the disease; but in many cases this has no bearing upon the character or termination, for the disease may be fatal, either by asphyxia or blood-poisoning, without the amount being more than moderate. In rare cases the albumen may be first detected when the local changes are declining. It is not uncommon even in sporadic cases, but is then transient, lasting but a few days, though it may return. It has been known to persist six or eight weeks after severe cases, and in some slight attacks even it may persist for months, with oliguria and inanition, and be accompanied by dropsy. When it is noticed with very slight local trouble, there is reason to anticipate a severe affection. This is shown strongly by the observations of Dickinson (88), which prove that it was rare in the so-called false croup where there was no membrane, and very common in connection with the latter. As there are casts and blood in the urine, with structural change of the kidney, the explanation is simple.

ECLAMPSIA OF INFANTS.—After eliminating the fits which precede the eruptive diseases and those connected with affections of the kidneys, we find but few observations. Weiss (102) and Demme (105), however, report a number of cases in which the amount of the albumen varied with the number and duration of the fits. Casts were rare. We need seek for no other cause than the disturbance of the circulation through the vaso-motor nerves.

EMPHYSEMA.—The effect of this in the production of albuminuria is admitted with more or less qualification (20) (v. 9, p. 43) (45, p. 321) (14). It is certainly infrequent, and necessarily so, for emphysema as such ought not to have any effect upon the renal excretion. It is a question of degree, and if we consider that the marked cases are followed by signs of weakness in the right ventricle (7) and the consequences of cardiac disease the explanation is the same as in the latter.

(To be continued.)

RECENT PROGRESS IN DERMATOLOGY AND SYPHILIS.

BY EDWARD WIGGLESWORTH, M. D.

HISTOLOGY OF MOLLUSCUM SEBACEUM.

The late Tilbury Fox and his brother, T. Colecott Fox, M. B., have examined¹ little tumors of molluscum sebaceum from the faces and bodies of children, and of a nursing mother; also from the scalp of a man of forty-five (a rare site), as well as from a case of general distribution in a man aged sixty. The points at issue are, (1) the origin of the gland-like looking tumors and (2) the source and nature of the so-called mollusc bodies. By means of well-executed wood-cuts they show how they traced the gradually increasing hypertrophy of the gland structure, with concurrent increase of contents and consequent dilatation of the ducts into a large cavity. The enlarging tumors formed capsules by condensation. Leucocytes in excess. The peculiar mollusc bodies were produced simply by a process of extreme vacuolation of the ordinary lining cells of the acini, which process goes on more or less constantly in health. In the cells nearest the centre of the acinus the vacuolation was seen to be complete, and it took place in nearly all the cells; the nuclei disappeared, the vacuole filled with altered sebum,—the supposed colloid substance,—and the concreted mass, dilating the centre and mouth of the acinus, was then mainly constituted by these cells, the peculiar-looking large mollusc bodies. No fungous elements were detected in any fresh specimen. The investigators therefore regard the disease as of the sebaceous glands, consisting in hyperplasia and hyperactivity of the whole gland structure, exhibited not only by the increase in size of the individual acini, and the formation of a little tumor, but in the greater endogenous formation of gland cells, their subsequent vacuolation, and, finally, the formation of the peculiar mollusc bodies by alteration of the sebum forming and collecting in these vacuoles and distending the enlarged cells.

THE EXTRA-GENITAL PRIMARY SCLEROSIS OF SYPHILIS.

Dr. Mracek, v. Sigmund's assistant, calls attention² to the fact, so often stated, that "venereal diseases" are not necessarily venereal. The primary lesion of syphilis may appear upon any part of the body, and by the third or fourth week³ two thirds of such lesions have developed characteristic symptoms. Those beginning with ulceration require from five to six weeks; that is, the incubation and the development of the primary or the general manifestations of syphilis are the same, no matter upon what part of the body the virus has been inoculated, nor by what methods or instruments. The sclerosis disappear rapidly if the patient is attacked by fevers (typhus, erysipelas, etc.), but appear harder and dryer than usual if pthisis is present. Extra-genital primary lesions, often subjected to more favorable conditions than usual as to circulation, and more protected from chemical or mechanical irritation, rarely ulcerate, and may remain for a long time as a nodule in the skin. If such are upon the face, destruction by excessive or repeated cauterization may cause permanent loss of substance and disfiguring cicatrices.

The traumatic ulcers on the borders of the tongue found with carious teeth must not be mistaken, even in cunilingi, or when chronic inflammatory hardening has changed the base or surrounding parts, for syphilis. More readily distinguished are simple, or so-called chancreoid, or scrofulous, or lupous, ulcerations. The tuberculous ulceration of the skin⁴ has an irregular, everted margin, slight elevation above the skin, and an uneven, red, bleeding base with yellow points (miliary tubercle). A sclerosis of the lips⁵ in old people, shining, secreting little, its thin border composed of separate nodular points (ulcus rodens of old surgeons) is to be distinguished chiefly by its long duration. The more rapidly destructive epithelioma has lancinating pains and papillary basis. The papules, ulcerations from pustules, and gummatas, where doubt exists, are diagnosed by the existence of other late lesions. A gumma of the tongue may resemble a primary lesion.⁶ Here other gummatas or their scars may generally be found, or a little patience will enable one to see the rapid degeneration and disintegration from the centre outwards which marks the gummous tumor.

PERMANENT REMOVAL OF SUPERFLUOUS HAIRS.

Dr. Hardaway reiterates⁷ the statements made by him some two years since, before the American Dermatological Association, as to the value of electrolysis in the removal of hairs. A No. 13 cambric needle is attached to any handle; this is connected with the negative wire of a galvanic battery, and a moistened sponge electrode with the positive pole. The patient sits facing a good light. A strong lens is held in the left hand of the operator, while the right inserts the needle into the hair follicle. Then first the patient touches the palm with the sponge electrode. When frothing is observed around the needle, the electrode is first released by the patient (to avoid shock), and the needle then withdrawn. If successful the hair comes out readily; if not, repeat.

MOLLUSCUM VERRUCOSUM.

Professor Hyde, of Chicago, reports a case exhibiting certain rare and peculiar features, a variety of molluscum, and to be classed with some described by Hutchinson, of London, not entirely identical, the characteristics of which differ in a marked degree from those first observed by Bateman, and since studied by later investigators. These are, briefly, an extraordinary multiplicity of small, pointed, white-capped, more or less solid lesions, resembling vesicles in their external appearance, generally destitute of fluid or milky contents, often without a central depressed orifice, and at times intermingled with other lesions, the appearances of which point unmistakably to a sebaceous origin. There were, however, several recurrences of the disease in Professor Hyde's case, which, perhaps, may have taken its origin from the rete bodies by proliferation, rather than from the sebaceous glands. The patient was a very stout, but otherwise healthy, German, aged thirty-five years. Buttocks, thighs, and loins were at first affected by white spots, which disappeared in a year, leaving reddish pigmentations, only to reappear three months later in the same localities and to extend in all directions. There were no subjective sensations. When seen by Professor Hyde

¹ Reprint from Trans. of the Path. Soc. of London for 1879.² V. Sigmund, Med. Wocheenschr., 1865, No. 77.³ Wien. med. Presse, January 4th, 1880.⁴ Chiari med. Jahrb., 1877, Heft iii.⁵ Wien. med. Wochenschr., 1879, No. 18.⁶ Zeitsch. Bericht des k. k. Krankenhauses, 1877.⁷ Philadelphia Medical Times, February 14, 1880.⁸ Reprint from Edinburgh Medical Journal, February, 1880.

the spots were papular, and spared only the head, face, genitals, supra-sacral region, and the feet and legs below the level of the tops of the boots; they were symmetrical in their distribution, and darkest over buttocks and thighs, where a dozen could be counted in a centimetre square. The lesions were pin-head to split-pea sized, projected one to three millimetres, and had a globoid profile. They did not primarily invade the pilary nor sebaceous follicles, involved the entire thickness of the skin, were surrounded by healthy integument, and without infiltration, œdema, or areole of a congestive or inflammatory type. The smallest lesions resembled milium. The largest had a crimson tint, extending to a little less than a millimetre from the base of each, and a waxy, whitish summit. They were elastic on pressure, smooth, translucent, and glistening, without follicular orifice, hilum punctum, or depression, and when pricked exuded a red fluid, which under a one-fifth objective proved to be healthy blood. One pricked spot oozed for twenty minutes. This was in August, 1878, and the patient sweated so that without his coat or waistcoat, the perspiration ran down his body, and dripped from nose and chin. Gradual involution of the lesions of the skin took place as the weather grew cooler, without any treatment. In January, 1879, the eruptive disorder had almost entirely disappeared, leaving purplish hæmorrhagic maculae. As the weather grew warmer the symptoms of the previous year recurred, and by the middle of April were markedly present resting directly upon the purplish maculations still distinguishable as the sequelæ of their predecessors of the past season. By July, however, the lesions present in April had not only failed to develop as formerly, but had disappeared. Microscopical examination of an excised papule showed that it was composed largely of proliferating rete bodies and connective tissue, with an empty vacuole or space visible in the upper portion of the corium, which seemed to connect with certain irregularly branching channels, and of so definite a contour that half the vacuole was in each of two sections. Professor Hyde's case is to be distinguished from Kaposi's case of lymphangioma tuberosum multiplex.¹

SYPHILIS AND DEMENTIA PARALYTICA.

Mendel found,² according to Wernicke,³ in sixty-two autopsies of one hundred and seventy-one male paralytics, one gumma, two cases of Heubner's disease of the arteries, and two cases of syphilis of other organs. In the history of one hundred and eighteen of these one hundred and seventy-one cases of paralysis, twenty were known to have had syphilis; fifty-three cases had no history. In one hundred and twenty-two other cases of brain diseases, of similar age, twenty-one had no history, thirty were syphilitic. Where paralysis existed seventy-six per cent. were syphilitic; and but eighteen per cent. where only other brain diseases were found. Mendel holds that there is a much closer connection between paralysis and syphilis than can be proved by autopsies, although he, like others, has seen no special results from anti-syphilitic treatment.

ÆTIOLOGY OF ERYTHEMA NODOSUM.

Neumann regards,⁴ contrary to the opinion of most writers, erythema nodosum as an idiopathic affection, having nothing in common with E. multiforme except

the name, developing itself, especially in anæmic persons, with light fever or rheumatic pains, and disappearing spontaneously, and not to return, within three to four weeks. The erythematous nodules may, however, also occur as concomitant symptoms of pleuritis, rheumatism, or pyæmia, as illustrated by three cases, which are briefly communicated by Neumann.

TREATMENT OF PALMAR AND PLANTAR SYPHILIS.

Solutions of corrosive sublimate are, according to Sigmund,⁵ preëminently the means for the dispersion of syphilitic new formations of the secondary group, papules, pustules, and scales; but the application must not be left to unskilled hands. With care, scar and pigment formation, in fact the further development of all forms, may be prevented by brushing with a solution (one to fifty to one hundred) and a camel's-hair brush twice or even once daily the spots affected, at the first appearance of erythema or of infiltration of the follicles and papillæ. If the first use of this is made early in the morning it can then be seen in the course of the day whether the skin will bear a repetition of the same lotion or not; or whether it may not be needful, on the contrary, to make some counteracting and soothing application. If so, the best preparation is the solution of acetate of lead in water (one to twenty). With this, one or two hours after brushing with the sublimate solution, compresses are to be well soaked, and at once laid upon the spots. This lessens pain without essentially interfering with the peculiar efficiency of the sublimate. Should pain immediately follow the brushing on of the mercury, the lead lotion may also be at once applied. For each bathing fresh brushes must be used, or the old ones must be well washed out; otherwise the sublimate remaining in the brush after drying will make the next application a too caustic one. Before every new brushing the skin must be washed clean with soap and water. The best vehicle for the sublimate is: for the palms and soles, collodion; for more delicate parts of the body, alcohol; for mucous membranes, ether. When the first is employed a little fresh linseed or other oil should be added to the vehicle, — one part of oil to twenty of collodion. This makes a flexible, elastic covering, permitting motion of the hands and feet without causing cracking of the collodion layer. Sigmund writes for hydr. corr. chl. one, olei liui recentis one, collodion fifteen to twenty-five. This is rubbed upon the lesions on the palms and soles in the morning. At night, white ppt. ointment; hydr. ammoniat. five, ung. simp. twenty-five, is well rubbed in, and gloves and socks used as covering, during the night. For older and more inveterate cases the skin is first to be softened by soap and warm water, lotions and ointments; chaps and cracks to be covered with strips of cloth smeared with emplastr. saponis, empl. hydrarg., of each p. æq., and packed comfortably in compresses. So also local inunction of ung. hydr. at night for ten minutes, and in the morning employment of the same spread on cloth after the brushing on of the collodion. Then gloves and socks by day and night both.

Palmar and plantar syphilis is a late symptom, resists treatment obstinately, lasts long, and tends to relapse. It is often the only existing sign of the presence of the disease, and then needs only local and general hygienic treatment. When other symptoms are present, constitutional specific treatment is demanded.

⁵ Wien. med. Woch., No. 41, October 11, 1878.

¹ Hebra, Kaposi, Sydenham Soc. Trans., vol. iii., page 387.

² Berl. klin. Woch., 1879, No. 36.

³ Centralb. f. d. med. Wiss., 1880, No. 4.

⁴ Wien. med. Woch., 1879, No. 44.

Cleanliness and good diet are of the utmost importance.

PITYRIASIS RUBRA.

Duhring reports ¹ a case of this rare disease in a laboring man, aged fifty-six, previously healthy. Two years prior to date itching about ears and scalliness. This condition spread in a year over the whole body, was aggravated during the next three months, the hair and nails falling out, and became even worse during the following quarter year. Then the whole skin was thickened, red, and scaly, and itching was universal and constant. He entered the hospital (April 10, 1879) meagre, feeble, and exhausted; the whole body desquamating, a double handful of pea to finger-nail sized papery lamellæ curling up and falling daily; palms infiltrated and soles scaly; fingers like claws with fissures in flexures; eyeballs suffused, injected, watery; lids red and deprived of lashes; never any oozing anywhere; hairs gray, dry, harsh, and scanty; nails soft, bulky, thickened, rough, corrugated, and yellowish; skin burning, but patient chilly, with voracious appetite, having lived on bread and tea for months, "to subdue the inflammation;" bowels constipated; urine normal; evening temperature 37.5° C. The patient has now been six months under treatment by baths, tar, carbolic acid, etc., externally, and potassium, iron, cod-liver oil, arsenic, strychnia, nitric acid, and flaxseed tea in turn, internally. He has gained nineteen pounds, but is relapsing into hebetude, and the disease is little if at all changed. The disease was first described by Devergie, and is very rare. Its etiology is obscure. Pathologically there is simple inflammatory alteration, affecting the upper layers of the skin only, and accompanied by some atrophy of the papillæ. Prognosis must be guarded. Recovery sometimes occurs. Relapses usually take place. [General bandaging with India rubber has been of service in some cases.—*REF.*]

STATISTICS OF SYPHILIS AMONG THE WOMEN OF ST. PETERSBURG.

Dr. Edward Spereck gives ² the results of his studies upon syphilis in a place where the material is extensive and the police control strict, as follows: (1.) All prostitutes cannot be controlled, though in Hamburg and Brussels the police have been more successful than in St. Petersburg, and here than in Paris and Berlin. (2.) The number of public prostitutes is in St. Petersburg disproportionately small as compared with the number of unmarried men. (3.) Here, as elsewhere, women pass from public to private prostitution, and *vice versa*, in accordance entirely with temporary circumstances. (4.) The majority of women adopting this life escape the notice of the police for the first four years. (5.) Registration for the first time of courtesans of years' standing shows this to be true. (6.) The average Cyprian is infected with syphilis within three years after entering upon her trade. Brothels were examined where seven or eight out of ten inmates were thus diseased, although in others there was no inmate in whom the disease was in the actively contagious stage.

The writer emphasizes the fact that during two or three years after infection relapses are common; that a woman with a relapse is dismissed from the hospital

as "cured" as soon as external manifestations have temporarily disappeared; that she then returns to public life a certain and the most frequent cause of the dissemination of syphilis. The infectiousness of the "secondary" stage is not sufficiently regarded. Six sevenths of the cases of syphilis in men are from women with "secondary" symptoms; one seventh only are infected from "primary" lesions. As to prophylaxis, the writer suggests ³ that syphilitic women be allowed to entertain only syphilitic men,—a millenniumistic idea, were it only possible of execution,—or that prostitutes released from hospitals should be quarantined for two or three years. [This would cost for Boston about two hundred and fifty thousand dollars per annum.] About seven hundred prostitutes are annually treated in St. Petersburg. In the orphan asylum about one child in fifty is syphilitic. In the brothels about thirty to forty per cent. of women are constantly in a condition to infect those having to do with them, and the same is true of the unregistered and clandestine "cocotte" class.

WATER FOR DISEASES OF THE SKIN.

Bulkley calls attention ⁴ to the use and abuse of water, externally or internally, plain or mineral, in diseases of the skin. (1.) Abundant bathing serves as a great preventive both of cutaneous diseases and of systemic disorders. Cool or tepid, every morning, followed by vigorous friction, it is a great safeguard against disease. For cleanliness add a warm bath once a week, followed by the cold douche, to quicken the circulation and diminish the danger of "taking cold." Turkish and Russian baths must not be used to excess. They are powerful stimulants, and not the panacea for all bodily ills. But though sluggish, thick skins bear more bathing than common ones, thin and irritable skins, such as tend to itching, articularia, or eczema, bear water less well, and subsequent friction must be avoided. (2.) Ablutions and bathings often remove nature's protective exudations, and do much harm; but for chronic eczemas and erythemas, pruritus ani or vulvæ, onychia, acne, indolent ulcers, and conditions of stasis hot applications are of much benefit. (3.) The wet pack is of value in chronic psoriasis, but is to be avoided if it tends to produce boils. (4.) Vapor and hot-air baths may be used as a means of treating syphilis, and possibly parasitic affections. (5.) Medicated water baths are soothing to a pruritic skin, and promote assimilation and disintegration. Carbonate of potassium, of sodium, and borax, one hundred and twenty, sixty, and thirty grammes of each respectively, with two hundred and fifty to five hundred grammes of starch in a barrel of water, makes a mild alkaline bath. (6.) Certain natural mineral springs have, of course, also their advantages; when there is a definite knowledge of what is to be accomplished they may be prescribed, like any other remedy, to fulfill definite indications. What is strong for good is strong for evil, however, and patients should not be sent to springs at random merely to get rid of them.

(To be concluded.)

— A new journal of clinical medicine, under the title of *Centralblatt für klinische Medizin*, has appeared in Bonn. It is edited by Professor Ruhle and Dr. Finkler.

¹ Philadelphia Medical Journal, January 17, 1880.

² Petersburg Medical Weekly, iii. 14-19, 1878.

³ Guntz in Schmidt's Jahrb., Bd. 183, Jahrg. 1879, No. 7.

⁴ Reprint from Chicago Medical Journal and Examiner, January, 1880.

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY
FOR MEDICAL IMPROVEMENT.

T. M. ROTCH, M. D., SECRETARY.

APRIL 12, 1880. DR. JAMES C. WHITE, permanent chairman, president.

THORACENTESIS.

The regular paper for the evening was read by Dr. F. I. KNIGHT, on The Dangers of Thoracentesis and Injections into the Pleural Cavity.

Dr. Knight said that so many accidents following these operations were being reported on all sides that it became the friends of the operation to inquire into their exact nature, and how many of them were only such as might occur in the natural course of pleuritic effusion, and how many could properly be charged to the operation. Dr. Knight quoted reported cases showing various modes of death after thoracentesis and injections into the pleural cavity. Most of the cases could be grouped under the three heads. (1.) Embolism. (2.) Syncope (a) from paralysis of the heart; (b) from reflex action. (3.) Pulmonary edema.

Emboli are let loose by the expansion of the lung, and thoracentesis simply hastens the process, which would occur at all events when the lung expanded. Naturally, cases of embolism without operation were here quoted. So the knowledge of this process must not deter us from thoracentesis, but rather encourage us to operate early, before thrombi are formed.

Fatal or dangerous syncope and pulmonary edema have been due in some cases undoubtedly to the operation of thoracentesis. The convulsions which have occurred during injection into the pleural cavity have been attributed to embolism of the cerebral vessels or reflex action. Dr. Knight also called attention to some remarkable coincidences between tapping the chest and death from causes quite independent of the operation.

The dangers, therefore, against which we must be on our guard, in performing thoracentesis, are syncope and pulmonary edema, and a sufficient number of serious accidents have occurred to make us more careful in the operation.

(1.) Operate early, before thrombi are formed.

(2.) Operate in the recumbent posture to prevent cerebral anæmia.

(3.) Evacuate very slowly, and never remove large quantities at one sitting. Stop on the occurrence of the slightest distress.

(4.) Be very careful in removing fluid from the chest when the lung is diseased, or bound down by adhesions, and so incapable of expansion. Some of the worst accidents have happened in such cases.

Inasmuch as serious symptoms have attended injections into the pleural cavity in quite a large number of cases, it becomes us to use greater care in performing this operation. Dr. Knight thought that the use of syringes and pumps should be abandoned altogether, and the chest slowly irrigated by means of the douche, the reservoir being held only just high enough to secure a gentle current.

In regard to the treatment of accidents, when they have occurred, Dr. Knight said that if the trouble seemed pretty surely to be an overdistention of the

right heart, and death were imminent, puncture of the chest and admission of air might save the patient.

In case of edema of the lungs, venesection should certainly be considered.

Dr. H. I. BOWDITCH said that he had come to learn what dangers there were in thoracentesis. He had operated for thirty years (since April 17, 1850) 337 times, upon 226 patients, and he had never had any death, which in his opinion could be fairly said to be due to aspiration simple.

He had read of not a few deaths occurring in Europe after thoracentesis, but he had considered these fatal results to be owing to the folly and rashness of the operators themselves, or to the methods pursued. He denied that thoracentesis, *with injections into the chest*, should be used against the operation itself, whether simple aspiration were performed, or a permanent opening made by trocar or incision. But injections were now almost universally used in this country and in Europe, when a permanent opening was made. Dr. Bowditch attributed the fatality in these cases to the injection rather than to the operation. Without this hypothesis, he could not account for the fact that he had never met with cases, such as are reported in the paper just read.

Dr. Bowditch never used injections. [This is not strictly true, although in almost all the cases, under his own immediate charge, it is exact. He had consented, at times, to the use of injection, when called in consultation by other physicians, especially since carbolic acid has been brought into use. In his own cases he never allows any injection to be made, unless the pus becomes fetid, or, as in one case, where the patient was losing strength, and was apparently threatened with phthisis, from pus being retained in the pleura below the point of a permanent opening. In this case the simple washing out of the cavity with pure water, many years ago, and before carbolic acid was thought of, seemed to renovate the patient, and he recovered rapidly.]

Dr. Bowditch also thought that perhaps the reason why we, in this vicinity, had had no sudden fatal result, as recorded in Europe, notwithstanding that every physician here now operates, might be the fact that we have usually proceeded more cautiously than elsewhere. For himself, ever since he first began to operate, he had always deemed the part of prudence, and common sense, to *draw slowly* in aspiration, and with exceeding caution, *watching the effect upon the patient of every ounce drawn*. He usually said to the patient at the outset, "Tell me the first moment you feel a distress of any kind, especially any tightness across the chest." Dr. Bowditch was accustomed frequently to repeat the questions, "Do you feel comfortable?" "Have you pain?" "Can you breathe more easily?" "If you have any *stricture of the chest*, be sure to tell me so at once." And the moment that, on any such interrogatory, the patient answered in the affirmative, Dr. Bowditch removed the aspirator. He has done so many times, *even when he was sure that a very large quantity of fluid remained in the pleural cavity*. He had been induced to do so, because, in one or two instances among his earlier operations, he had caused an unpleasant, though never dangerous, dyspnea by *persisting in the operation, even for a short time*. Nature often seemed, however, in such cases, to say, "Take away a little fluid, and I will take care of the remainder."

Dr. Bowditch regarded aspiration as simple an operation as vaccination. He would as soon do one as the other, and because, occasionally, a patient died on the pricking of the skin, or even before the skin was touched, in aspiration, was no solid reason against the operation. Very rarely, a person may get syphilis or other disease, or may die after vaccination, but these rare results were no valid reasons for giving up vaccination. The question of a permanent opening and injections into the chest is a wholly different affair. Upon the question when, if ever, such permanent openings should be made, he must admit that he was in great doubt. Thirty years ago he opposed all permanent openings with the scalpel, as improper and barbarous operations. But he soon found that nature at times made them, and then he had to interfere in order to get the opening in a proper part of the chest. Two years ago he stated at the American Medical Association meeting that he was of opinion that, in adult cases, a permanent opening should be made after pus had been twice drawn. Recently, however, a case had been sent to him for counsel as to a further operation. Twenty-two aspirations of sero-purulent or purulent fluid had been drawn at very short intervals, generally every third day. Under this treatment the patient had gradually grown better, had gained flesh and strength. On examination, murmur was heard, without r le, throughout left breast, but less than at the right. Behind, was flatness on percussion in the lower two or three inches, and murmur was scarcely if at all heard there, and very quiet above. No other marked symptom or sign, except cough and some expectoration.

The question was asked: Shall a permanent opening be made into the chest to allow the small quantity of fluid, still remaining, to escape, upon the ground that nature will not remove it? Dr. Bowditch advised strongly not to make an opening of any kind. He saw no reason, *a priori*, why purulent absorption should not take place from the pleural cavity, as it does at times in other parts, and he hoped for that result in the case then presented to him. Some persons, however, assert that pus, if not removed by an operation, will always remain in the pleura. Is this a fact? Dr. Bowditch concluded by suggesting to the members of the society that hereafter, in some cases, the same treatment should be followed as in the one he had referred to, and that aspiration, every three days, should be performed for a month, in the hope that the lung, expanding, would gradually contract adhesions, as had evidently occurred in the case alluded to. Dr. Bowditch appealed to Dr. Ellis for an opinion as to the possibility of absorption of small quantities of pus from the pleura, under such circumstances.

Dr. ELLIS replied that he thought such absorption was possible, and probably quite often occurred. He also said that he did not understand how simple puncturing could prove fatal. In regard to syncope, that could be obviated by drawing the fluid off slowly, by the method first used by a German, and introduced at the Massachusetts General Hospital by Dr. Garland, making the fluid siphon itself from the chest. Dr. Ellis also remarked that a few meetings since he had stated his belief in repeated aspirations, thus keeping down the size of the cavity; and thus if a permanent opening has to be made it will be more likely to be successful. He instanced a case of a child in whom this treatment was successful. He

would aspirate every three days, if necessary; that is, as often as pus collected.

In reply to Dr. Bowditch, Dr. KNIGHT said that he was confident that great care had been used in the operation in some of the fatal cases of thoracentesis.

Dr. HALL CURTIS said that he had looked over the notes of sixty-nine aspirations, made by him during the past seven years, and once only was it followed by symptoms of distress; in this case half a pint of serum was withdrawn. The following night the patient was restless, with dysp ea and nervous agitation. The next day he remained in a stupid state with a temperature of 104.1  F. Seventeen days later he was discharged, relieved. "Respiration heard at both bases, accompanied with subcrepitant r les. General condition much improved."

Dr. FITZ stated that the result of the permanent retention of pus could hardly be regarded as different from that of fibrine, both being exposed to the same conditions. It was not a very rare occurrence to find encapsuled within the chest either cheesy, mortar-like, or greasy material, representing the results of a previous pleurisy. In such cases the appearances were not sufficiently characteristic to enable the observer to decide whether the original process were an empyema or a fibrinous pleurisy. With regard to the recommendation that thoracentesis should be performed while the patient was lying down, it would seem that if cerebral an mia were to be avoided this could better be done by operating with the patient in the upright position. The earlier and slighter symptoms could thus be more readily detected and relieved. If the patient were in the prone position the an mia would be likely to have reached a greater degree before prominent symptoms appeared.

PNEUMONIA; SUDDEN DEATH.

Dr. MINOT gave the following account of the case, which he had received from the attending physician, Dr. H. B. Wilbur, of Utica, N. Y. The patient was an unmarried lady, thirty-two years old. For a few days preceding Easter Sunday (March 27th) she complained of a cold, but kept about as usual till April 1st, when she took to her bed. The next day she was up and about the house, but in the afternoon she had a chill and severe pain in the right side. High fever followed, with delirium. April 5th there was evidence of hepatization of the lower part of the right lung. From this time she improved, and seemed convalescent, April 11th. She had had a good night, coughing but little. The pain was gone, and she took nourishment with relish. Pulse 88. Soon after the doctor left her, she got out of bed, for the first time, to make water. As soon as she got back into bed she became livid, then pale, asked for some drink, and died.

Dr. WHEELER thought that this case of Dr. Minot's was an unusual form of death for pneumonia. He had seen some patients die suddenly in this way, but the death was caused by an effusion into the pleura, and he would like to ask Dr. Minot whether death here might not have been caused in this way.

Dr. MINOT could not say, as he only had the report which Dr. Wilbur had sent to him.

Dr. ELLIS said that patients do die suddenly in this way from pneumonia, and that the symptoms as stated in this case pointed towards that disease.

Dr. STEEDMAN mentioned the case of a young man who had come into the hospital, during his term of

service, with fluid in the left chest, for which he was aspirated. A week or ten days later he was again aspirated, when he suddenly had a hæmoptysis, and died. There were no signs of aneurism. He did not know how much the thoracentesis had to do with the death, as he had never been able to give a satisfactory cause for the fatal issue of the case.

Dr. WHEELER said that he had lately seen a case where extreme dyspnea had occurred, and a latent pleuritic effusion not recognized before. Dr. Wheeler aspirated and found pus. He would ask Dr. Minor whether he thought a permanent opening was advisable in this case.

Dr. MINOR said that he thought it was.

Dr. BOWDITCH spoke in reference to permanent openings; they sometimes do badly, and the question is whether in some cases of empyema, instead of making a permanent opening as soon as pus appears, we should not make frequent aspirations, and instanced several cases in support of this, especially in children, where there is no need of making a permanent opening at first, as they may get well with aspiration.

Dr. BRADFORD showed a "club-foot stretcher," devised by Dr. T. G. Morton, of Philadelphia, to be used in old cases of club-foot, where tenotomy alone was not sufficient. Dr. Bradford had found the application of use in one case where he had tried it. The apparatus is described in the Surgical Report of the Pennsylvania Hospital.

Recent Literature.

The Hair: Its Growth, Care, Diseases, and Treatment.

By C. HENRI LEONARD, M. A., M. D., etc. Detroit: C. Henri Leonard, Medical Book Publisher. 1880.

We have here a small treatise of 312 pages, illustrated by 116 engravings. It is intended, evidently, for the laity quite as much as for the profession, and is meant merely as a forerunner of a future larger and more scientific work. The writer believes in the "possibility of the classification of animals from the differences in the microscopical structure of their hair shafts." And why not? In 1853 Dr. Holmes derided "ex pede Herculeum," and suggested the substitution of "ex ungue minimi digiti pedis, Herculeum, ejusque patrem, matrem, avos et proavos, filios, nepotes et pronepotes." And the world is still moving, though slowly.

We learn that London and Paris each consume annually over 100,000 pounds of human hair, a load for a train of twenty freight cars; that the hairs of a single average head would more than hold supported two hundred people, and could the covering scales be taken from the head hairs of the citizens of Chicago, and placed edgewise, they would make a footwalk over one hundred miles in length; that Absalom cut his hair once a year, shearing off six and one sixth pounds at a time; that an individual hair is finer in the negro than in the Caucasian, and in man than in woman; that blondes are disappearing from the Caucasian race, statistics showing also that hymenically a blonde stands three chances of failure to two chances on the part of a brunette; that, according to Pliny, the Persians counteracted the odors of their persons, due to dirt, by the use of perfumes [a method still in vogue amongst the laziest of the vulgar. — Rer.]; that the vocation of the wig-maker is rendered profitable by

close curling, crimping with hot irons, dyeing or bleaching, and uncleanness; that the prolonged use of facial cosmetics may cause death, as in the case of the late G. L. Fox [Humpty Dumpty]; that Edwin Smith, of Fairfield, Lenawee County, Mich., aged forty-five, had, when seen, a beard measuring seven feet in length; that Margaret, the Duchess of Parma in the time of Philip II., sported a long mustache; that the Cyprian Venus was represented with a beard, and the Athenian ladies, according to Suidas [tenth century], used to wear false beards when unsuccessful in raising what nature had denied them. In short, the book is a compilation of facts which may afford interesting reading for physicians or laity, and an unassuming treatise upon the diagnosis and treatment of diseases of the hair, the nomenclature and treatment being pretty well up to the times and though largely based upon, yet an improvement in some respects on, English views in regard to these matters. It is entertaining reading, suggestive, will prove of use to the general practitioner, and does credit to the energy and industry of its writer.

Students' Guide to the Diseases of Women. By A. L. GALABIN, M. D. Philadelphia: Lindsay and Blakiston. 1879.

From the condensed account of the Diseases of Women contained in this book, the author has omitted such subjects as extra-uterine fetation and retroversion of the pregnant uterus; also the description of several most important operations, as those for rupture of the perineum and for vesico-vaginal fistula.

For examining the interior of the uterus, preference is given to the sound, the objection offered to the probe passed through the speculum being that the "position of the uterus may be modified by the introduction of the speculum;" and yet the author virtually discards this objection in the very next sentence, when he says, "Moreover, the operator" — by using the probe — "thus sacrifices the great aid which the finger may sometimes afford in the case of flexion, by lifting up the fundus, and so partially straightening the uterus," — a procedure which modifies the position most materially. We feel sure that for delicacy of examination and accuracy of diagnosis the uterine probe is far superior to the sound.

The author's remarks on the Dangers from the Use of Tents, and Precautions Required, are the best which we remember to have seen. Among the causes of prolapse associated with elongation of the supra-vaginal cervix, we find one not commonly referred to, namely, when the cervix is already partially prolapsed, it is extruded through the vulva by any sudden effort, and is there gripped and partially strangulated, and its return prevented for a greater or less time, while the force of the elastic attachments above is constantly exerted to restore the organ to its normal position. We remember one case in our own practice which quite verifies this statement.

In speaking of the treatment of fibroids (sub-mucous) by enucleation, the author does not seem familiar with Emmet's method of removal by traction, and advises means which appear to us much more dangerous to the patient and annoying to the operator.

The volume contains twelve chapters, the arrangements of which are mostly based on their pathological bearings. For so small a work, the pathology of the subjects is well introduced.

Medical and Surgical Journal.

THURSDAY, APRIL 22, 1880.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly by Houghton, Osgood and Company, Boston. Price, 15 cents a number: \$5 00 a year, including postage.

All communications for the Editors, and all books for review, should be addressed to the Editors of the Boston Medical and Surgical Journal.

Remittances by mail should be sent by money-order, draft, or registered letter to Houghton, Osgood and Company, Boston, Mass.

HEALTH LEGISLATION AT WASHINGTON.

A BILL, which will be found elsewhere, has been introduced in the senate by Senator Harris, of Tennessee, to increase the efficiency of the National Board of Health. Some opposition has been manifested to the first section, especially, on the ground of its giving too much power to the board, and interfering with state, with local, and with individual rights. This section provides that the board, or, in the interval of its sessions, its executive committee, shall report to the president when any place in the United States is considered by it to be dangerously infected with contagious or infectious disease, and upon official publication by the president of such report the transportation of goods or persons from such place into another State shall be unlawful, unless carried on in accordance with rules and regulations made by the National Board of Health and approved by the president; and these rules shall apply until the president, having in the mean time received a weekly report from the board upon the sanitary condition of the place in question, shall proclaim it to be no longer dangerously infected. State susceptibilities are consulted in this section by the restriction of power to restraining transportation from one State to another, but one object undoubtedly is to offer to the various local authorities and petty boards of health, with crude and conflicting views and rules or none at all, a well-considered, intelligent, and uniform standard of principle and action, so that the intelligence of the towns will induce them to voluntarily adopt a policy toward each other, the beneficial effects of which they may see in operation between the States. The duty of a national board is not simply to control a system of quarantine, and to protect the country at large at certain critical periods from an invasion of an epidemic disease, but it has the much more important and constant duty — which the present organization deserves credit for bearing in mind as far as possible during its short and arduous existence — of advancing sanitary knowledge, of teaching the people in different parts of the country, and putting them in a position to protect themselves, both against the pestilence which comes from without and against the disease which is the result of their own ignorance. A board without authority and without appropriations can perform neither of these duties, nor does it command attention. The very parts of the country which witnessed the unnecessary cruelties and suffered from the disastrous obstructions of non-intercourse, enforced at times even by shot-guns in the hands of excited, unreasoning, irresponsible agents,

should be the first, and we believe they will not be the last, to appreciate the reasons for supporting this first section of the bill.

The board, moreover, desires to erect four complete quarantine establishments, — one near the mouth of Chesapeake Bay, one on the coast of Georgia, one on the Gulf coast of Mississippi, and one at Galveston, to which infected ships arriving at ports along the coast may be sent for cleansing and purification; the multiplication of petty stations would thus be dispensed with. For this purpose, and for making investigations into the causes and best means of preventing certain diseases and diffusing information on sanitary subjects, an appropriation of one hundred thousand dollars is asked, which will be needed in addition to the balance now on hand between now and June 30, 1881. The board also advises that an additional one hundred thousand dollars be appropriated, to be used, in the event of the appearance of yellow fever in the country, to aid state and local authorities in restraining the spread of the disease.

There seems to be some hesitation on the part of the committee on appropriations of the house of representatives about acceding to these demands, which we do not believe to be justified by the wishes and interests of their constituents. The sum demanded is not excessive for the purposes specified, and in view of the approach of summer, the existence of yellow fever in an active form at Rio Janeiro, and the work to be done, these objects are especially commendable. The money is certainly quite safe with the board, and a refusal to make the appropriation might, under certain circumstances, entail grave responsibilities.

MEDICAL NOTES.

— We regret to be obliged to announce the sudden death of Dr. Henry Clarke, of Worcester, on the 17th inst., from pneumonia. A graduate of Harvard in 1850, he has been a prominent practitioner in his own city for many years, and has been a highly esteemed and respected member of the Massachusetts Medical Society. He was much interested in the operation of ovariectomy, and in a very recent number of the *JOURNAL* reported several cases.

— Readers who notice in the *JOURNAL* for April 15th our request for opinions in regard to the usefulness of condensed milk as a food for infants will please include in their replies mention of the *kind*, or brand, of condensed milk they prefer, and their reasons for the preference.

— Javal, director of the Laboratory of Ophthalmology in Sorbonne, having made a study of the causes of fatigue in reading, concludes that, "other things being equal, the legibility of a printed page does not depend upon the height of the letters, but upon their breadth." Fatigue of the eyes he believes to be due to a permanent tension of accommodation.

— The *Union médicale* tells this story of what the *Medical Times* and *Gazette* truly terms "a colossal prescription." "A practitioner, who was called from Châlons to a neighboring commune, forgot his memo-

random book. When he had seen his patient he called for pencil and paper in order to write a prescription. This village, not having shared the benefits of a compulsory education, did not quickly furnish the desired implements. The doctor, tired of waiting, wrote his prescription on a barn door with some charcoal, and left. The relatives of the patient, being puzzled by the writing (which perhaps is not surprising), conceived the happy idea of unhinging the door and sending it to the apothecary. It duly arrived in a cart; the recipe was read from the pavement and duly dispensed."

— M. Palailon recently read before the Paris Academy of Sciences the results of his researches on the movements of the uterus. A registering apparatus and manometer were connected with the enlarging instrument sometimes introduced into that organ. The author calculated the specific force of the uterus to be about 178, and therefore very much below the force of striated muscles in man, which is about 1087. Uterine contraction produces a regular movement without shock, and is remarkable for its length, nearly two minutes (contraction and relaxation together, the former being the shorter). Violent respiratory movements raise the pressure considerably.

— Another medical student of the Hôpital des Enfants Malades, of Paris, has fallen a victim to diphtheria — the seventh student who has died of diphtheria contracted in this hospital. The *British Medical Journal* thinks these melancholy facts speak highly for the devotion of the young men, but probably also denote the unsanitary condition of French hospitals.

— In the Phipps Street Cemetery in Charlestown is the following inscription on a tombstone: —

Here lies Interred ye Body of Mrs. Elizabeth Phillips Wife to Mr. Eleazer Phillips Who was Born in Weitminter in Great Britain & Commissioned by John Lord Bishop of London in ye Year 1718 to ye Office of a Midwife & came to this Country in ye Year 1719 & by ye Blessing of God has Brought into this World above 3000 Children.

Died May 6th 1761. Aged 76 Years.

— We find the following in the *Canada Lancet*: "There is no telling what the ignorance, boldness, and complete self-possession of an impostor will do toward inspiring confidence among unthinking people; and there is no accounting for the mania with which people thirst after humbugs and deceptions. The truth is far too tame and uninteresting for many people; in order to be fascinated they must be fed on fiction."

— Ligatures made from the carbolized tendon of the kangaroo's tail are said to be of great value for tying vessels even of the largest calibre, being stronger, more durable, and far less liable to slip or break than the catgut ligature. Kangaroos are not so plentiful in this country as cats, but readers interested in the mode of preparing this new form of ligature will find details in the *Medical Times and Gazette* for March 13th.

— Dr. Vidal, *Progrès médical*, November 28, 1879, gives his reasons for asserting that in ulcer of the

stomach the patient commonly has a painful spot over the spinous process of the sixth dorsal vertebra, and in affections of the liver a painful spot at the spinous process of the fourth dorsal vertebra. In perityphlitis patients complain of a painful point at the junction of the second and third dorsal vertebra on the left side.

— In remarking upon a recent *concours* held in Chicago, the *British Medical Journal* says, "It is only in cities so 'organized' as Paris or so young as Chicago that a *concours* is required for the office of teacher and lecturer. In London, at least, students are kept well in their place; they *must* attend the lectures, and all the lectures, and none but the lecture nominated, or they will never get their certificates signed; and since the lecturer is sure of his class within moderate limits, whether he be audible or inaudible, whether he recite a text-book or indulge in the inordinate development of a taste for monologue or for crotchet, it is natural that there is in our London schools a large amount of inefficient lecturing, and much room for that stirring breath of reform which a system of *concours* would blow in upon the schools."

— M. Fournié has been led to conclude that the Eustachian tube is constantly open. The muscles attached, in his opinion, are not dilators, but constrictors, which close the tube during mastication and speaking. The renewal of air in the middle ear is produced by a sort of respiration, in which the constrictor muscles act as expirators.

— Dr. Purgesz, of Pesth, relates a case of poisoning by two and one half grains of sulphate of atropia, which recovered in three days under the use of a centigramme of muriate of pilocarpine every five or ten minutes, until sixteen centigrammes had been taken.

— The discussion of the merits of medical candidates for election to Parliament is a curious feature, just now, of English medical journals.

— The *Transactions of the Odontological Society of Great Britain* for March contains a photograph of a curious Hindoo bas-relief, representing a group of monkeys engaged in extracting a man's tooth. The unfortunate individual is bound, and the tooth is held in the grasp of a very primitive-looking extracting instrument (resembling somewhat the large claw of a crustacean), to which a small elephant is attached by means of tackles. The piece of sculpture was found in a ruined temple near Allahabad, known as the Stupa of Bharhut, and was more than two thousand years old, the temple having been built about the year 300 B. C.

— In the *British Medical Journal* Dr. W. Macfie Campbell writes: A case of stricture was admitted into hospital. There had been retention for some time, and no instrument could be passed. The aspirator was therefore used by the house surgeon with immediate relief. Next day, as catheterism again failed, aspiration was employed again. When I saw him on the following day I managed to pass a filiform bougie upon which a urethrotome was led, and the stricture divided internally. His progress was good for a day or two, when some inflammation appeared at one of

the aspirator punctures. An abscess formed, peritonitis came on, and the patient died. If aspiration has been performed, the bladder must be kept distended, as the fatal result was evidently due to the distended bladder, after the first aspiration, forcing some urine into the tissues. Tapping the bladder per rectum is much safer and altogether more satisfactory.

— News from Calcutta (*Lancet*, March 20th) states the probable appearance of beri-beri in that city. The disease, although familiar enough in Madras and Ceylon, does not appear to have been observed in Calcutta before. The symptoms as described are swelling of limbs, fever, occasional disturbance of the bowels, often burning and pain in the affected limbs, shortness of breathing, and great emaciation in fatal cases. Death is generally sudden. Showing itself first in the southern part of the city, the disease has gradually spread to the northern. Hitherto Europeans have escaped the malady, the natives, Circassians, and Armenians alone having suffered; and this notwithstanding that the disease chiefly prevails in the European quarter. Whole families have been seized, and its "localization" is said to be pronounced. The malady is reported to be dying out, but its reappearance in the rainy season is anticipated.

— The College of Physicians and Surgeons offers a prize for 1881 of \$500, for any subject in medicine or surgery. The alumni of the college alone are allowed to compete. We believe this is the largest medical prize offered in this country. A similar prize will be given in 1882.

— Dr. Edward T. Williams, physician of the Sea Shore Home, at Winthrop, in submitting the fifth annual report of the Home, states that the house was opened on the 3d of July and closed on the 9th of September, a period of sixty-nine days. The whole number of inmates was two hundred and eighty-five. Their ages were as follow:—

Under three months.....	2
Between three and six months.....	10
Between six months and one year.....	22
Between one and two years.....	34
Between two and three years.....	17
Between three and five years.....	38
Between five and ten years.....	48
Between ten and fifteen years.....	19
Between fifteen and twenty years.....	4
Over twenty years.....	91

The whole number of children, therefore, or persons under twenty years of age, was one hundred and ninety-four. The diseases of these children were as follows:—

Cholera infantum.....	21
Dysentery.....	3
Diarrhoea.....	63
Simple debility.....	35
Other diseases.....	72
Total.....	194

There were but two deaths, one from cholera infantum and one from convulsions.

— The waterproof paper originated by Dr. W. W. Keen, of Philadelphia, is sold under the name of "Mead's Surgical Dressing Paper." Dr. Jones, ex-president of the Ohio Medical Society, says of it,

"This paper provides an excellent substitute for oiled silk or rubber tissue at a trifling cost as compared with these articles. Besides its use in surgery, the ordinary practitioner of medicine can make this paper available as a covering for wet applications (either general or local), and give his patient the benefit of a continuous bath when desirable, with a trifling amount of trouble and cost. Dr. Keen is entitled to the gratitude of the profession and our patients." In a former allusion to this paper we mentioned the cost of it as being four cents per yard. We should have said that except in large quantities the selling price is seven cents the yard.

— The *Louisville Medical News* says, "A cross-grained Boston doctor claims that the faculty of Harvard Medical College is composed of men who are either 'effete reminiscences of other days, or the mere accidental appointees of a system of disgraceful wire-pulling.'"

— In an editorial on Pay Hospitals, suggested by Mr. Burdett's book on that subject, the *New York Medical Record* refers approvingly to the Carney Hospital, at South Boston. The advantages of this institution have undoubtedly been appreciated by the public, of late years; but as it shelters many sick and infirm people who pay little or nothing, and as to all this large class the services of the staff are still entirely gratuitous, more ample funds would enable this hospital to do greater justice to the demands made upon it. The management and nursing are, moreover, in the hands of Sisters of the Roman Catholic Church, so that its expenses are reduced to a minimum.

— "Some time ago," says the *Pacific Medical and Surgical Journal*, "we mentioned the fact of the County Hospital at Sacramento being placed in the hands of the homœopaths. Among the drugs used by them and paid for by the city, according to the published statement of Dr. Tyrell, were fourteen hundred and fifty two-grain quinine pills and three pounds of salicylic acid supplied by one druggist, and three hundred two-grain quinine pills, one ounce of quinine, and a considerable quantity of morphia by another. In fact, the medicine bill was so high that from this cause, in part, the authorities removed the homœopathic doctor, and appointed a 'regular.' It is time for homœopaths to throw off the mask with which they have been deceiving the public, and to make an honest confession that they cannot cure disease without resorting to the regular system."

— Dr. Wm. Strew, of New York city, has brought suit against the *Herald and Telegram* for fifty thousand dollars. He claims that he lost his position as medical superintendent of the insane asylum on Blackwell's Island through false publications in those papers.

— Cincinnati has four bogus medical colleges engaged in manufacturing diplomas. The names of these institutions are the Physio-Eclectic Medical College, the Physio-Medical College, the American Eclectic College, and the American Vitopathic College.

— Efforts are being made to pass a bill in the Ohio legislature "for the establishment of a board of health and the regulation of the practice of medicine."

—It is stated upon the authority of Mr. Lewis, a nephew of General Washington, that Dr. James Craik, his family physician, was the only man between whom and Washington there had always been entire unreserve and confidence.

PROVIDENCE.

—At a recent meeting of the Rhode Island Homœopathic Hospital Aid Association, a committee was appointed to memorialize the city council of the city of Providence and the General Assembly of the State, for the purpose of securing from the former a portion of the amount annually appropriated for the medical treatment of the city poor, and from the latter the privilege of locating a homœopathic dispensary within the buildings of the Rhode Island Hospital. The amount of the appropriation for the sick poor of the city is six hundred dollars per year, which sum is placed in the hands of the overseer of the poor, an officer elected by popular vote, to be applied in whatever manner he may think best. He has divided the city into three districts, and appointed a regular physician for each. These physicians are required to furnish medicines as well as advice to the patients under their care. Applicants for medical aid must first obtain an order from the overseer of the poor, and the fact that this officer has held his present position for seventeen years, and is personally acquainted with the circumstances of nearly every poor family in the city, is a sufficient guaranty against any abuse of this charity. Thus the whole matter is under his exclusive control, and is entirely independent of any action of the city council. The Rhode Island Hospital is an institution founded and supported wholly by private benevolence. It is governed by a board of trustees, elected annually by the corporation. Neither the city nor the State contributes anything to its support, nor holds any control over its management. In view of all these facts it is not at all probable that the action of the homœopaths will be attended by such satisfactory results as were anticipated by the initiators of the movement.

NEW YORK.

—The whole profession sympathizes very deeply with Professors Sayre and Loomis in their recent sad bereavements. The eldest child of the former, Dr. Charles Henry Hall Sayre, died on the 11th, and the wife of the latter on the 14th, of April. The death of young Dr. Sayre was due to secondary hæmorrhage following a very severe compound comminuted fracture of the femur, which he received by a fall of twenty feet into the basement area of the Gilsey House, six days previously. Drs. Markoe, Wood, and other well-known surgeons were in attendance, but the amount of blood lost was so great that collapse ensued before the hæmorrhage could be effectually controlled. The autopsy showed that there was very extensive sloughing of the tissues, and that the fatal hæmorrhage was due to an orifice in the walls of the *profunda femoris*, which was probably perforated by a spicula of bone at the time of the accident. After the fracture the fragments protruded to such an extent that it was

necessary to saw off their ends before they could be replaced. By long association with his illustrious father, Dr. Sayre had acquired remarkable skill in those departments to which his practice was principally confined, and his warm-hearted, generous, and impulsive nature had won him hosts of devoted friends in every circle of society. At the time the injury was received he was engaged, on behalf of the finance committee of the American Medical Association, in soliciting subscriptions towards defraying the expenses of the coming meeting of the association from some of the principal hotel proprietors of the city.

The funeral services were held at the house of Professor Sayre on the 14th, and so great was the attendance that large numbers of friends were obliged to go away without being able to gain admission. An eloquent eulogy was pronounced by the Rev. Dr. William Ormiston, an intimate friend of the family, and the body was then interred in the family vault at St. Andrew's Church in Harlem. Mrs. Sayre's father was the former owner of the land on which St. Andrew's stands, and he presented it to the church, reserving, however, a burial lot for the use of his descendants. After the funeral the floral offerings, which were very numerous and beautiful, were sent by Professor and Mrs. Sayre to be distributed among the patients at Bellevue Hospital.

—Dr. Henri Wachtel, who has been engaged for some months in organizing for New York a system of night medical service such as exists in Paris and other European cities, has finally perfected his scheme. A petition and bill have been sent to Albany. Senator Strahan agreed to introduce the bill, providing the scheme received the approval of the faculty. Dr. Wachtel procured without difficulty the signatures of most of the best known medical men in the city to the petition. Among them are Fordyce Barker, Thomas Van Buren, E. D. Keyes, George F. Shady, Austin Flint, Isaac Taylor, J. Marion Sims, Alfred C. Post, E. C. Seguin, Austin Flint, Jr., H. B. Sands, Alfred L. Loomis, and William A. Hammond.

The bill is modeled upon the French statute, and is entitled "An act to organize a night medical service in the city of New York, and to provide medical assistance in cases of sudden sickness or accident during the night-time." In the bill it is provided that the captain of each police precinct shall keep a list of physicians in good standing who may present their names. Upon application of any person, the physician living nearest to the house of the patient is to be informed by the police of the application and conducted to the proper place. A careful statistical record is to be kept of all cases, the names and addresses of the patients being always suppressed. In case the patient is not able to pay, the visiting physician is entitled to receive a fee of \$3 from the public treasury, on presentation of a certificate indorsed by the captain of the precinct in which the visit was made. Police captains may also cause the list of physicians to be posted in hotels and district telegraph offices. The bill further provides for the annual appropriation of \$2000, for the support of the service.

PHILADELPHIA.

— At the last meeting of the College of Physicians, Professor Da Costa reported three cases, occurring in one family, of death from what he termed "starvation fever," for want of a more distinctive title. The cause appeared to be very clearly due to imperfect or insufficient nutrition, and they presented many of the characteristics of cerebro-spinal fever; although no lesions, beyond marked paleness of the mucous lining of the intestinal canal, were observed. At the same meeting, Professor Henry C. Chapman read an obituary address upon the late Professor Meigs.

— A very convenient method of testing urine for sugar has been recently made available, which is far superior to any of the test solutions now in use. Dr. Pavy proposed (January 23, 1880) to the Clinical Society of London the use of "cupric test pellets" (of solid Fehling's solution), which are to be dissolved in water at the time of examination of the urine. At the suggestion of Dr. Jos. S. Neff, of this city, Mr. McKelway, one of our leading druggists, has prepared these pellets in the form of compressed pills. As they are made of a definite weight, they can be used not only for qualitative but also for quantitative analysis; each pellet representing one cubic centimetre of Fehling's test, and each, when dissolved in distilled water, being reduced by five milligrammes of glucose. In view of the instability of Fehling's test solution, the method here described has much to commend it. (See *Phila. Med. and Surg. Rep.*, April 10, 1880, for original article of Dr. Neff.)

— Dr. J. Solis Cohen has been using oxygen inhalations after tracheotomy for croup, with good temporary results.

— There has been a mild epidemic of measles in progress in this city for several months, but within a very short period the cases have rapidly increased. Small-pox continues to give about one death per week, but has not at any time this winter reached the proportions of an epidemic. Diphtheria is quite prevalent; and so is typhoid fever, although to a less extent. The president of the Philadelphia County Medical Society, Dr. Albert H. Smith, is seriously sick with typhoid.

— The thirty-first annual session of the Pennsylvania State Medical Society will be held at Altoona, on Wednesday, May 19, 1880. Dr. Andrew Nebinger is president of the society, and Dr. John Fay, of Altoona, chairman of the committee of arrangements. A large and interesting meeting is anticipated.

WASHINGTON.

— The United States senate has at last passed a resolution legalizing the health ordinances and regulations for the District of Columbia; but of course it had to be debated, and one vote, at least, was cast against it for the expressed reason that, among other things, it was too arbitrary in declaring the ailanthus-tree a nuisance injurious to health.

— On April 14th a memorial was introduced in the house of representatives from the State Board of Health of Mississippi, to the effect that the National

Board of Health has promptly extended during the past year all the aid needed to protect the State against another epidemic visitation of yellow fever, and expressing in the most emphatic manner the opinion that the affairs of the National Board of Health have been administered with great prudence and ability; viewing with a feeling of great concern the indications of a prejudiced hostility to the National Board of Health, which have been manifested in certain quarters, and urging the senators and representatives of Mississippi in the Congress of the United States to support the National Board in its laudable efforts to carry out the great work imposed upon it; and declaring, finally, "that we cannot efficiently discharge our duty without the aid and coöperation of the National Board of Health, and that any action on the part of Congress tending to restrict the power, or to withhold the means needed to carry out the recommendations made in connection with the National Academy of Sciences by the National Board of Health in its annual report, would be regarded by us as a direct blow at the most vital interests of our beloved State."

Miscellany.

FATAL USE OF THE ASPIRATOR.

MR. EDITOR.—Hall C. Wyman, of Detroit, in volume vii. of the Transactions of the State Medical Society of Michigan for 1879, has an important and interesting paper, describing a case of Fatal Use of the Aspirator, and Experiments on the Introduction of Air into the Veins, which should, I think, be published in every medical journal in the country. Meantime, the aspirator having been a favorite with us, and in daily use by the profession at this time, allow me through the JOURNAL to call attention to the article that a possible repetition of the misadventure may perhaps be avoided.

In the case reported, aspiration some three months before, for the removal of a quantity of pus from the pelvis, had been followed by much relief. The symptoms having returned, the needle was again introduced through the vagina to the left of the uterus, a distance of three fourths of an inch. As soon as the pumping was commenced the patient manifested pain, became convulsed, and grew purple. Congestion of all the superficial veins followed, though the needle was immediately withdrawn as soon as the symptoms began, when no more than four or five strokes had been made. In three minutes the patient was comatose, and in ten minutes the heart ceased to pulsate.

"The autopsy revealed a small punctured wound on the left side of the vagina, one and a half inches before its juncture with the uterus. The probe passed upward and to the left three fourths of an inch in the direction of a soft tumor in the uterus. Around the track followed by the probe was no more than a teaspoonful of clotted blood. A close network of small veins was traversed by the puncture just outside of the vagina, but after the most diligent search it was seen that no important blood-vessel had been touched. The areolar tissue about the uterus contained air. The left lung was much congested. The right chambers of the heart were filled with air, and contained no blood. The left chambers were empty. The valves were nor-

mal. The veins of the stomach were distended with air, presenting the appearance of pale round worms," etc.

The above-described amount of air found in the vessels and tissues can be explained only on the supposition that the valves of the aspirator were accidentally set for condensation instead of aspiration; or that they worked imperfectly from want of care or other cause; or that *when the instrument is in perfect order and the needle introduced the working of the piston may carry or admit into the tissues air enough to cause death, although insufficient to work its valves regularly.* Experience has shown, apparently, that for the entrance of air into the venous system its contact with an open vein or veins situated near the heart or interiorly was necessary. The alternate contractions and dilatations of the right heart tend constantly to draw the contents of the venous system into its chambers, and thus under certain circumstances to facilitate the rapid entrance of air into the circulation.

If one death has occurred from the admission of air into the veins through the aspirator, what shall be done to prevent further accidents of the kind? Dr. Wyman says, "Aspirators should be provided with a check valve at the mouth of the tube which communicates with the needle;" but we already have one check valve between the pump and the receiver to stop the entrance of air towards the body on the descent of the piston. If this at times has been found ineffectual, will it do to trust another instrument of the same kind?

My method of making an exploratory puncture has been first to exhaust the receiver as perfectly as possible, close the stop cocks, introduce the needle, and open the stop-cock connecting it with the receiver; and if no discharge appears after proper manipulation of the needle any additional "pumping" would, I think, be at least useless, and, as we have seen, might result fatally. As a precaution against the possible absorption of the air contained in the needle tube communication with the receiver should be opened as soon as the needle has penetrated the skin. When the expected discharge flows but slowly the vacuum can be removed, safely I think, by more or less pumping, as found necessary, or the stop-cock connecting the needle with the receiver may be closed, if preferred.

With these precautions against the introduction of air by the aspirator, we believe no fatal results can occur from that cause.

S. PUTNAM, M. D.

MONTPELIER, VT., April 13, 1880.

THE PLACENTAL SITE.

MR. EDITOR.—In your first number of the present year, page 9, under the head of Recent Progress in Obstetrics, your collaborator speaks of a peculiar condition of the uterus at the site of the placenta which had been observed by Dr. Roper, of London; a footnote refers to the London *Lancet* for October 25, 1879. I had made the same observation more than two years before, which observation was not published, however, till February, 1879. If you will have the kindness to refer to page 175 of the February (1879) number of the Chicago *Journal and Examiner* (one of your exchanges, I believe), you will see that I spoke of this peculiar condition of the uterine tissue at the placental site at the meeting of the Chicago Gynaecological So-

ciety, held December 27, 1878, nearly a year before Dr. Roper's observation in the *Lancet*.

I wrote this gentleman upon the subject, and also sent him a reprint containing my remarks. In reply I received a letter courteously allowing the evidence of my priority in this matter (which I beg you to regard not too trivial), and I should feel obliged if you would call it to the attention of your readers.

EDWARD WARREN SAWYER.

CHICAGO, April 14, 1880.

A BILL TO INCREASE THE EFFICIENCY OF THE NATIONAL BOARD OF HEALTH.

Be it enacted by the senate and house of representatives of the United States of America in Congress assembled, That the National Board of Health, or, in the interval of its sessions, its executive committee, as hereinafter provided, shall report to the president of the United States when any place in the United States is considered by it to be dangerously infected with contagious or infectious disease; and that upon official publication, by the president, of such report, the transportation of goods or persons from such place into another State shall be unlawful, and all persons guilty thereof shall be liable to prosecution therefor in the circuit or district court of the United States for any district within which such goods or persons shall be transported; and any goods so transported shall be liable to be seized and destroyed, unless such transportation shall be carried on in accordance with rules and regulations made by the National Board of Health and approved by the president, as in other cases. These rules shall apply until the president shall proclaim such place no longer dangerously infected, and in the mean time the board, or its executive committee, shall report to him weekly, in writing, the sanitary condition of the place in question.

Sec. 2. That the commanding officers of all merchant vessels entering any port of the United States from any foreign port or ports situated between the parallels of thirty degrees south latitude and forty degrees north latitude, or upon the Mediterranean Sea, shall, upon demand therefor, produce and deliver to the customs officer of the port of entry a bill or bills of health for such vessel, signed by the consul, vice-consul, or other consular officer of the United States at such port or ports of departure, or from the medical officer at such port or ports, where one has been appointed or detailed for that purpose (such bill or bills to be in accordance with the forms and regulations prepared for that purpose by the board and approved by the president), and in case of non-compliance therewith they shall be liable to the penalties provided by Section 1 of the "Act to prevent the introduction of contagious and infectious diseases into the United States," approved June 2, 1879; that the collectors of customs shall forward monthly to the National Board of Health, through the secretary of the treasury, the bills of health delivered to them during the preceding month by vessels from either foreign or domestic ports, or copies thereof duly certified.

Sec. 3. That whenever, upon an application by the board for a detail of a medical officer as provided in Section 2 of the "Act to prevent the introduction of contagious and infectious diseases into the United States," approved June 2, 1879, it shall appear to the

president that such detail cannot conveniently be made, and such decision shall be communicated by him to such board, the board shall be authorized to appoint such medical officer at its discretion, and, if so appointed, his salary shall be paid out of the appropriation under its control.

Sec. 4. That the board is authorized to confer, from time to time, upon an executive committee, consisting of not less than five of its members, such powers and duties as it may deem advisable, but any such extraordinary delegation of powers shall be in force only until the next meeting of the board, and thereupon shall cease unless renewed.

Sec. 5. That the board is authorized to print its annual report for the year ending December 31, 1879, with the appended documents, and to have the necessary illustrations prepared for the same, at a cost not to exceed eight thousand dollars.

ELASTIC LIGATURE FOR THE CORD.

MR. EDITOR, — The *American Journal of Medical Sciences*, page 567, says that "Dr. P. Budin, of Paris, uses a caution thread to ligature the funis, if bleeding is feared." For years I have used india-rubber bands, for sale anywhere at stationers for this purpose. Put around twice or more times, according to the size of the cord. It tightens as Wharton's jelly issues, and the cord becomes smaller. JAMES O. WHITNEY.

PAWTUCKET, R. I.

SALE OF DIPLOMAS.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
WASHINGTON, D. C. March 26, 1880.

DEAR SIR, — I have the honor to invite your attention to the following important letter from the United States Minister at Berlin of the 2d ultimo, and to the communication from the Honorable the Secretary of State transmitting the same to the Honorable the Secretary of the Interior, by whom the paper was referred to me.

The issue of fraudulent diplomas by so-called institutions of learning in our country has been brought in many ways, and often, to the attention of this office; the institution named in Mr. White's letter is not the only one of this kind known here.

The accompanying data bring on the character of these disgraceful transactions quite unmistakably. After reading them, I trust that you will cooperate in the detection of the offenders and the prevention of a practice so injurious to the credit of learning in the United States, and so opposed to the laws and practices of other nations.

Very respectfully, your obedient servant,
JOHN EATON, Commissioner.

MR. EVARTS TO MR. SCHURZ.

DEPARTMENT OF STATE,
WASHINGTON, March 12, 1880.

SIR, — I have the honor to transmit herewith for your information a copy of a dispatch (No. 87) of the 2d ultimo, from Mr. White, the Minister of the United States at Berlin, in relation to spurious diplomas issued by a so-called American University at Philadelphia. I beg to express the hope that it will be found practicable to devise measures, through the Bureau of Education or otherwise, for the effectual suppression of the practice of issuing spurious diplomas at Philadelphia, which is proving so injurious to the reputation of this country with respect to higher education.

I have the honor to be, sir, your obedient servant,
WM. M. EVARTS.

The Honorable CARL SCHURZ, Secretary of the Interior.

MR. WHITE TO MR. EVARTS.

LEGATION OF THE UNITED STATES,
BERLIN, February 2, 1880.

SIR, — I regret to state that there seems to be a revival here of the sale of diplomas purporting to be issued by an institution of learning in the United States.

Some weeks since a Mr. Pappenheim brought me a diploma, engrossed on parchment in very handsome style, and issued nominally by "the American University at Philadelphia," conferring the degree of doctor of medicine upon one Christopher Schuetz, living, as I understand it, at Leipzig. It would appear that the diploma was offered to Schuetz upon condition of his paying a sum of money for it. It bears the signatures of a number of persons claiming to be professors in the aforesaid university, at the head of them being the signature of "John Buchanan, M. D." Schuetz desired the Legation to give him a declaration of its genuineness and value, which I refused to do. One peculiar feature of the diploma was that, although evidently entirely new and recently issued, it was dated 1872.

About ten days since another and more serious case was brought to my notice. The judicial authorities at Prenzlau forwarded a copy (which I inclose) of a diploma issued by the same alleged institution to Paul Christoph Erdmann Volland, and signed by a faculty at the head of which appeared the same name of "John Buchanan, M. D." The authorities at Prenzlau asked the Legation regarding the genuineness of the diploma and the standing of the institution, it being with them a question whether Volland could be allowed to practice his profession under such a diploma.

After looking through the correspondence on record in this Legation (a memorandum of which is inclosed), and seeking in vain for the name of the institution in the list of colleges and universities published by the Bureau of Education in the Department of the Interior, at Washington, my answer was unfavorable to Volland's claim.

From the correspondence above referred to, I find that attempts have been made by the legislature of Pennsylvania for the suppression of this nuisance; but that, after all, it is a question whether these attempts have been successful, and whether the institution has not still a legal existence. This being the case, I would respectfully suggest that the matter be brought to the notice of the Commissioner of Education in the Department of the Interior, at Washington, and that he forward me any documents or information in his possession regarding the subject.

You will observe among the papers accompanying the diploma of Volland something much more serious than the diploma itself, and that is the authentication of it by Philip A. Cregar or Gregar, notary public of Philadelphia; and I bring this matter especially to the notice of the Department hoping that something may be done to prevent officials in Pennsylvania lending themselves to what undoubtedly is a fraud, whether under the forms of law or not.

That such cases as these have brought disgrace upon the American system of advanced education and upon the American name in general is certain. This has been recently revealed to me incidentally in a curious way: in a very successful play now running at the Royal Theatre in this city, a play written, strangely enough, by a judge of one of the highest tribunals in the empire, one of the characters, in casting a reflection upon another who is dignified with the title of doctor, declares a belief that the latter had simply bought his degree in America; and in a recent novel, by a popular author here, the scoundrel of the book, having escaped justice in Germany, goes to America, and is at last advised very comfortably settled, and practicing medicine with a sham diploma which he has bought for money.

All this, of course, is of no especial significance in this case, save as it shows that the fair fame of our country has been and can be injured in the mind of a large number of people even by such contemptible transactions as those herein referred to.

I have the honor to be, sir, your obedient servant,

AND. D. WHITE.

The Hon. WILLIAM M. EVARTS, Secretary of State, etc.

THE DIPLOMA OF VOLLAND.¹

Omnibus ad quos littere presentes pervenerint, praeses, censeat, professoresque Universitatis Americanae Philadelphiae, Republicae Pennsylvaniae legibus constituit, salutem.

Quum in omnibus academiis rebus legitime constitutis, aut hic auctoritate gentium, usus laudabilis et antiquus fuerit, ut viri, qui vel litteris vel artibus ingenius, vel quibuslibet studiis liberalibus, non minus diligenter quam felicitate operam dederunt, interea recte atque honeste se gerentes, aliquo eximio honore adornarentur, et ad meritam dignitatem attollerentur, et quum nos, secundum leges republicae nostrae, ampliusnam potestatem insigniendi decorandique titulis academicis, et promovendi ad gradus in sacra theologia, legibus, artibus liberalibus ac medicinis viros bene merentes tenemus, nos igitur, hac auctoritate praefati, usque antiquum laudem immemores, decrevimus virom egregium, studiosi optimis delectum, Paul Christoph Erdmann

¹ The diploma as given here is an exact copy of the original; the words written in the blank form are indicated by the use of italics.

Volland, de enjus eruditione in chirurgia dentaria arte et probis moribus satis compertum exploratorio habemus, dignum atque idoneum qui honoretur, ut vir doctus altissimo dignitatis gradu; quare non animo et creavimus et teximus enim chirurgia dentaria docetur, eique omnia jura et privilegia quæ ad illum gradum attinent delinimus et concessimus.

In quorendi idem, has literas signo magno universitatis literarum nostræ communiri jussimus, hoc decimumquarto die mensis Octobris annoque Domini nostri millesimo octingentesimo septuagesimo nono.

JOHN BUCHANAN, M. D.; JOHN J. FULMER, M. D.; ROBT. DEBESTE, M. D.; RICHARD FORBES, M. D.; CHARLES G. POLE, M. D.; C. H. KEHRROTH, M. D.; JAMES COCHRAN, M. D.; J. K. BOWERS, M. D.

SEAL: { Eclectic Medical College
& American University, }
Philadelphia, 1850.

A. P. BISSELL, LL. D.; JAMES ROBINSON.

THE NOTARY'S CERTIFICATE.

I, Philip A. Cregar, a notary public for the commonwealth of Pennsylvania, residing in the city of Philadelphia, do hereby

certify that the diploma hereto annexed from the "American University of Philadelphia" is the regular diploma of that institution; that the university is a regularly incorporated institution in good standing, and that the signatures on said diploma are genuine, and were acknowledged before me in due form of law.

Witness my hand and notarial seal this fourteenth day of October A. D. 1879.

PHILIP A. CREGAR,
Notary Public.

CERTIFICATE OF THE PROTHONOTARY.

STATE OF PENNSYLVANIA, County of Philadelphia, ss:

I, William B. Mann, prothonotary of the courts of common pleas of the county of Philadelphia, do hereby certify that Philip A. Cregar, Esquire, by whom the annexed certificate was made, was at the time of so doing, and now is, a notary public in and for said county, duly authorized to take acknowledgments and administer oaths, etc., and that I am well acquainted with the handwriting of the said Philip A. Cregar, notary public, and verily believe the signature thereto is genuine.

In witness whereof I have hereto set my hand and affixed the seal of the said courts this sixteenth day of October, 1879.

WILLIAM B. MANN, Prothonotary.

REPORTED MORTALITY FOR THE WEEK ENDING APRIL 10, 1880.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Deaths under Five Years.	The Principal "Zymotic" Diseases.	Percentage of total Deaths from				
					Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.	
New York.....	1,085,000	560	223	17.50	21.07	7.32	1.96	.71	
Philadelphia.....	901,380	352	138	8.24	11.93	.85	.85	1.99	
Brooklyn.....	564,400	241	92	16.29	19.91	8.14	.90	.45	
Chicago.....	—	197	95	21.83	28.93	9.64	2.54	1.02	
St. Louis.....	—	143	67	13.29	13.29	2.80	2.10	.70	
Baltimore.....	399,796	149	65	19.46	10.74	3.36	10.07	1.34	
Boston.....	365,000	141	42	9.93	21.99	6.38	—	1.42	
Cincinnati.....	280,000	96	43	8.33	7.29	1.04	2.08	2.08	
New Orleans.....	210,000	109	37	14.00	5.00	—	2.00	2.00	
District of Columbia.....	170,000	100	41	11.00	14.00	1.00	2.00	2.00	
Buffalo.....	—	47	15	10.64	21.28	—	4.25	2.13	
Cleveland.....	160,000	58	26	25.86	10.35	5.17	13.80	—	
Pittsburgh.....	145,000	88	38	47.79	21.59	7.95	4.55	20.45	
Milwaukee.....	127,000	47	13	29.40	8.51	12.77	2.13	2.13	
Providence.....	102,000	34	5	11.76	29.41	2.94	5.88	—	
New Haven.....	60,000	25	10	16.00	16.00	—	—	—	
Charleston.....	57,000	—	—	—	—	—	—	—	
Nashville.....	37,000	11	4	18.18	27.27	—	—	9.09	
Lowell.....	54,000	21	7	9.52	9.52	—	—	—	
Worcester.....	53,000	28	13	10.71	28.57	—	—	—	
Cambridge.....	50,400	13	4	—	15.38	—	—	—	
Fall River.....	49,000	—	—	—	—	—	—	—	
Lawrence.....	38,600	27	10	7.41	3.70	3.70	—	—	
Lynn.....	34,000	20	2	15.00	15.00	10.00	—	5.00	
Springfield.....	31,800	14	2	7.14	14.29	7.14	—	—	
New Bedford.....	27,200	16	5	12.50	—	—	12.50	—	
Salem.....	26,500	15	3	13.33	20.00	6.67	—	6.67	
Somerville.....	23,500	13	5	—	30.77	—	—	—	
Chelsea.....	21,000	7	1	42.86	—	4.29	—	—	
Taunton.....	20,200	8	2	12.50	12.50	—	—	—	
Holyoke.....	18,400	10	5	20.00	20.00	20.00	—	—	
Gloucester.....	17,300	7	5	28.57	14.29	14.29	—	—	
Newton.....	17,300	6	2	16.67	16.67	16.67	—	—	
Haverhill.....	15,350	9	—	11.11	22.22	11.11	—	—	
Newburyport.....	13,500	6	2	—	16.67	—	—	—	
Fitchburg.....	12,600	3	2	33.33	—	—	—	—	
Nineteen Massachusetts towns.....	146,760	69	17	28.99	16.14	14.49	5.79	—	

Two thousand six hundred and sixty-one deaths were reported; 1043 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 430, lung diseases 412, consumption 393, diphtheria and croup 139, scarlet fever 68, measles 54, typhoid fever 48, whooping-cough 32, diarrheal diseases 31, erysipelas 23, malarial fevers 19, cerebro-spinal meningitis 15, small-pox one. From measles, New York 12, Philadelphia 11, Chicago eight, Brooklyn seven, New Orleans and Pittsburgh four, St. Louis and New Haven two, Mil-

waukee, Lowell, Malden, and Palmer one. From whooping-cough, New York, District of Columbia, and Pittsburgh four, Cleveland three, St. Louis, Boston, Cincinnati, New Orleans, and Buffalo two, Philadelphia, Brooklyn, Chicago, New Haven, Nashville, Gloucester, and Bridgewater one. From erysipelas, New York five, Brooklyn three, Philadelphia and Baltimore two, New Orleans, District of Columbia, Cleveland, Pittsburgh, Milwaukee, Providence, Lowell, Chelsea, Taunton, Beverly, and Plymouth one. From malarial fevers, New York seven, Brooklyn four, St. Louis three, New Orleans two, Chicago, Baltimore,

and New Haven one. From *cerebro-spinal meningitis*, Worcester three, New York, Philadelphia, and Chicago two, Cincinnati, Pittsburgh, Milwaukee, Chelsea, Fitchburg, and Brockton one. From *small-pox*, Chicago one.

One hundred and eleven cases of measles, 37 of diphtheria, 17 of scarlet fever, two of whooping-cough, and one of typhoid fever were reported in Brooklyn; diphtheria 22, scarlet fever six, in Boston; diphtheria 12, scarlet fever six, in Milwaukee; scarlet fever 29, diphtheria eight, typhoid fever two, erysipelas one, in Providence; typhoid fever two, scarlet fever one, diphtheria one, in Cambridge; scarlet fever three, in New Bedford.

The total number of deaths reported was about the same as for the previous week; the deaths under five slightly increased. Lung diseases showed an increased mortality, pulmonary consumption somewhat diminished. Typhoid fever continues to prevail in Pittsburgh. Scarlet fever continues to decline in Providence and Cleveland; measles, diphtheria, malarial fevers, declining; diphtheria slightly increased. In 37 cities and towns of Massachusetts, with an estimated population of 986,410 (pop-

ulation of the State about 1,690,000), the total death-rate was 22.89 against 20.89 and 21.96 of the previous two weeks.

For the week ending March 20th, in 148 German cities and towns, with an estimated population of 7,668,125, the death-rate was 27.6 against 26.9 and 28.2 of the previous two weeks. Five thousand six hundred and forty-five deaths were reported; 1954 under five; pulmonary consumption 696, acute diseases of the respiratory organs 506, diphtheria and croup 129, typhoid fever 72, whooping-cough 70, measles and *rötheln* 61, scarlet fever 59, puerperal fever 21, small-pox (Königsbush, Beuthen, Freiberg) four, typhus fever (Königsberg, Posen) two. The death-rates ranged from 17 in Darmstadt to 42.3 in Augsburg; Königsberg 34.9; Breslau 34.7; München 36; Dresden 28.4; Berlin 25.1; Leipzig 19.7; Hamburg 29.1; Hannover 21; Bremen 23.8; Cologne 24.9; Frankfurt 23.6. For the same week, Vienna 34.6, — small-pox still prevalent, also measles and scarlet fever; diphtheria declining; Paris 32.9; London 20.9. The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.		
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
April 4	29.543	56	67	53	87	72	93	84	C	SW	SW	0	21	12	O	O	R	—	.43
" 5	29.639	52	61	46	68	43	56	56	W	SW	W	18	24	22	C	O	C	—	.02
" 6	29.717	45	55	39	58	59	74	57	SW	SW	NW	8	9	8	F	O	R	—	.03
" 7	29.922	31	39	27	61	39	66	55	W	NW	NW	13	21	16	C	F	C	—	—
" 8	30.156	34	43	22	50	19	43	37	W	SW	W	11	14	12	C	C	C	—	—
" 9	29.972	41	54	27	50	21	48	40	W	SW	SW	5	11	11	C	F	O	—	—
" 10	29.661	49	62	37	65	26	55	49	SW	SW	S	11	27	14	F	H	C	—	—
Week.	29.801	44	67	22				54	Southwest.									16.30	.48

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM APRIL 10, 1880. TO APRIL 16, 1880.

HORTON, S. M., major and surgeon. Assigned to duty as post surgeon, Fort Douglas, Utah Territory. S. O. 39, Department of the Platte, April 6, 1880.

COLLEGE OF PHARMACY.—The exercises of the twelfth commencement of the Massachusetts College of Pharmacy occurred in Union Hall. The roll of the class was as follows: Ida Rebecca Brigham, M. D., John Walter Bachelder, James Sylvester Barry, George Richard Bell, Charles Andrew Boyden, Franklin Edward Boyden, Joseph Allen Chapin, George Sumner Churchill, Frank Clough, Charles Louis Curtis, William Henry Cutting, Azro Milton Dows, Eugene Hamblet, Frederick Albert Jewett, James M. Kerrigan, Elie Henry La Pierre, Charles James Peters, Alfred Pillsbury, Jr., George Henry Sanderson, William Edward Turple. A certificate of proficiency was presented to Dr. Brigham, and the degree of Graduate in Pharmacy was conferred upon the members of the class by President B. F. Stacey, who also made a brief address of instruction. The valedictory on behalf of the class was delivered by Mr. J. A. Chapin; the address for the Faculty by Prof. E. L. Patch, Ph. G. Subsequently the faculty tendered a reception to the graduates of the class of 1880.

SUFFOLK DISTRICT MEDICAL SOCIETY.—The annual meeting will be held at the hall, No. 19 Boylston Place, on Saturday evening, April 24th, at seven and a half o'clock. Reports of committees. Election of officers at 8.30 p. m. The following papers will be read: Dr. F. H. Williams, A Simple Method of determining the Amount of Urea in the Urine. Dr. C. M. Green, A Case of Puerperal Tetanus. Dr. W. F. Whitney, Pathological Specimens. Supper at nine o'clock. All members of the Massachusetts Medical Society are cordially invited to be present and to take part in the discussion.

T. M. RORER, M. D., Secretary.

GYNÆCOLOGICAL SOCIETY OF BOSTON.—The next regular meeting of the society will be held at the Medical Library rooms, 19 Boylston Place, the second Thursday of May at 10.30 A. M. Paper by C. A. Perkins, M. D., on Induction of Premature Labor. Discussion upon Epithelioma in its Gynecological Bearings. Profession invited.

HENRY M. FIELD, M. D., Secretary.

BOOKS AND PAMPHLETS RECEIVED.—Ethylization: The Anæsthetic Use of the Bromide of Ethyl. By R. J. LEVIST, M. D. (Reprint.)

Tetanus terminating fatally from Enucleation of an Eyeball. Reported by JULIUS J. CHISOLM, M. D. (Reprint.)

On the Removal of Foreign Bodies from the Eye. With Four Cases. By Charles Stedman Bull, M. D., Surgeon and Pathologist to the New York Eye and Ear Infirmary.

Die operative Behandlung der Pleuritis bei Trousseau. Inaugural Dissertation. Von Otto von Gizeky. Berlin: H. S. Hermann.

Quarterly Report of the Medical Officers of the United States Army, with their Stations and Duties, as reported April 1, 1880. Washington: Surgeon-General's Office.

The Problems of Insanity. A Paper read before the New York Medical-Legal Society. By George M. Beard, A. M., M. D.

Address on State Medicine. By Thad. M. Stevens, M. D. Indianapolis, Indiana.

A Practical Treatise on Nervous Exhaustion (Neurasthenia). By George M. Beard, A. M., M. D. New York: William Wood & Co., 1880.

The Uterine Glands of the Uterus. By Prof. Giovanni Battista Ercolani. With a Quarto Atlas of Fifteen Plates. Translated from the Italian under the direction of Henry O. Marcy, A. M., M. D., Vice-President of the American Medical Association, etc. Boston: Houghton, Osgood & Co. The Riverside Press, 1880.

A Guide to the Practical Examination of Urine, for the Use of Physicians and Students. By James Tyson, M. D. Third Edition. Philadelphia: Lindsay and Blakiston.

Original Articles.

THE PRESPHYGMIC INTERVAL, OR TIME REQUIRED TO START THE ARTERIAL PULSE AFTER THE BEGINNING OF THE SYSTOLE OF THE VENTRICLE.¹

BY A. T. KEYT, M. D., CINCINNATI, OHIO.

A DEGREE of asynchronism between the beat of the heart against the chest-wall and the carotid pulse is discernible to the delicate and practiced touch. Such interval is more plainly shown by the use of two instruments, constructed on the principle of Herrison's sphygmometer, and supplied with elastic tubing of equal and convenient length to permit the glass tubes to be placed side by side for ready observation. When the pulse bases are in position, one on the heart and the other on the artery, the liquid columns first strike the eye as oscillating in alternation, one ascending while the other is descending, and *vice versa*. Observations to this effect, and by the means just described, were made by Dr. Scott Alison in 1856.²

The sphygmometric part of my differential or compound sphygmograph utilizes the principle of Herrison's instrument, and with it I have observed, time after time, when the bases were placed respectively on the heart and carotid artery, that the liquid columns appeared to rise and fall in alternation. Close inspection, however, discloses that the relation of these movements is not one of perfect alternation, but of succession.

Happily we now have the graphic method which not only demonstrates the succession of the cardiac and carotid pulsations, but permits us, also, to measure with precision the duration of the cardio-carotid interval.

The experimental proof that a cardiogram taken from the chest wall represents the phases of the cardiac revolution, and that the basal point of the main ascent marks the beginning of cardiac systole, has been furnished by Marey in one of his celebrated experiments on the horse. Simultaneous inscriptions of the blood pressure in the interior of the right ventricle, and of the heart's action against the chest wall, showed correspondence with each other in the essential points, and exact synchronism in the beginning of the two up-strokes. Marey also demonstrated, in an experiment of his series on the horse, that the two ventricles begin to contract precisely at the same time; and in another place he states that he has never observed default of synchronism between the two ventricles. Thus we are prepared to accept the cardiograms obtained from the chest wall of man as correct representations of the movements of the human heart, and, especially as concerns the present investigation, to accept the basal point of the main ascending line as marking the beginning of ventricular systole. In yet another experiment of Marey's series on the horse, one sound was lodged in the left ventricle, and another in the aorta just above the valves. The inscriptions thus obtained showed that the blood pressure in the ventricle began to rise a notable time before the beginning of the rise in the aorta. The interval between these beginnings represents the time elapsing after the ventricle begins to contract until the aortic valves open and the blood begins to escape into the artery. This is the pre-

sphygmie portion of the systole of the ventricle, or the *presphygmie interval*, as I term it, — the *syssasis* of A. H. Garrod.³

As it has been proved that the pulse wave rises later in an artery removed from the heart, evidently observations between the heart and an arterial point beyond the root of the aorta will give a time difference, made up of the presphygmie interval and the time required for the pulse wave to travel from the aortic orifice to the point designated, the transit time of the pulse wave.

To determine the duration of the presphygmie interval in man, simultaneous tracings of the heart and carotid pulse are obtained with an accompanying chronogram, or in the presence of a known velocity of the surface receiving the inscriptions, and the time difference thus ascertained is noted. Next, the transit time between the aortic orifice and carotid point is determined by a method presently to be described. The latter time deducted from the former gives the presphygmie interval.

The duration of the heart-carotid interval in man has been investigated. Czerniak⁴ in 1864, by means of his photo-sphygmograph, measured the interval at .087 second. Mosso,⁵ by means of a cardiograph for the heart and a tambour device for the carotid pulse, measured the interval at between 10 and 11 hundredths of a second.

By means of an apparatus of great convenience and accuracy, consisting of two uniform sphygmographs of transmission and a chronograph, all writing on the same smoked slide, I myself have made a very large number of observations and measurements of the heart-carotid interval. I believe that I have the advantage of other experimenters in the facility with which I make these observations, and my method employed with reasonable care admits of no material fallacy. My results demonstrate:—

(1.) That the interval is subject to considerable variation in the same individual, and in different individuals compared with each other. See cuts⁶ Nos. 16, 23, 56.

(2.) That the interval varies inversely with the pulse rate, directly with the pulse duration. See Nos. 16, 37, 56, all from the same person.

(3.) That the average duration of the interval, with pulse at 75 to the minute, four fifths of a second long, is about .08 second.

According to these data, a pulse of 60, one second long, will give the interval one tenth of a second, and the rule may be formulated that the average cardio-carotid interval is one tenth the duration of the pertaining pulsation. This rule is approximate only, for the interval varies from other factors besides pulse frequency; nevertheless, I have found it of practical value in determining approximately what should be a standard time difference for a given pulse rate.

Accepting, then, .08 second as a standard heart-carotid interval in health, with pulse at 75 per minute, in pur-

² The Proceedings of the Royal Society, No. 157, 1875, page 144.

⁴ Med. Chir. Rev., January to April, 1865; from Mittheilungen aus dem privat Laboratorium, in Prag, 1864.

⁵ Die Diagnostik des Pulses, Leipzig, 1879, page 45.

⁶ The accompanying engravings are used to illustrate, in a general way, an indefinite number of observations. My deductions are based upon my whole experience, and in some instances statements in the text do not exactly accord with expressions of the plates. The discrepancies, however, are few and small, and I can say that my larger experience confirms, in a remarkable manner, the results of my earlier work.

¹ Read before the Cincinnati Medical Society March 23, 1889.

² The Lancet, Ann. Ed., 1856, page 526; 1857, page 240.

suance of our investigation, we now seek a standard transit time of the pulse wave over the arterial tract included. As the aortic root is not accessible for observation in man, obviously the desired data must be arrived at indirectly. This is the method: The velocity of the pulse waves over other arterial tracts is ascertained, and if these are found to differ, the velocity over the arterial tract most nearly corresponding with that between the aortic root and carotid point is selected as the basis for computing the cardio-carotid transit time.

If I could find any trustworthy observations on the velocity of the pulse-wave along different portions of the arterial tree outside of my own, I would gladly present them here. In default of such findings, I am compelled to draw exclusively from my own results. Without entering into details, I will here say that my experiments in reference to the matter in hand have demonstrated the following facts:¹—

The mean average velocity of the pulse wave from the carotid point to the dorsalis pedis is 361 inches per second; from the carotid to the radial 290 inches per second; from the carotid to the femoral 269 inches per second; from the femoral to the dorsalis pedis 464 inches per second.

Thus the pulse-wave velocity over different arterial tracts is shown to vary in an important sense. The tract between the carotid and femoral is most closely allied to the tract between the aortic root and carotid; the similarity, indeed, is very intimate; accordingly, we utilize for our purpose the carotid-femoral pulse-wave velocity.

The measurement of the arterial length between the aortic root and carotid point is placed at 7 inches. Hence $\frac{7}{269} = .026$ second expresses the duration of the interval sought.

The pulse-wave velocity, as has been determined, though differing considerably in different individuals, in the same individual is subject only to a limited variation, even under considerable changes of the circulation, and variations of pulse frequency exert upon it no appreciable disturbance. (The latter fact has also been demonstrated by Garrod.) Therefore, for the short distance of 7 inches, .026 second may stand as an approximate quantity to express the cardio-carotid transit interval for any pulse rate or order of conditions, aortic aneurism alone excepted.

These data give the formula: Cardio-carotid interval, with pulse at 75, .08 second, less the cardio-carotid transit interval .026 second, equals the presphygmie interval .054 second. Then, in any case, physiological or clinical, aneurism within the included tract excepted, to find the presphygmie interval it is only required to find the heart-carotid interval and deduct from it .026 second.

But, inasmuch as the presphygmie varies largely, and the transit for the short arterial length in question inappreciably (aneurism excepted), the cardio-carotid interval practically represents the presphygmie.

Garrod, studying this subject from a basis of experimental observation of the cardiac and radial pulsations, arrived at the theoretical conclusions that the cardiac systole varies inversely as the square root of the pulse rate, and the cardiac systolic portion of the pulse varies inversely as the cube root of the pulse rate; the operation of these rules being to reduce

rapidly the presphygmie interval as the pulse increases in frequency, and at 170 to render it *nil*. Garrod's results from his equations make the presphygmie intervals much shorter throughout, and the rate of reduction more rapid than mine.

My observations do not, as yet, enable me to determine the limit of pulse frequency on the one hand, and of infrequency on the other, at which the cardio-carotid interval ceases to vary, as enunciated, inversely with the pulse rate: between 120 and 60 I am quite sure the rule holds; beyond these there appears to be uncertainty.

By my rule of reduction the presphygmie interval would become *nil* at 230, and at 180 it would be $\frac{1}{1000}$ of a second; yet it is scarcely possible that it should become *nil* even if the former rate could be reached, and the probability is that the shortest permissible interval would exceed that just mentioned.

The variations of the presphygmie interval will bear further elaboration. It often varies in the same healthy person at the same sitting with the same pulse rate; but the range under such circumstances is limited. The explanation of this variation I find in the incessant minor changes in the manner of the heart's movements and relative changes of blood pressure in the ventricle and aorta: at one systole the contraction is quicker, shortening the interval; at another it is slower, lengthening the interval; at one ventricular discharge the arterial pressure is higher, delaying the opening of the valves; at another it is lower, precipitating the opening of the valves. The reality of these incessant changes is exemplified in the cardiac rhythmic changes my observations² have shown to take place,—changes in successive pulsations and successive systoles and diastoles in hearts whose action appeared the most regular.

The interval varies more notably in different healthy individuals with the same pulse rate. This fact finds its explanation in individual characteristics, the same as a pulse rate, or pulse form, or quality of the heart's action, peculiar to different persons.

But as before presented the great variations are correlative with the variations of pulse rate. A difference of a few beats per minute may not cause a difference of interval sufficient for certain measurement by present means; yet, other things being equal, it is probable that any change of pulse frequency changes the presphygmie interval. A variation of ten per minute will almost always show a notable difference in the interval. (See No. 56.)

This correspondence between the presphygmie interval and the rate of the pulse is an interesting and significant fact, and one of a distinctive group we had never known but for the precision of the graphic method. In explanation, to my mind the interval shortens as the pulsations shorten, because: (1.) The abbreviation of the cardiac pulsation tends to abbreviate all its component parts. The length of diastole is markedly diminished as the pulse rate is increased, and the length of systole, although not so regularly corresponding as diastole to moderate variations of pulse rhythm, nevertheless, is found shorter in frequent than in infrequent pulses. The presphygmie interval, being a component part of the cardiac pulsation, is naturally proportional to its duration. (2.) In frequent pulsations the cardiac muscle contracts quicker, and

¹ New York Medical Journal, February, 1878; Cincinnati Clinic, April 13, 1878.

² New York Medical Journal, July, 1878; Cincinnati Lancet and Clinic, August 31, 1878.

more rapidly raises the ventricular blood pressure to the point of forcing the aortic valves. (3.) The accelerated blood current in its passage through the heart, with the usually free passage through the capillaries, constantly tends to surcharge the ventricle and deplete the arteries, thus favoring the earlier opening of the valves.

THE VARIATIONS OF THE PRESPHYGMIC INTERVAL IN DISEASE.

The duration of the presphygmic interval varies immensely in disease. The clinical bearings of these variations are in process of development. Already, facts of exceeding importance have been ascertained. Thus it has been demonstrated that the cardio-carotid interval, which, as shown, stands for the presphygmic, is remarkably increased in mitral regurgitation. I have measured the interval in a considerable number of cases of mitral insufficiency, and always found abnormal delay of the carotid pulse; nor have I yet found it absent in any case in which there was a positive diagnosis of this lesion.

The case of Joseph A., aged nine years, suffering from mitral regurgitation in a pure form, as diagnosed during life and confirmed post mortem, gave a heart-carotid interval of .117 or $\frac{1}{8}$ second, with pulse at 100. (See No. 42.) This is about double the normal interval at that pulse rate, estimating the normal cardio-carotid interval at the age instanced the same as in the adult. My observations have shown, however, that the pulse-wave velocity is slower and the presphygmic interval is shorter in young children than in adults.¹ The application of these facts to the present case evidently would show a still greater lengthening of the presphygmic interval over the normal.

In the case of S. R., aged twenty years, whose clinical history and physical signs afforded positive evidence of mitral regurgitation, the cardio-radial interval measured .222 + or $\frac{1}{2}$ second. (See No. 47.) Deducting from this .0714 second, as the more usual carotid radial time difference, gives .1508 second as the near approximation of the heart-carotid interval in this case with pulse at 80. This will be noted as twice the normal interval at the given pulse rate.

Again, it has been demonstrated that the carotid pulse is abnormally delayed on the systole of the ventricle in that state of the aortic valves designated as *heavy*, the condition in which, owing to organic changes, their play is sluggish and they open with difficulty.

The case of Dena H., aged thirty-one years, presenting mixed cardiac murmurs, basic and apex, systolic and diastolic, and revealing post mortem the aortic valves loaded with enormous vegetations and the mitral valve incompetent, gave for the heart-carotid interval .25 or $\frac{1}{4}$ second, with pulse at 100. (See Nos. 51 and 52.) Obviously, this is about four times the normal measurement at the pulse rate given. It may be thought that the demonstration fails, inasmuch as the delay might be charged wholly to the mitral reflux; but the pronounced systolic murmur with thrill at the second right interspace, and the heavy state of the aortic valves found after death, prove that great difficulty existed at the aortic opening, while the form of the pulse trace — its amplitude, tension, height, and fullness of the second wave — is inconsistent with the

idea of sufficiently free regurgitation through the mitral orifice to account for the very great pulse retardation. Thus I am convinced that an important part of the delay in question was contributed by the heavy aortic valves.

The case of Chris. H.,² aged thirty-one years, presented the greatest pulse retardation I have ever observed. He had systolic murmur accentuated both at the apex and second left interspace, and his post mortem showed mitral insufficiency, thickened yet competent aortic valves, and two considerable aneurismal pouches near the origin of the aorta. Simultaneous tracings of the heart and subclavian arteries showed two fifths ($\frac{2}{5}$) of a second as the delay of the subclavian pulse on the heart. In this case a part of the enormous delay was due to the aneurisms, but unquestionably the much larger part was due to the mitral insufficiency and heavy aortic valves.

Yet another important fact has been developed by François-Frauck,³ who has shown in opposition to authoritative teaching that the cardio-carotid interval is shortened in large aortic insufficiency. When opportunity presents me to measure the interval in a case of free aortic reflux, I confidently expect to confirm M. Frauck's observation; for in this condition the base of the arterial column rests against the sides of the ventricle instead of against the aortic valves, and is advanced, causing rise of the pulse with the first movement of ventricular contraction, insuring thus a short interval between cardiac systole and arterial expansion. Indeed, in a typical case of open aortic valves I expect to find the carotid pulse delayed on the ventricular systole little, if any, more than the transit time of the pulse wave between the points concerned.⁴

The remarkable range of variation of the cardio-carotid interval in disease, thus demonstrated, in the face of the comparatively very small variation in health opens the way for new and invaluable additions to our diagnostic resources. The few facts presented afford positive and precise indications of the existence and gravity of certain cardiac valvular lesions, and are an earnest of the rich harvest of results that may be expected to follow this line of observation.

In further remark as to the facility with which these observations are made, I will say that with my combined instrument I make them as readily as I would conduct an ordinary physical examination of the heart. The patient is not annoyed, but usually pleasantly interested in the procedure. The apparatus is sufficiently simple, its adjustments are easily made, and with due care any one with a steady hand may soon learn to use it with entire success.

EXPLANATION OF THE PLATES.

The three tracings on each cut were taken simultaneously; the lowest one being a chronogram, marking fifths of seconds between the points.

The space between the lines B and C shows the difference of distance between the basal points of the respective pulsations and the signal lines A, A'; the figures near express the value of this difference in fractions of a second as measured on the

² New York Medical Record, February 14, 1880.

³ Comptes rendus Ac. Sc. L xxxvii, p. 296.

⁴ Since the above was written, by the kindness of Dr. C. G. Comings, I have been permitted to trace a case in the Cincinnati Hospital diagnosed by that able clinician as one of aortic insufficiency. The tracings show the characteristic features of this lesion and a cardio-carotid interval of one thirty-second of a second, with pulse at 100.

¹ New York Medical Journal, July, 1878; Cincinnati Lancet and Clinic, August 31, 1878.

chronogram below. The figures placed above a pulsation indicate its rate per minute. In Plates III. and IV. time differences are expressed by figures placed below the distal basal point,

without indicatory lines. In Plates I. and II. the tracings are by reversal of the bases to prove the accuracy of the instrument. Other features are self-explanatory.

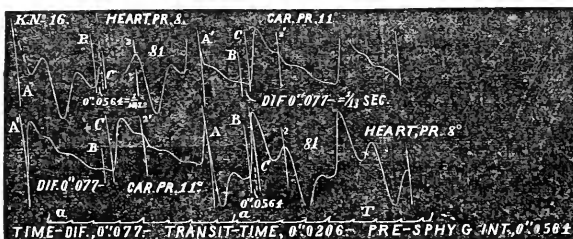
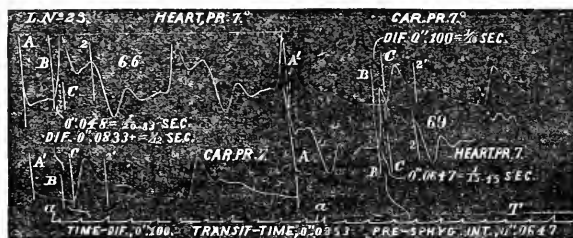


PLATE I.



.0857. PLATE II. .503

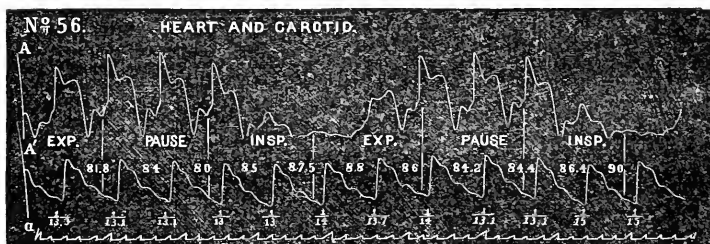


PLATE III

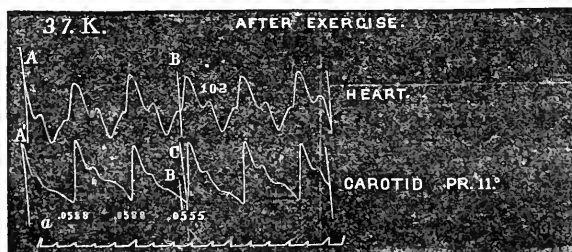


PLATE IV

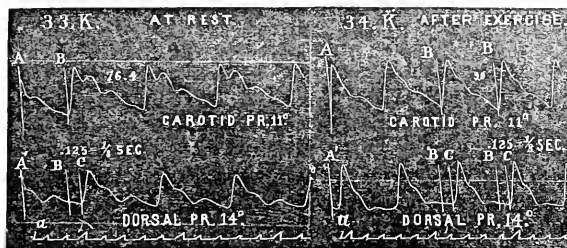


PLATE V

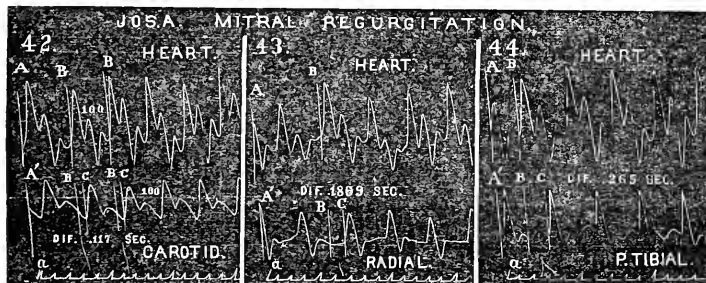


PLATE VI

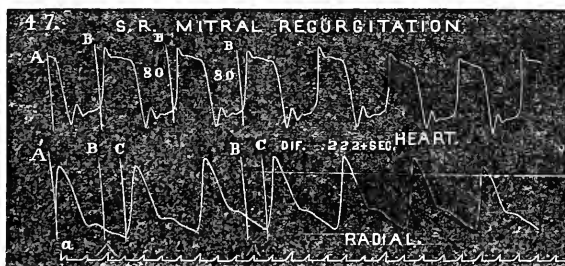


PLATE VII

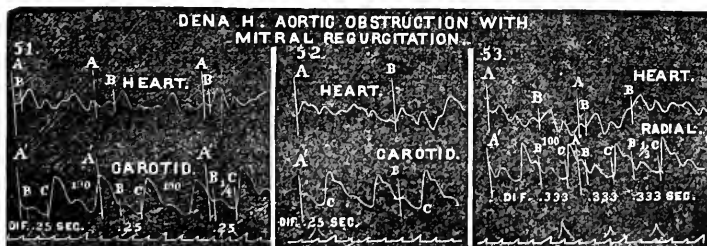


PLATE VIII.

THE SIGNIFICANCE OF ALBUMINURIA AS A SYMPTOM.¹

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EPIDEMIC.—The extraordinary epidemic of albuminuria described by Limousin (8) occupied a period extending from March to June, 1857, when there was no disease prevalent to explain it. Thirty cases were seen in which, without any known cause, persons were attacked in the midst of perfect health with general œdema, dyspnoea so severe as to threaten life by asphyxia, and albuminuria. The albumen varied in amount in different cases, being sometimes very large, but almost never absent, and disappeared with the œdema and dyspnoea. With no further knowledge of this anomalous epidemic, we can draw no very accurate conclusions, but may suggest that dropsy alone furnishes a source of albumen when all parts of the body are affected.

EPILEPSY.—As albumen has not always been found in this disease (80; 81, p. 75), we give in some detail the investigations of Huppert (6, p. 369), who first assured himself that the urine was normal under ordinary conditions, then examined that passed after the commencement of an attack, without finding albumen, as the contents of the bladder at that time were secreted before the paroxysm. These precautions being taken, the urine was tested three quarters of an hour after the attack, and other portions subsequently, until the tests no longer showed albumen. In severe cases, the abnormal condition lasted three or four hours, more rarely six or eight, and still more rarely only two, the largest amount being found in the first portion examined, about three quarters of an hour after the attack, from which time it gradually diminished. The more rapidly the paroxysms followed each other, the more abundant was the albumen. Though the quantity was apparently greater in cases of long standing, the amount was generally sufficient to cause opacity only, though at times flocculi were seen. The albumen was not due to the presence of blood, for, after severe attacks, there were never more than one, two, or three, red blood globules seen; and these were excessively rare, even in cases where petechiæ appeared in the conjunctivæ or eyelids. The writer assured himself that the urine must contain a much larger number of corpuscles before it becomes albuminous. Colorless corpuscles were more common; indeed, were hardly ever absent. The vertiginous attacks of epilepsy, where they succeed each other rapidly, may also be followed by albuminuria, but this is often wanting. These observations are confirmed by Dr. De Witt, who found albumen in more than twenty cases (104).

ERYSIPELAS (45, p. 265).—Albumen is most likely to make its appearance in severe cases. This is equivalent to saying, what is often true, that it depends not upon erysipelas as a disease, but upon the extent of the morbid processes in any given instance. As an explanation, we have the fever and perhaps some secondary though transient changes in the tissue of the kidneys.

EXERTION.—We have selected this head as expressing the most probable supposed cause. Edlefsen noticed in three healthy but anæmic men transient albuminuria after bodily effort (92).

Leube (28) examined the urine of a large num-

ber of healthy soldiers in the morning, and found it normal, but after a five hours' march, or severe exercise, in the months of June, July, and August, with a temperature of 54° to 77° F., it contained albumen in sixteen per cent.; though the amount was small, perhaps just perceptible, and never exceeded one per cent. This could not be detected when another examination was made between four and six p. m. There were no casts nor blood corpuscles. The same has been seen, under similar circumstances, in army officers, in connection with scanty urine, and also in nervous persons (97, p. 345). The specific gravity has been at times high. In such cases peculiar variations, diurnal or longer, occur, in which there is no albumen, and the latter may disappear without returning, and without any special change in the mode of life. It is most natural to suppose that its presence was owing either to some variation in the blood pressure, or to some change in the vessels. The rapidity of its appearance and disappearance makes it extremely improbable that there was any change in the vessels, and we are left with a variation of the blood pressure. The view that the last might be operative seems to be supported by the statement of Ranke, that the blood accumulates in the muscles of a healthy man during exertion, while it is diminished in the organs which are at rest.

Edlefsen (97, p. 345) always found congestion of the lesser circulation in the bodies of soldiers who died on the march in consequence of exertion. It is suggested, also, that the deficiency of water in long-continued exertion may favor the diminution of pressure more than muscular effort. But if exertion causes albuminuria through a diminution of pressure, such a result does not necessarily follow, as was shown by Fürbringer's own experience. After a long mountain climb in the summer, with profuse perspiration and scanty urine of a high specific gravity (1030–1033), no trace of albumen was found. We must admit, however, that, until we know through farther investigations whether any change of pressure takes place, our solution is merely plausible. We must not forget, in this instance, the possible influence of the nervous system, which might well be affected by prolonged exertion.

FEVER.—There is hardly any affection accompanied by severe fever in which albuminuria may not show itself as a transient symptom, independent of the localization or nature of the disease (1, v. 9^e, p. 45; 35, p. 249). No positive law can be laid down in regard to its manifestation; inappreciable individual differences seem to control it. In some it is met with early, in others late, and is not always in proportion to the rise of temperature, being absent, perhaps, when the latter is 104°. In all acute diseases it disappears as patients recover; or, if they die, no structural changes are found which may not also be found where there is no albumen. Persistent structural disease rarely follows the febrile affections, and if it does it is by no means certain that it is dependent upon the increased temperature (35, p. 347). The idea that it is connected with any special poison in the blood is inconsistent with the fact that we do not always have it in certain diseases where such might be the explanation, and that it is seen at various periods, perhaps early, and disappears before the temperature falls, perhaps late, even during convalescence (35, p. 249). In scarlet fever itself it may be detected before the kidneys are appreciably affected, merely be-

¹ Concluded from page 388.

cause there is fever (16, v. 2, p. 862). Bartels and other observers have supposed that it might be attributed to direct paralysis or relaxation of the walls of the capillaries of the kidneys in consequence of the high temperature, but this is hypothetical (35, p. 248). Though Runeberg's experiments show that the permeability of membranes increases with the temperature, the increase within the body is not sufficient to produce it alone (35, 253). We must not forget that in the febrile diseases we have, besides the increased temperature, decided derangements of the circulation, caused partly through changes in the tissue of the heart, partly by the effect of the high temperature on the nervous system (35, p. 249). As a consequence of this interference, when the elevation of the temperature lasts some time, according to Liebermeister (65, p. 475), we have increased rapidity and weakness of the contractions of the heart, and, in the adynamic forms of fever, excessive diminution of arterial pressure and great rapidity of the circulation (65, p. 469). The pulse is quick and easily compressible, the quantity of urine is small, and albumen makes its appearance. Experiments with the new instrument devised by Marey (62) show that in this form of disease the pressure of the blood in a finger may fall to three cc., while it rises to twenty cc. in interstitial nephritis. Though Bartels has advocated the view of congestion, he does not think it possible to explain the appearance of albumen by this, as in many cases it is not found, and when present it may be combined with inflammatory swelling and infiltration (1, v. 9, p. 170).

Having demonstrated that a marked influence is exerted by the nerves over the blood-vessels, it must be accepted as at least one element in the albuminuria of febrile diseases. Still it cannot be denied that, after the long duration of fever, the elements of the kidney may be changed, particularly the walls of the vessels, and constitute permanent disease, just as serious changes of nutrition may follow section of the nerves of vessels, if the animal live long enough (1, v. 9, p. 48). The red globules may also be so changed as to furnish albumen. Other complications may intensify the effect, and must be noted as they arise.

FEVER, INTERMITTENT.—The diversity of opinion about the frequency of the occurrence of albuminuria (16, v. 2, p. 862), as well as that about the time of its appearance (45, p. 241; 52, v. 2, p. 29), warrant the belief that it certainly is found at any time during the paroxysm, and that it may persist in the intervals. Blood and casts may also be seen. Though the albumen generally disappears with the fever, chronic disease of the kidneys may follow, and even amyloid, as a consequence of the general cachexia. In cases which have proved rapidly fatal there has been found marked congestion, with acute swelling and the deposition of pigment.

FEVER, MILK.—The effect of the preëxisting pregnancy being carefully eliminated, albumen may be detected (45, p. 268).

FEVER, PUERPERAL.—This furnishes us with many instances (45, p. 268).

FEVER, TYPHOID.—Many writers concur in stating that albuminuria is very common, and that the amount is considerable (52, p. 188), but it disappears with the disease in the vast majority of cases (45, p. 250).

FEVER, TYPHUS.—The urine is more frequently albuminous than in typhoid, it being noticed in a very large proportion of the cases towards the height of the

fever, and even on the sixteenth day, but it lasts only four or five days (45, p. 260).

FEVER, YELLOW.—Albumen is never absent when the disease is severe, the quantity being so large at times as to render the urine solid (45, p. 242). It disappears, however, after recovery, even if accompanied by uræmic symptoms. According to Griesinger, renal affections never follow (52, v. 2, p. 79).

The explanation is the same as in diphtheria.

GOUT, EXOPHTHALMIC.—Albumen has been found in a considerable number of these cases (4). The amount is generally small, perhaps a mere trace, when there is no affection of the heart or kidneys, but in one instance the quantity was excessive, though recovery was complete. It is generally transient, lasting but a few days or weeks, but may continue for months, and after disappearing return, not always persisting as long as the local changes, being apparently connected with the more marked symptoms. In certain cases it was limited to the period of digestion, being present immediately after a meal, and absent when the patient fasted. It was also more abundant after breakfast than after other meals.

The urine furnished no other indications of disease. Cœdema of the lower limbs has borne no constant relation to the albuminuria, though at times present. There is always much disturbance of the nervous system, and the sufferers are often hysterical.

Judging from the marked pulsation of the arteries and the distention of the same, there is general dilatation resulting from paralysis, and, being general, the pressure would be diminished in the capillaries for reasons previously given. But we must not overlook the anæmic condition of the patients and the possible transudation of serum.

GOUT.—A small amount of albumen is not uncommon, and may perhaps be accompanied by casts, but is generally so temporary as to lead to the suspicion of true renal disease if it persist (45, p. 296.)

GUM ARABIC.—See Skin, page 417.

HÆMOGLOBINURIA.—It is necessary to mention this, as it occurs in connection with albuminuria as a distinct affection, in a transient and intermittent form. The albumen is of course derived from the dissolved blood-discs.

HEALTH, IN.—See page 362.

HEART, VALVULAR DISEASE OF.—See page 364.

HYDROGEN, ARSENIURETED.—See page 391.

INDIGESTION.—See page 389.

INFANTS, NEW BORN, ALBUMINURIA OF.—This is described by Vierordt and others as occurring soon after birth, and disappearing in a short time (47, v. 1, p. 143). It has been attributed to the irritation of the uric acid which accumulates in the tubuli, and to insufficient pressure on the glomeruli (35, p. 258). The first suggestion is plausible, as such a collection of uric acid is common, but the connection between the two has not been demonstrated. The second seems corroborated by the very small secretion of urine before the end of the third day, and the disappearance of the albumen with the increased flow, which implies a larger supply of blood to the kidneys.

INTESTINAL CATARRH.—See Catarrh, page 392.

IODINE.—Boehm (1, v. 15, p. 17) states that the urine may contain a small amount of albumen after poisoning by iodine injected into ovarian cysts. No structural change of the kidneys is described.

J. Simon made repeated applications to the heads

of children affected with favus, and after a number of days there was albuminuria in one half of the cases where the application was made to surfaces as large as ten centimetres square. It was transient, appeared with the absorption of the drug, and disappeared with the abandonment of its use. The urine was in other respects normal. It is suggested that this acts (35, p. 256) by causing a contraction of the arteries in the same way as lead, the flow of urine being thereby diminished, owing to the diminished pressure.

KIDNEYS, AMYLOID DEGENERATION OF. See page 368.

KIDNEY, CANCER OF.—Though the urine may be free from albumen through the whole course of the disease (1, p. 50), it may be present; but the amount will probably be small, unless considerable blood is lost. The same is true of other new formations.

LEAD.—That the presence of lead in the system may give rise to albuminuria has been shown both by numerous clinical observations and experiments upon animals (24, p. 530), the latter being fed with the metal, as well as exposed to its fumes. In the clinical observations upon which the statements were based, the persons affected were in good health in other respects. In the experiments on animals the time was too short for cachexia, and the consequences followed directly upon the introduction of the poison. In man albuminuria may be overlooked, unless its occasional transient character is remembered. Ollivier (24 p. 530) describes eight cases in which it appeared during the attacks of colic, and was absent in the intervals. But it may last as long as the symptoms of poisoning persist, or may be associated with real disease of the kidney, the character of this varying with the amount and duration of the action of the metal, showing all degrees: sometimes mere fatty degeneration of the contents of the tubuli; at others the permanent changes belonging to interstitial nephritis. The conviction that we have here the relation of cause and effect is strengthened by the fact that traces of the metal have been found both in the urine and kidney. But experiments have also shown that lead poisoning may take place without any affection of the kidneys (26). There seems to be doubt about the immediate action of the lead upon the kidney (26), as the albumen appears and disappears with the paroxysms of pain (35), during which there is contraction of the muscles of animal life throughout the body. The muscles of the minute arteries participate, and we have, as a consequence, a diminished flow of blood and urine.

MANIA, TRANSITORY.—Temporary albuminuria with a few hyaline casts has also been observed in the paroxysms of excitement of transitory mania, lasting half an hour or more (6, p. 394). The disturbance of the nervous system probably causes derangement of the circulation of the kidneys, as in other similar cases.

MEASLES.—It is very common in some epidemics. Commencing with the eruption, it may then disappear, to return when the rash fades (82); though when the latter is very tardy, the albumen may be absent. Blood globules may also be found in the urine, and evidences of some structural change of the kidneys may be first seen after the fever has passed away, as in scarlatina. Here we have as causes fever, blood, and renal disease.

MERCURY.—The use of this is sometimes followed by temporary albuminuria, which disappears permanently as the symptoms of mercurialism subside (79, p. 554).

MILK, INTRAVENOUS INJECTION OF. See page 390.

MIND, DISTURBANCE OF.—Fürbringer (97) reports the case of a physician twenty nine years old, in whom albumen appeared, with a diminution of the quantity of urine, under the influence of mental strain, grief, or fear, while it was sure to be absent when the mind was at ease. The ingestion of a large quantity of fluid did not promote diuresis while under the same depressing influences, but by increasing the flow of urine the albumen could be made to disappear. Neither food nor ordinary movement was followed by albuminuria, while haste caused it.

After a duration of eight months there was so marked a diminution of the symptom that great exertion produced no effect, and after a vacation of some weeks in the mountains it was absent.

Johnson (94, p. 930) thinks that an increase of albumen in chronic renal disease may, at times, be traced to the same cause. The supposition is that, through reflex irritation of the inhibitory centre, the power of the heart is diminished, the arteries in consequence receive a smaller supply of blood, and the tension of the glomeruli becomes less. This seems confirmed by the diminution of the quantity of urine.

MUSTARD. See Skin, page 417.

NEPHRITIS, INTERSTITIAL. See page 368.

NEPHRITIS, PARENCHYMATOUS ACUTE. See page 367.

NEPHRITIS, PARENCHYMATOUS CHRONIC. See page 368.

NEPHRITIS, SUPPURATIVE. See page 368.

NERVOUS SYSTEM. See page 366.

NITRE.—Bartels states in a general way (1, v. 9, p. 171) that large doses of this drug may give rise to hyperæmia of the kidneys; but it is very difficult to obtain any definite proof of the appearance of albumen. Dr. Lawrence's case (93) of a young man eighteen years of age, whose urine became albuminous after using an ounce of sweet spirits of nitre daily for three weeks, is not reported sufficiently in detail to make it unequivocal, though it is to be supposed that the previous and subsequent conditions of health were ascertained.

OXALURIA.—Four cases with albuminuria are reported (70), but in three of them there was blood. The quantity of oxalate of lime was large. In one there were epithelial casts. The presence of bladder epithelium indicated irritation of that organ also.

OIL OF ACAJOU. See Skin, page 417.

OIL, CROTON. See Skin, page 417.

OIL OF HEMP OR FLAXSEED. See Skin, page 418.

PARALYSIS, GENERAL.—In this, as well as other severe affections of the central nervous system, albuminuria is probably owing to the influence exerted on the circulation (35, p. 247).

PETROLEUM. See Skin, page 417.

PHOSPHORUS.—While there is a difference of opinion about the amount of albumen and the frequency of its appearance (11; 23, p. 257), it is admitted that there is fatty degeneration of the cells, and to this hyperæmia and enlargement of the kidneys may be added (32).

When the organs are swollen, the circulation would, necessarily, be more or less interfered with; but when the cells are alone changed, as described, they would by accumulating in the tubuli, and interfering with the escape of the urine, so equalize the pressure on the two surfaces of the glomeruli as to favor the escape of

albumen. But such an accumulation would be expected only in the most marked cases.

PLEURISY.—Though seen, albumen is not common (45, p. 281).

The febrile character of the affection would be a sufficient explanation at times; but the interference with the circulation might often exert a great influence.

PNEUMONIA.—Albuminuria is present in a large proportion of the cases (45, p. 276). It begins generally at the height of the disease, or, possibly, may be first noticed with convalescence, or after recovery (16, v. 2, p. 863), but it may not occur with very extensive consolidation (45, p. 278), and is not always in proportion to the extent of the local affection. Casts are very common, and blood may be seen in small quantities, but not in proportion to the albumen. The explanation seems simple. We have two important factors: first, the interference with the circulation in the lungs, which must be felt throughout the body, and consequently in the kidneys; second the high temperature of acute inflammation, which we have already seen is sufficient to cause albuminuria. A certain amount of morphological change is also probable.

PNEUMONIA, CATARRHAL.—Observers differ much in their statements of the frequency with which albuminuria occurs (45, p. 319), and this must necessarily be the case if the different stages of the disease are overlooked. The appearance of albumen does not in all probability depend upon the pathological condition as much as it does upon the accidents and varieties of constitutional disturbance accompanying it, and the quantity must vary accordingly. It cannot be attributed to the diminution of the aerating surface connected with destruction of tissue, atrophy, or emphysema, for there are no indications of cyanosis in the vast majority of cases, and the quantity of blood diminishes with the progress of the disease. Fever must often play a very important part, and there may be structural disease of the kidneys themselves. Accurate observations about the time when the albumen appears might throw much light upon the subject.

PREGNANCY.—In addition to the albuminuria caused by convulsions during parturition (41, p. 68), and by pressure on the veins, we have a form dependent upon a change of the kidneys, resembling that of acute nephritis, and constituting one of the most frequent of purperal diseases. It is rare before the sixth month, more frequent in first than in subsequent pregnancies, and liable to return (10, p. 13). In many cases it disappears with the other evidences of renal disease during or soon after convalescence (41, p. 69), though the amount is generally large.

The statement that the changes resemble those of acute nephritis carries the explanation with it.

PURPURA.—See Scurvy, page 417.

PCS.—See page 363.

RHEUMATISM, ACUTE.—Though albumen is not uncommon, it may last only a single day, and the amount is usually small. Blood or elements of the kidney are rarely met with (45, p. 290).

SCARLATINA.—It is seen in a large proportion of the cases, though not in all, the frequency varying according to the character of the epidemics (45, p. 263).

It may appear at the beginning of the disease (1, v. 2, p. 215), but it is most common after the sixth day (45, p. 263) and during desquamation, lasting but a few days. Sometimes it returns when the dropsy comes

on, two or three weeks later. When the renal disease is well marked it resembles that of acute parenchymatous nephritis, and the urine is consequently similar in its character.

We have here three distinct causes,—the fever, the renal disease, and the dropsy, though the latter may occur without albuminuria.

SCURVY.—Immerman (1, v. 13⁹, p. 625) states that it is frequent, but marked only in severe cases. There is often no demonstrable anatomical lesion of the kidneys. Still we may suppose some change of the vessels, which, though not demonstrable, may be sufficient to allow the albumen of the blood to escape, as is seen in other parts, and which, when still more strongly developed, may give rise to hæmaturia.

SEPTICÆMIA.—See page 390.

SKIN, APPLICATION OF GUM ARABIC TO.—The experiments on animals reported by Feinberg (86) were followed by congestion of all parts of the body, and, at times, extravasations of blood, with more or less advanced parenchymatous inflammation of the kidneys.

This congestion was attributed to the paralysis of the vaso-motor nerves, properly traceable to the irritation of the peripheral nerves. As other evidence of disturbed innervation, there were increased reflex action, tremors, convulsions, incomplete paralysis, slow respiration, and weakening of the action of the heart.

To show that the results were not owing to cold the animals were protected by cotton-wool, but such a precaution was probably unnecessary, as experiments seem to show that rabbits whose skins have been treated in this way die at the same time, whether the bodies have been protected by cotton or not.

SKIN, APPLICATION OF MUSTARD TO.—Mustard when absorbed after the application of poultices may cause active hyperæmia of the kidney and excite true inflammation (1, v. 9⁹, p. 171), but as persons rarely die from its effects, we cannot claim that the changes produced are known. If, however, we have evidence of true inflammation during life, we have also an explanation of the albuminuria.

SKIN, APPLICATION OF OIL OF ACAJOU TO.—When a large surface is covered with this, its absorption may be followed by hyperæmia and even true inflammation of the kidney (1, v. 9⁹, p. 171).

SKIN, APPLICATION OF CROTON OIL TO.—Lassar (101, p. 158), after removing the hair from rabbits and dogs, applied to the denuded surface croton oil, which excited the usual inflammation. The animals treated in this way secreted a highly albuminous urine, and died in a few days. The kidneys showed no changes except in the cells. To prove that this result was due to the absorption of the oil, and not to the inflammation, he excited extensive suppurative in the subcutaneous cellular tissue by injecting a five per cent. emulsion of turpentine, but no albuminuria followed. These experiments seemed to indicate that the changes in the skin and kidneys were coeffects of the same agent, acting upon different parts of the body in its passage through it. Indifferent oils passed without causing trouble.

SKIN, APPLICATION OF PETROLEUM TO.—Lassar (17) cites a case of scabies, in which petroleum was applied to the skin of the whole body of a healthy man for four days. A week after, oedema began in the feet and extended upwards. There were marked albuminuria and casts until he died, after an illness of four months. The temperature was normal. A mi-

eroscopic examination showed a localized inflammatory process in the skin, but no anatomical change in the kidneys. No other cause of albuminuria was noticed. Later observations of the same writer make this matter much clearer. After taking every precaution to prevent the introduction of oil except through the skin (101, p. 166), he found in the subcutaneous tissue, the kidneys, and other parts of the body a great accumulation of oil drops, but the appearance of albuminuria depended upon a certain continuance of the experiment. Though in the earlier stages certain modifications of the urine were noticed, described as resin urine (Iarlzlharn), pepton urine, and albumen urine, with the last only was there granular degeneration of the epithelium.

To explain this series of changes, he supposed that the oil underwent some change in its passage through the body which rendered it irritating. The same infiltration followed the application of other oils, such as olive and cod-liver, but these produced no prejudicial or irritating effect. Their use merely illustrated a point in the law of absorption.

SKIN, APPLICATION OF STORAX TO. — Uuna (27) examined the urine of one hundred and twenty-four healthy persons while storax was applied to the body for the cure of the itch, the duration of the treatment being about three days. Great care was used to ascertain that all other causes of albuminuria were absent. The urine was tested in the morning, after one, two, or three applications, and until the termination of the treatment. If albumen were detected the patients were kept under observation as long as possible. In two instances the urine was tested every four hours. In the last twelve cases an examination was made before each application. The nine cases upon which the proof of albuminuria was based showed large, thick flocculent deposits; the others, in which only a trace of albumen was found, were rejected. The most marked feature was the rapidity with which the albumen appeared and disappeared. That the drug escaped through the kidneys was shown by the peculiar odor of the excretion, and yet no mention is made of any casts or other evidence of structural change.

It is difficult to explain the appearance of albumen in this connection. As we have but two factors to work with, namely, the agent applied and the albuminuria, we cannot attach much value to the solution offered by the reporter of the cases, as the supposition that the higher atomic weight of the particles of abnormal matter allowed them to pass more readily through the walls of the capillaries is only a supposition, however probable it may seem, as the odor of the urine shows that something does pass.

SKIN, APPLICATION OF OIL OF HEMP OR FLAX-SEED TO. — Sokoloff (43, p. 43) experimented upon dogs or rabbits, whose skins he covered with asphalt, glue, gum arabic, collodion, and, finally, with oil of hemp or flaxseed, of the consistence of syrup. The latter proved to be the best, as it acted simply as an impermeable covering of the skin, without causing the irritation of the other applications, or restricting the mobility of the animals, and was not liable to crack. The albumen in some cases appeared soon after the application, even while the animal seemed perfectly healthy; and such was the result whether the covering was partial or relatively complete, though the consequence was more immediate in the latter case, the albumen being seen, perhaps, in the evening, after the oil had been seen in the morning, while in cases of

partial application it might not be found before the third or sixth day. But in both instances it was liable to increase from day to day, and after a time other indications of renal disease were noticed, such as formed elements. After death, there were found, in acute cases, together with inflammation of other parenchymatous organs, swelling of the cortical substance of the kidneys, diminution in size or closure of the tubuli, and opacity of the contents as well as of the epithelium of the Malpighian bodies. If the animal lived a long time after a partial use of the oil, the appearances differed from the above. The cortical substance was swollen and of a grayish-yellow color, and the tubuli were filled with a granular mass, in which the cells and nuclei could no longer be distinguished. At times there were fat drops and a new formation of connective tissue.

These experiments seem quite conclusive, but Senator (18) initiated, as he supposed, on human beings the experiments on animals, though the object was to relieve some affection of the skin. The consequences, however, were not at all serious. He therefore inferred that much depends upon the size of the animals used, the effect diminishing with the increase of bulk. The element of time seems also to have some influence, as Gerlach, in completely covering the skins of horses, noticed nothing in the first few days (43, p. 81); and it is suggested that Senator may not have continued his experiments long enough. We must also bear in mind the character of the materials used.

The experiments of Stockvis (11, v. 45, p. 218) were only partially successful, as he found traces of albumen but twice, although there was fatty degeneration of the epithelium of the kidneys, of the liver, and heart.

Sokoloff's researches seem to point to some deleterious effect upon the blood (43, p. 76), as he found that the injection of the blood of an animal which had been covered with oil into the veins of a healthy one was followed in a short time by albuminuria, which lasted three or four days. The mere tying of the jugular vein, or the injection of the blood of a healthy animal, did not produce similar results. The effect upon the nervous system must also be considered, as this may act upon the heart (35, p. 260).

Lassar's experiments (101, p. 168) make it probable that the consequences are attributable to the absorption of the oil, afterwards rendered irritating by some change it undergoes while passing through the body.

SKIN, VANISHING OF. — Although this title has been used as indicating an immediate cause of albuminuria, it conveys an erroneous impression, the applications having been so different in character as to prevent any comprehensive statement in regard to them. We have therefore considered each instance by itself.

SPERMATIC FLUID. — See page 363.

STORAX. — See Skin, page 418.

STUPOR. — See Collapse, page 393.

TETANUS. — Though not common, albuminuria does occur in these cases, and may be attributed to the spasmodic action alone. The fact that the heart becomes almost stationary (35, p. 244), while the secretion of urine is much lessened, points to diminished pressure upon the glomeruli as the immediate cause.

THIGH, FRACTURE OF THE. — Riedel (89) in nineteen cases of fracture of the neck of the thigh, found albumen eight times, and still more frequently casts and fat.

We can of course make no attempt to explain this without a knowledge of the facts in each case, but it is not probable that any new special influence would be exerted by this accident.

TRACHEA, COMPRESSION OF THE.—The experiments of Overbeck, in which the trachea was compressed, are often quoted, though Stockvis (11, v. 45, p. 209) did not succeed in verifying them.

Admitting, however, that albuminuria may follow, we can explain it by supposing diminished pressure on the glomeruli (35, p. 235), owing to the enfeebling of the heart's action by asphyxia.

TURPENTINE.—Albuminuria may be either the result of its inhalation or introduction into the stomach (1, 9', p. 171), and it disappears with the removal of the cause. In one case where the vapor was inhaled the albuminuria continued three days, and ceased before the urine lost its peculiar odor. The drug acts as a powerful irritant (29, p. 478), judging from the effects produced, but as patients rarely die we know but little about the pathological process, though we are told that there is hyperæmia or even inflammation of the kidney.

It is reasonable to suppose that an irritating substance in passing through the walls of the vessels should so alter their character as to render them more permeable, but we are not aware that such has been proved. In addition to this, however, there are structural changes, caused by cantharides and turpentine, which play an important part in the production of albuminuria.

But Lassar seems to show that to secure this result absorption must take place through certain surfaces, as the injection of a five per cent. emulsion into the subcutaneous tissue of animals was not followed by albuminuria, although extensive oedematous and purulent inflammation was excited (101, p. 158).

VARIOLE.—The occurrence of albuminuria in the course of an attack of variola has been frequently noticed (5, p. 434), though not so often as in scarlet fever, and only in certain epidemics. Consequently the statistics of its frequency differ according to the special opportunities of the various observers. As it is most common in severe, confluent, and hæmorrhagic cases, it is about three times as frequent in the unvaccinated as in the vaccinated. It has generally appeared from the eighteenth to the thirty-first day, the patients usually being young males from five to twenty-one years old. Blood and casts have also been found.

YOUTH, INTERMITTENT ALBUMINURIA OF.—In Moxon's nineteen cases (31, p. 238), in which the children, though ailing, were suffering from no special disorder, and the urine was free from other indications of disease, the closest repeated examinations showed albumen at times, though it was often wanting. Recovery was demonstrated in a number of instances.

These facts were confirmed by other observers, the albumen being absent at certain times of day, in one case disappearing while in the recumbent posture (30), perhaps showing some connection with a chill or indigestion (57).

In Fürbringer's cases the specific gravity of the albuminous urine varied from 1008 to 1031, while that of the non-albuminous varied from 1002 to 1025; but there was a very free flow at times after the diminution. The amount of the albumen was small, and generally there was no other evidence of disease, though a few times hyaline and pale casts were found (37, p. 348).

In addition to this intermittent form, Vogel (98, p. 522) refers to persons who for years have had continuous though slight albuminuria, with no other signs of renal disease, and who appear to be perfectly well in other respects.

This may continue a very long time without ending in serious disease, as is shown by a case which lasted thirty years; or it may be completely relieved after a long duration, certainly seven years (94, p. 930).

We may suggest that, some of the patients being in rather feeble health, though not subject to any special disease, the action of the heart was less vigorous than it should be, and therefore the pressure on the glomeruli was less than usual, while at the same time the tissues themselves were in an abnormal condition, and the blood-vessels might be more permeable. But this is only a suggestion without the slightest proof. Some of the cases might, perhaps, be traced back to previous disease, but many of them, offering no points for analysis, are necessarily inexplicable.

As some of the above subjects may seem to have received inadequate attention in proportion to their importance, it should be stated that care has been taken to exclude such points as did not appear to have a direct bearing upon the subject of the article.

In the course of this inquiry many important and interesting questions have presented themselves to the writer, and an answer may perhaps be expected by those who take sufficient interest in the matter to consider fully its significance.

Among these is that of the connection between renal affections and the various diseases with which they have been found associated in the careful examination of the records of large numbers of autopsies, such as that of Bamberger (91).

Any investigation of the kind, however, is foreign to our purpose. We have attempted only to show how far the present state of knowledge will enable us to explain the appearance of albumen under certain conditions. If the results arrived at be correct and the single factors understood, their combination will offer no difficulty.

If some of those mentioned as transient or unaccompanied by renal lesions should prove to be permanent, or the initial agents in the production of any of the forms of nephritis, the fact has only to be ascertained to carry the explanation with it; for the various changes of the kidneys act in certain ways, whatever their cause may be, and it is this mode of action alone we have attempted to elucidate.

RECENT PROGRESS IN DERMATOLOGY AND SYPHILIS.¹

BY EDWARD WIGGLESWORTH, M. D.

CHIRYSAROBIN AND PYROGALLIC ACID IN SKIN DISEASES.

HERRA reports² that chrysarobin has not, in his clinic, answered so well for extended territories of psoriasis as for more limited ones. Spread over large tracts, inflammation followed, succeeded in its turn, as is the custom in this disease, by psoriatic patches upon the inflamed spots. For small local patches it an-

¹ Concluded from page 396.

² Wien. med. Presse, Nos. 43, 44, 1879.

swered well. On the head it could not be used, as it dyed the skin and hair. In other diseases chrysarobin was no better than those means now employed. Pyrogallacid, however, possessed great advantages applied twice daily as a ten per cent. salve, the spots being then covered with flannel. The results were always good, the duration of the treatment was not much longer than with chrysarobin, inflammation less rarely occurred, and pigmentation was less marked. No case of poisoning took place, though the remedy could always be detected in the urine. Single patches were removed in from one to three weeks. Tinea tonsurans yielded speedily. For lupus the ointment applied on cloth for three days was often sufficient to destroy nodules, the skin healing in three weeks more with an indifferent salve; so, also, for syphilitic infiltrations and even epitheliomata, the last requiring often, it is true, more severe applications. Experiments made with pyrogallacid¹ prove, however, that it may produce toxic results, and Neisser reports² the case of a healthy man, a patient in the dermatological clinic at Breslau for universal psoriasis, half of whose body was treated by chrysarobin and half by rubbing with the ten per cent. pyrogallacid ointment. Chills, vomiting, and collapse followed, repeated forty hours later, and on the fourth day death ensued, with coma and marked fall in the temperature of the body. The urine (1600 c. cgm. in the four days) demonstrated to the highest degree haemoglobinuria. Controlling experiments made upon rabbits showed no change after the application of chrysarobin; chills, dyspnoea, tremor, collapse, and death after pyrogallacid (two grm. to one kilo. animal). These results Neisser attributes to the marked absorption of oxygen by this acid in the presence of alkalies and the consequent decomposition; which effects can be shown outside the body equally well. The therapeutics would be venesection and transfusion. Active diuresis in the early stages is also called for to render the uriniferous canal patent, as these are early blocked by a sediment. Pyrogallacid, a non-irritant, but a general poison, will do for small tracts like the head; chrysarobin, a violent local irritant, but not a general poison, is preferable only for the body.

HEREDITARY SYPHILIS.

Dr. Maximilian Zeissl records³ with admirable terseness a most clearly defined case of syphilitic infection in utero, which meets precisely the conditions demanded by Kassowitz, who denies⁴ the possibility of such infection: (1.) The father must be healthy at the moment of fecundation. (2.) The mother the same, and the moment of the subsequent infection must be exactly known. (3.) The child must be born, and must show positive marks of syphilis. Abortion is not enough, nor death in utero, nor death soon after birth, nor a weak constitution. Mr. X., a trade drummer, left his home, a healthy man, July 15, 1877. He left a healthy wife two months pregnant; last menstruation May 5th. He had connection with a strange woman in Vienna July 24th. Came to Professor Zeissl's clinic August 20th. On the inside of the prepuce was an ulcer one half c. cgm. in diameter, with tough edges and a hard base, suppurating slightly. An astringent wash was applied and secondary ap-

pearances waited for. September 23d, there appeared a maculo-papular syphiloderm and specific catarrhal angina. October 29th, Mr. X. returned to his home, the initial sclerosis still slightly indurated, to bring his wife to Vienna to be confined. He, spite of warning, had connection with his wife. Early in December, the wife, now seven months pregnant, showed to Zeissl an evident initial sclerosis on the left labium minus, and by the end of December a general macular syphiloderm. February 14, 1878, at the normal time, a living child was born, which showed, eleven days later, bullae on the soles and between the toes and a maculo-papular eruption upon the rest of the body, and died after a few days. The necropsy was forbidden by the parents. Had either parent been already infected, such one would not have had a primary sclerosis. The child showed no primary sclerosis, and had no time after birth to acquire one from any external source. The wife subsequently had a specific iritis, and in July, 1878, gummata; at which date, and in February, 1879, she aborted. Since July, 1879, both she and her husband have had good health. Is not, then, the virus of syphilis a contagium vivum, not chemically soluble, like that of variola or of scarlatina? Mauriceau, the celebrated obstetrician of the seventeenth century, was born with small-pox. Klebs discovered the helico-monas, a parasite, which he cultivated and inoculated upon an ape, producing syphilis. Zeissl rubbed cinnabar into a chancre (Aner. chancroid), and Stricker found the drug in blood taken from the patient's hand. It is not yet proved that blood globules, even, may not traverse the placenta, still less bacteria; for the most careful filtration will not free a liquid containing them from the presence of micro-organisms. Mireur has recently inoculated the sperm of a syphilitic man, with negative result; so Pellizari blood plasma, while the various inoculations with the blood of syphilitic patients have succeeded about one time in three. Yet the following goes to prove that semen may infect: In 1866 Zeissl treated a man for syphilis. This man waited one and a half years after the disappearance of every symptom, and then married a healthy woman, having first confessed to her the facts. She was examined once a week by Zeissl for six months, and never showed any primary sclerosis. Then her hair fell out, nodes came upon her shins, and her health gave way. Under iodide of potassium she recovered entirely, and in 1878 bore a healthy child, which is still alive and well. Birch-Hirschfeld concurs with Zeissl in his views upon this subject.

UNIVERSAL ERYTHEMA FOLLOWING THE USE OF CALOMEL.

Engelmann describes⁵ a general erythema following the administration during one half day of three doses of calomel of fifteen centigrams each, the patient being a healthy but nervous and thin-skinned man of forty-two years. The erythema appeared two hours after the last dose, with malaise, a dry, itching skin, photophobia, hoarseness, fever, thirst, and insomnia. The patient reported a similar condition years before after taking blue pill, and again when he had been present during the exhibition of some of the toy "Pharaoh's serpents." The fever grew daily less, and on the fourth day desquamation began. The strength and appetite were not normal, however, for a fortnight.

⁵ Berl. klin. Wochenschr., October 27, 1879.

¹ Berl. klin. Wochenschr., 24, November, 1879.

² Zeitsch. f. klin. Med., von Friedrichs und Leyden, Bd. i. He. I.

³ Allg. Wien. med. Zeitung, No. 50, 1879.

⁴ Die Vererbung der Syphilis, von Kassowitz, page 431.

TRYCOPHYTIC ONYCHOMYCOSIS.

Vidal's wards in L'Hôpital St. Louis presented¹ recently this rare disease. A man, aged sixty-seven, had been anemic for nine years, with general desquamation and itching of the body, on which there were, on inspection, no hairs, while those upon the hands were broken, and, under the microscope, showed trycophyton spores. Patient left, after treatment, uncured, and returned five months later with marked *tinea circinata* of body, and with his nails thickened, raised, and showing small yellow spots under the external horny layers, due to the presence of spores. In some cases these had formed longitudinal striae, and had also separated, raised, and split off some strata of the nails, this exfoliation corresponding to the broom-like splitting of hairs. One toe-nail was also affected. Favus would be more limited in extent, and grows under the nail in the subungual derma and soft parts. The trycophyton enters at the extremities between the layers of the nails. Both come from scratching. Eczema would also have longitudinal striae, but the nails do not separate into filaments. Psoriasis has transverse striae. The trycophyton may destroy the nails. Vidal thinks favus would require an infinite time to destroy the matrix of the nail. In onychophytosis, which results from alterations due to long irritation, eczemas, crushing, tight shoes, etc., adventitious parasites may be found, the *torula vulgaris*, for instance, being possibly present wherever vacuoles exist in epidermic products. To treat true onychomycosis the nail should be thinned by scraping with a bit of glass, and then wet frequently with corrosive sublimate, one gramme in two hundred of water, which is about three times as strong as one would use it upon the skin or hair.

SCLERODERMA ADULTORUM.

Neumann, of Karlsruhe, gives² the case of a peasant woman, aged sixty-three, who in the autumn of 1878 felt a disagreeable tightness of the skin of the right leg and thigh, the latter showing soon afterwards some thickening and a reddish-brown color. On examination, the right leg seems smaller than the left; the skin from the knee up stiffened, shining, and separated into fine longitudinal wrinkles, in parts scaly, and from the calf to the heel full of hæmorrhagic points. The skin cannot be raised, and the whole limb seems of one consistence, and that cartilaginous. The knee is bent. Sensation preserved, though no blood follows the needle. Changes of temperature are noticed by the patient. Pressure causes pain. The thigh is yellowish in front, brownish spots and bands appearing after exposure to the air; behind, it is rough and fissured, a greenish-brown crust covering a livid, bluish spot, partly hæmorrhagic, like a vascular naevus. A syringe of a two per cent. solution of pilocarpin caused profuse sweating everywhere except upon the affected limb, which remained quite dry. A piece of skin excised showed, under the microscope, unchanged epidermis and normal sebaceous glands, but a thickened corium forming a uniformly consistent tissue to the fascia, and passing into the subcutaneous cellular tissue without demarcation, and total absence of fat. Minor details proved indisputably a scleroderma, a stage of infiltration and elevation having been followed by atrophy or cicatrization, the cicatrix not being the primary symptom.

¹ Gaz. des Hôpitaux, March 9, 1880.² Virchow's Archiv, December 15, 1879.

Blood-vessels were sometimes dilated, and again at times contracted. Ætiologically, the case is negative, there being no history of rheumatic, erysipelatos, varicose, Basedow's, vaso-motor, or other affections. As to treatment, stimulant frictions, warm or alkaline baths, pilocarpin, etc., produced no effect. Possibly at an early stage these means, with hygienic conditions, might have been of service; but the present anatomically fixed condition, resulting from long continuance of the abnormal process, is not to be changed. The patient walks, although upon her toes.

SO-CALLED VIRULENT BUBOES.

Berger quotes³ a paper⁴ of Dr. Gustaf Trägårdh upon the overestimation of the virulence of chancroidal virus as compared with that of degenerated simple pus. He found, out of one hundred and fifteen sailors with buboes, fifteen affected by urethritis alone, without any chancreoids. The buboes were all alike, and inoculation from the freshly opened chancroidal buboes produced no chancreoids; while all will admit that no special "gonorrhoeal" virus is to be obtained from buboes derived from a clap. No special virus, in the latter case, is passed along to the glands and there stored up, and the writer holds that such a supposition is equally incorrect in the case of chancreoids. Where buboes had been opened before coming under his care, positive results were obtained in nearly fifty per cent. of the inoculations, and he holds that in cases where chancreoids have been inoculated from buboes, these last have themselves been changed from simple sores by indirect or direct contact with the preëxisting chancreoids. The writer has many times seen the ulceration in the groin exactly correspond to the position of the ulceration upon the penis. If the affected glands in the groin are depositories of chancroidal poison rather than simple irritation products, why are not the walls of the endothelium-lined lymph vessels affected by chancreoids? Furthermore, if a special virus can reach the first gland of the lymphatic system, why does it not also extend to the second, and so on, which fact has never yet been observed? Finally, if chancroidal virus is present, why do so few of even chancroidal buboes ever suppurate and form of their own accord open chancreoids?

CASE OF CHROMIDROSIS.

Dr. Camuset furnishes⁵ the case of an unmarried woman, twenty-one years old, anæmic, though from healthy parents; menstruating at twelve years once, then not for four years, but at present profusely; prurient and dyspeptic. The discoloration (quite black) was noticed one morning upon awaking. It was situated upon the lower eyelids, whence it extended upon the cheeks. During the following three years the breast, abdomen, and inner thighs took on the same appearance, which was better at times, and again worse, especially after the patient had slept well. Tonics and treatment for dyspepsia produced no effect, and the patient finally resorted to cosmetics.

COLLOID DEGENERATION OF THE SKIN.

Dr. Besnier reports⁶ the case of a forester, aged forty-six, the upper half of whose face and nose showed an eruption of small, yellow, shining, translucent protuberances,

³ Schmidt's Jahrb. Bd. 181, No. 12.⁴ Hosp. Tidende, 2, B. Vt. 53. 1879.⁵ Gaz. des Hôp. 98, 1879.⁶ Gaz. hebdom., 1879, No. 4.

appearing like blisters, but containing jelly rather than fluid. They were removed by the scraping-spoon. Histologically, the contents of the nodules consisted of a colloid mass seated in the upper layers of the corium. The papillae, glands, and epidermis in the neighborhood were pushed aside, and had become partially atrophied. The writer objects to the name colloid-milium proposed by Wagner for this disease, upon anatomical grounds.

NON-VENEREAL SYPHILIS.

Dr. Plummert, assistant at the clinic of Professor Pick, of Prague, gives¹ detailed accounts of four cases of primary affections of the mamma in women, and one of the breast, under the clavicle, in a man; two of the lip in women, and two in men; one of the chin in a baby boy; one of the thumb in a woman. The first four were infected by their foster-children; the fifth from his brother, by means of a scratch. The lips of the women, where affected, had, in the first case, come in contact with the plates, glasses, etc., used by a syphilitic sister; in the second case, with the sugar teat of her infected infant, and, in caressing, probably with the infant himself. The sugar teat was frequently moistened in the mouth of a syphilitic woman, a fellow-lodger, before being given to the child, the baby boy mentioned above. The men with affected lips had acted as cunnilingi. The woman whose thumb was affected had, as midwife, delivered a syphilitic woman.

HYMENOPTERA AS PARASITES IN THE SKIN.

Professor Fischer, of Breslau, records² the case of an elderly lady, well educated and not hysterical, who for six months had been afflicted by a general exanthem, especially upon the fore-arms, legs, and back. Blisters, she stated, would form, causing intolerable itching, and, being scratched open, would emit small living insects, which flew away. The husband and immediate family testified to the same effect. Still doubting, Professor Fischer induced the lady to visit a son-in-law who was a physician. This gentleman, Dr. Theodor, of Tost, observed the fact with his own eyes, and caught a female specimen, which was examined by Dr. G. Joseph, and proved to belong to the Braconidae, Hymenoptera. The case will be now most thoroughly investigated. No applications have as yet afforded relief. The hymenoptera are known to be parasitic upon rodents and caterpillars, but have not been described as attacking human beings.³

PEMPHIGOID INFLAMMATION OF THE HANDS FROM ARSENIC INTERNALLY.

The English School of Dermatology is at last finding out that arsenic is not a universal panacea in affections of the skin, especially acute ones, and Mr. Startin contributes⁴ a case of apparently bullous dermatitis, due to the internal administration of Fowler's, and later of Donovan's, solutions, in five-minim doses ter die. Both hands were freely perspiring, hot, swollen, itching, and tender. Some fever. Pulse 100. Temperature 38.5° Cent. Palmar and dorsal surfaces covered with vesicles and blebs, discrete or coalescing, entire or broken, and oozing a serous or sero-purulent fluid, which was alkaline and coagulable by heat or nitric acid. Microscope showed pus and epidermic cells.

¹ Allg. Wien. med. Zeitung, No. 49, 1879.

² Deut. che med. Wochenschr., No. 24, 1879.

³ Allg. med. centr. Zeitung, November 8, 1879.

⁴ Lancet, December 27, 1879.

SYPHILIS.

Dr. Schenck, in a lecture to students upon syphilis, collates⁵ some interesting facts and statistics: 1,500,000 new cases occur annually in England, Scotland, and Wales; 58,000 cases are annually treated at Guy's Hospital alone. David suffered from it. Herod died of it. Horace speaks of the *morbus caninum*, and certainly old Dr. Grimbée caught it "in the field on a summer's afternoon;" the clergy, blameless though suffering, denying that "the stars were at fault," and asserting that "it was in the air." The aetiology of its nomenclature has been supposed to suggest miscegenation, *sus* and *phileo*. Welch has shown that forty-six per cent. of patients dying from aneurism are syphilitic. Hutchinson has taught that "all living pus is contagious, and soft chancre is due to contagion with inflammatory products. If the pus contains syphilitic virus we have syphilis; if not, chancreoid." Dr. Schenck regards syphilis as an exanthem, and its so-called tertiary lesion as its sequela; urges that one, in all one's givings, give mercury; would commence treatment thus before the appearance of any symptom beyond the primary sclerosis; and desires a law, not merely to protect men from the diseases of women, but, in accordance with common sense and justice, one which shall also protect women from the diseases of men, and that without giving impunity to lust, discouraging marriage, and lowering the general moral tone.

ETIOLOGY AND PROPHYLAXIS OF PREMATURE BALDNESS.

The majority of cases of premature baldness result from seborrhoea; that is, from not using enough soap and water. But every rule has its exception. There are some skins so dry that the use of soap and water should be avoided. Over-stimulation may cause the loss of hair, though the irritants employed are those of most use in exciting sluggish follicles to the production of hair. Ellinger found⁶ that eighty-five per cent. of patients suffering from a particular kind of baldness had been in the habit of liberally washing the head from youth. Of elderly people with specially luxuriant hair growth, only eight per cent. were washers, while nearly all wore the hair loose and dried it immediately after washing. Baldness of the crown of the head he does not connect with washing, but rather with seborrhoea. It is the "frontal alopecia," where, in addition to the change in the natural direction of the growth of the hair, the parts are frequently stimulated by the water used to wash the face, which he holds is due to over-use of water, the external layer evaporating rapidly, the lower ones forming, "at the exit of the hair from its follicle, with epidermal scales and sebum, an emulsion which hardens, occludes the hair follicles, and, by stopping these up, produces atrophy of the hairs." Thorough mechanical cleansing is Dr. Ellinger's prophylaxis; not with soap, but with sand and a steel brush. His opinions had best be received *enim* *see centigrams salis*.

— We are happy to state that Dr. G. H. Lyman, president of the Massachusetts Medical Society, who has been confined to his house for some weeks by severe illness, is better, and hopes soon to be able to give his personal attention to correspondence and other business connected with the society.

⁵ St. Louis Courier of Med. and Collat. Sciences, December, 1879.

⁶ Virchow's Arch., Bd. lxxvii. H. 3, 1879.

Recent Literature.

A System of Medicine. Edited by J. RUSSELL REYNOLDS, M. D., F. R. S., Fellow of the Royal College of Physicians of London, etc. With numerous additions and illustrations by Henry Hartshorne, A. M., M. D., Fellow of the College of Physicians of Philadelphia, etc. In three volumes. Vol. I. General Diseases and Diseases of the Nervous System. Vol. II. Diseases of the Respiratory and Circulatory Systems. Philadelphia: Henry C. Lea. 1879.

The importance and scope of this work is well known to our readers, and through the enterprise of the American publishers we now have the somewhat bulky and expensive English edition presented in three compressed volumes instead of five, with a corresponding decrease in the cost. The text is interspersed with additions and comments by the American editor, on those subjects which the experience of American physicians has shown to present different practical aspects here; so that, in spite of the fact that many of the articles in the earlier volumes were written several years ago, as is the case in all cyclopaedic works so extensive in plan, the recent additions, combined with the standard character of the various chapters or treatises, give this system of medicine a value which no other work on English medicine possesses.

Among the contributors to Volume I., which treats of General Diseases and Diseases of the Nervous System, are Drs. Aitken, Anstie, Bastian, Begbie, Beigel, Bristowe, Buchanan, Chambers, Tilbury Fox, Gamgee, Garrod, Gee, Gull, Hartshorne, Hutchinson, Hughlings Jackson, Maudsley, Parkes, Reynolds, Ringer, Roberts, Sutton, and others of equal note.

The fatal epidemic of whooping cough which has prevailed in England this year gives emphasis to the statement by Dr. Edward Smith, in the article on that disease, that in the London district during ten years only six affections caused a greater mortality, namely: phthisis, pneumonia, bronchitis, typhus, convulsions, and scarlatina. The variable course and duration of whooping cough, the fact that it usually subsides after a longer or shorter interval, either with or without remedies, and that the most potent specifics in the hands of one practitioner may entirely fail when applied to a different class of cases by another, lead the author to regard attention to the general health, and the alleviation of the spasms as the chief desiderata, and for the latter purpose he has found the muriate or acetate of morphia, given in doses of one sixty-fourth of a grain, every four hours if necessary, for a child a year old, producing and maintaining a slight drowsiness, to be usually efficacious. The constant experimenting with newer remedies, however, shows a want of faith in the specific character of any of the old ones in this distressing malady.

To the article on Typhoid Fever, by Dr. Harley, the editor has added paragraphs on the expectant and the antipyretic modes of treatment. Professor McLean, writing on dysentery, expresses great confidence in the early use of hot baths to restore the suppressed action of the skin, and in the administration, in the early stages, of twenty-grain doses of ipecacuanha, after the method which has proved so successful in India. Dr. Garrod's valuable articles on Gout and Rheumatism are supplemented by the editor's notes on the sal-

icylic acid treatment, in which the inconvenience and possible dangers of a too free use of that drug are set forth.

The chapters on Diseases of the Brain and Nervous System, which occupy the last half of Vol. I., are of especial interest and value to the general practitioner, and are written by the best authorities on those subjects.

Vol. II. begins with a practical article on Diseases of the Larynx, by Dr. Morell Mackenzie, which concludes with an appendix on the use of the Laryngoscope. Then follow chapters on Emphysema of the Lungs, by Sir William Jenner; Asthma, by Dr. Hyde Salter; Phthisis Pulmonalis, by Dr. Bennett; Pneumonia, by Dr. Wilson Fox, and others of equal importance. The article on Pleurisy, by the late Dr. Anstie, contains a *résumé* of Dr. Bowditch's original papers on Paracentesis Thoracis, which operation is commended to the attention of British readers in language much more forcible and appreciative than had previously been adopted by writers on that subject.

The chapters on the Diseases of the Heart and Blood-Vessels, by Drs. Peacock, Sibson, Gairdner, Gowers, Begbie, Hilton Fagge, Douglas Powell, and Bristowe, are perhaps the most complete portions of the work, which is soon to be finished by the appearance of the third volume.

A review of such an extensive work is hardly practicable, but we have indicated above its general scope for the benefit of those of our readers whose attention has not been called to this important American reproduction with its essential additions.

The Spectroscope in Medicine. By CHARLES A. MACMUNN, B. A., M. D., University Dublin. Philadelphia: Lindsay and Blakiston. 1880.

This treatise, which considers the applications of the spectroscopic to medicine, and more especially to the study of blood, bile, and urine, contains but very little that may not be obtained from other sources. It is chiefly valuable in that it gives much information which otherwise must be sought for over a wide field, and on this account it will probably prove of great service to many. It contains three chromo-lithographic plates of physiological and pathological spectra, and in an appendix a complete bibliography relating to the study of absorption spectra, etc. The latter is very useful for reference.

Minor Gynecological Operations and Appliances. By J. HALLIDAY CROOM, M. D. Edinburgh: E. & S. Livingstone, 57 South Bridge. 1879.

As a simple reminder to the author's own students of the lessons he has given them, we think the book may serve its purpose, which Dr. Croom implies in the preface to be the one intended for it. But as a work to send out to the profession, it is of little value. It is beautifully printed, and contains about a hundred pages.

— We observe that Mr. Edison, not having succeeded in dispelling darkness by electricity, has consoled himself by an invention to relieve the suffering of neuralgia. It has been patented under the suggestive name of Edison's Polyform.

Medical and Surgical Journal.

THURSDAY, APRIL 29, 1880.

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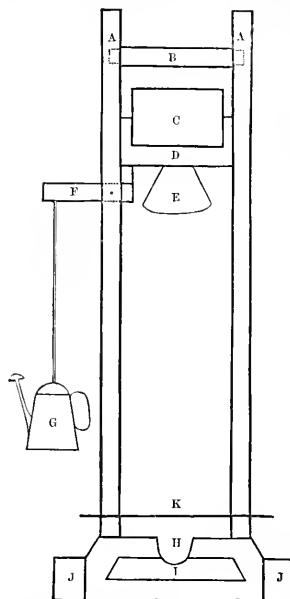
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AN UNUSUAL MODE OF SUICIDE.

A YOUNG man, who, with his father, worked a small farm near Chelsea, committed suicide lately in a manner and under circumstances which deserve notice. He and his father slept in an old barn on the place Saturday night, and Sunday morning the father started to go to their home, which was at a distance, remarking to his son, who had not risen from the hay where he was lying, that he should come back Monday morning, and that in the mean time he too had better go home to the house. The young man did not appear, and on Monday when the father returned, about midday, on entering the barn he found his son lying dead on the floor of the barn, with his head completely severed from his body, or attached only by a portion of skin at the front of the neck. The decapitation had been performed by a rough sort of guillotine, which the self-ordained victim must have spent the whole day Sunday in constructing. There was reason for thinking that the deed was consummated between seven and eight o'clock Monday morning. The young man must have been unconscious, if not dead, from the effects of ether at the moment when the blade descended. We extract from a daily paper, the *Boston Herald*, a description of the guillotine as constructed, with a diagram of the apparatus:—

This machine was improvised from material found in the barn, and its plan of operation, which proved equal to all its builder expected, was as follows: Two uprights, three by four joint, twelve feet in length, extended from the floor of the lower story to the ceiling, to which they were securely spiked. The lower ends of the uprights were mortised in a solid piece of hard wood, about eight by twelve inches in size, and some three and a half feet in length. In the centre of this bed-piece was chiselled out, apparently with a very dull implement, a groove sufficiently deep and wide to admit the entrance of a man's neck. Fitting between the uprights, in an easy, sliding position, was a square piece of two-inch plank, to the lower edge of which was securely fastened the blade of a carpenter's ordinary broad axe, sharpened to a keen edge. The bottom of this slider rested upon a lever fifteen inches in length, working upon a pin secured in the left upright, and from the end of which, suspended by a cord three feet in length, was a watering-pot, which had been filled with water. On the top of the slider was a box containing fifty pounds of stone. The bottom of the watering-pot, which was an ordinary twelve or fourteen quart vessel, such as is commonly used on a farm, had been perforated with holes, so that the water might leak out and release the lever, thereby allowing the sliding block with the axe attached to fall. The axe, after being released, had a fall of six and a half feet. In order to render the uprights more firm and prevent any lateral motion, a piece of scantling was mortised in between them at about eighteen inches from the top. At the base of the uprights were two holes, through which was thrust a broom-handle, which, effectually imprisoned the neck of the victim and prevented any attempt to remove it. In front of the machine, on the floor, was a small piece of timber, about two feet long, six or seven inches wide, and some four inches thick. In the end, next to the bed-piece of the guillotine, was gouged a cavity large enough to hold about two quarts, and in it was found

about a pint of ether. This ether came directly under the nose of the victim, which rested upon the floating lid of a cigar box. On either side of this, with their ends firmly braced against the bed-piece in order to steady it, was a large box filled with stones and dirt. The following is a diagram of the apparatus:—



- AA. Upright posts of guillotine.
- B. Cross-bar uniting and holding them in place.
- C. Box weighted with stone to give blade force.
- D. The knife-slide, going up or down in the grooves on uprights.
- E. Broad-axe.
- F. Lever holding axe and weight in place.
- G. Water-pot, which, leaking, released the axe and block.
- H. Collar in which deceased placed his neck.
- I. Box in which ether was placed under nose of deceased.
- JJ. Boxes filled with stone and used to brace the uprights.
- K. Piece of broom-handle inserted in uprights over the neck to keep head in position.

This case recalls a very similar one which occurred in a town in Indiana, and may be found fully reported in the *American Practitioner* for July, 1876, from which we quote a description of the instrument as constructed on that occasion:—

The essential parts of the instrument were a broad-axe and lever screwed at one end to the floor; the axe was secured to this lever, seven feet in length, the lower two thirds of which consisted of wood, by upright pieces of bar-iron fastened with bolts and screws. The lever was composed of three separate parts, for convenience in transportation, firmly bolted together, the widened end being attached to the floor by means of hinges to prevent any possible lateral motion. At the other end of the lever, the iron bars to which the axe was attached were very heavy, in order to give the machine great effectiveness when put in motion. The axe being elevated, was sustained at the proper angle for falling the greatest distance possible by means of a double cord attached to the free end of the lever, and to a small hook in a bracket, which was securely fastened to the wood on the side of the window, about five feet from the floor. On this bracket was placed a lighted candle between the cords, which were consumed when the candle had burned sufficiently. The axe being then unsupported, fell. The suicide had placed an ordinary soap box on its side, with its open end just even with the

line where the axe would fall; this box contained his head when he lay stretched on the floor at right angles to the direction of the falling axe; three pieces of pine board sustained his neck; the chin was held back and the head kept in place by a little wooden rod falling through the sides and across the box. The body and legs were fastened to the floor by means of straps.

The suicide had provided himself with an anæsthetic; but it is questionable whether the quantity or method of administration were such as to cause unconsciousness.

The arrangements in this case were marked by the same deliberation and determination as in the other. The suicide came to a hotel Saturday morning, selected his room, made his preparations during the day, paid some visits, during which he was cheerful and talkative, returned to his room about eight in the evening, and was found the next day decapitated. Both of these men were of good habits, as reported, and happy and prosperous in their domestic and social relations. The Indiana man was said to have always shown a great interest in methods of causing death, and much admiration for men who have rendered themselves famous as inventors of machines which would cause death suddenly and with dispatch. Of the Chelsea man, too, his acquaintances report that his conversation was mainly upon criminal matters and suicides, and that he was full of information on all such subjects. One of them was a man of remarkably fine physique, and the other by no means the reverse. In regard to the Indiana case no family history was given, but in the Chelsea case the hereditary taint was extremely probable, both grandparents on the father's side having been confined in insane asylums, the grandmother dying in one. In the former case the choice of surroundings seems to indicate a morbid desire for notoriety as the influential motive; in the latter a letter was left, addressed to the family of the suicide, saying he considered the step he was about to take the only right one, and that he would therefore offer neither regrets nor excuses. There was no theatrical display.

The precision with which the fatal work was accomplished in each case might serve as an example to official executioners, who sometimes make sadly bungling work, of which we were reminded not long ago in two neighboring States, and suggests anew the question by which method society would in the long run be the gainer and the tendency to crime diminished,—by a frequent painless execution of the death penalty, or a more rare and terrifying one.

SPECULATION IN OPIUM.

A WRITER in one of the New York daily papers calls attention to the fact that there is now likely to be a "corner" in opium, gotten up for speculative purposes. For some weeks past, he says, it has become evident that the supply of medicinal opium would fall short of the actual public requirements. It seems that the supply for the last two years has been five thousand to six thousand cases, of one hundred and fifty pounds each on the average; but last year the production fell off to about four thousand cases, and the estimate of the coming crop is reduced to about fifteen hundred or two thousand cases, owing,

it is stated, to the unusually cold weather that has prevailed in Turkish Asia. The annual consumption is about five thousand cases, and had it not been for the extraordinarily large crop in 1877-78, which amounted to nearly ten thousand cases, the scarcity of the drug would have been felt during the current year. This unusual surplus, however, is now exhausted, and the visibly supply is reduced to about four thousand cases, distributed between London, Smyrna, and New York, of which it is estimated that at least one thousand cases are unfit for use. Such being the statistical phase of the supply and demand of opium, it is not perhaps surprising to learn that Wall Street, aided by some London speculators, has gobbled up nearly all the available opium in the United States, and that the price has already gone up from \$1.00 or \$1.50 a pound in bond to \$6.50 or \$7.00. Opium being an article that the public cannot dispense with, it seems altogether probable that during the present year it will rise to at least ten or twelve dollars, thus recalling the days of a dozen years ago, when the small supply of the drug was controlled by a few men, and it was sold in jobbing lots as high as thirty dollars a pound. There can certainly be no doubt, if the above statistics are correct and the short crop of opium in Turkey is a fact, that the speculators will have it all their own way, because our own trade cannot look to Europe for a renewed supply, on account of the scarcity of the drug there as well as here.

But the Wall Street men are not the only ones who are now hoping to grow rich off the necessities of suffering humanity. The wholesale druggists are also very largely interested in this disgraceful and iniquitous scheme of speculation, and the coolness and freedom with which they speak of the unscrupulous operations in which their insatiable greed induces them to engage affords a melancholy commentary on the boasted civilization and enlightenment, to say nothing of the Christian spirit, of the age. The situation is described by a member of one of the firms as follows: The stock of medicinal opium in the world to-day is estimated to be about four thousand cases, seventeen hundred of which are in the United States and thirteen hundred in London. Two months ago a syndicate of capitalists began to buy up and concentrate the stock. Probably they now control two thousand cases,—or half the entire stock in the world,—and they have concentrated it in New York and London. The average annual consumption of opium in the world is from five thousand to six thousand cases, and the coming crop from Turkey will be three thousand cases (a considerably higher estimate, it will be noticed, than that of the writer mentioned above). The syndicate unquestionably has a very long purse, it being probable that there are at least fifty million dollars at its back. "If you want to buy any opium," the gentleman remarks in conclusion, "you must go to Wall Street or come to us. They would like to have us come in with them, but we prefer to row our own boat."

Probably the only consolation that can be derived

from a consideration of this opium "boom" is that the price of the drug is not likely to reach the extreme high figures that it did twelve years ago, partly because the stock is not so low in quantity as it was then (the entire supply of the world being reduced, it is said, to sixteen hundred cases), and partly because the duty on importation was then \$2.50 per pound instead of one dollar, as at present.

THE WARREN PRIZE.

WE are authorized to announce that none of the essays offered this year for the triennial prize have been found worthy of an award. We are also able to state that one of the causes operating to lower the standard of the work offered for competition was the lack of a reasonable amount of care in the preparation of the manuscript. This is, we believe, a crying complaint of prize committees. Few writers appreciate the labor necessary to read and estimate articles under even the most favorable conditions. If an author sets any value upon his own work, he should at least confer upon it the honor of being copied and bound in a form that will make handling a possibility. If the writer shows little respect for his work, he can hardly hope to exact it from others. That an author should preserve his incognito goes without saying, and yet these rules are in a great number of instances ignored.

The Warren prize is the largest offered in this country for general competition. The subject for 1883 will, we understand, be announced shortly.

MEDICAL NOTES.

— We call attention to the advertisement of the committee of arrangements of the Massachusetts Medical Society with regard to the exhibition of drugs, instruments, and books at the annual meeting in June.

— A cottage hospital containing twelve beds was opened with appropriate ceremonies on the 20th inst. in the city of Auburn, N. Y.

— Dr. Joseph Rogers writes to the *British Medical Journal*, "In the *London Medical Record*, which frequently contains useful hints for the general practitioner, I saw lately a formula for the treatment of post-nasal catarrh. It was, I believe, originally suggested by Dr. Duffin. It consists of oxide of bismuth, powdered gum acacia, and a small quantity of muriate of morphia. This should be well mixed, and then, if used as a snuff in severe coryza or post-nasal catarrh, it acts in a most charming manner. Cases of great severity and long duration have yielded to it after three or four days."

— The *Maryland Medical Journal* says, "Listerism, pure and simple, it is stated, is dying out in New York city. It is employed in New York and Roosevelt hospitals by only one surgeon. It is but little used in Bellevue, Presbyterian, St. Luke's, and St. Francis hospitals. At the Woman's Hospital it is applied as a rule in ovariectomy, but not always. In Baltimore it

has never been generally employed, its use being confined to one or two test cases. This is due to the great inconvenience attending the use of the spray, and to the fact that thorough cleansing and drainage have been considered the only essential results secured by these methods, being as good as those effected by the employment of Listerism in all of its details."

— The *Chicago Medical Gazette* says with regard to unusually high temperatures: Dr. John W. Teale, of Scarborough, England, our readers will perhaps remember, published a very notable case of extreme high temperature in 1875, which was the subject of considerable criticism at the time. The temperature of the patient, who was suffering from a severe spinal injury, ranged as high as 122° F.; the observations were made with unusual care and confirmed by two observers. The patient recovered, but subsequently had a relapse under another physician, and the same peculiarities were noticed, a thermometer bursting on one occasion at 117° F., the index being found in the broken-off air-space at the top. At the meeting of the British Medical Association at Cork, last summer, a paper on the subject was read by Dr. Donkin, of London, and published in the *British Medical Journal* of December 20, 1879. In it he reports an observation of his own of a case of enteric fever in which the temperature ranged as high as 111.6° F., and also refers to seven other cases observed by competent medical men, in which it was even higher. In none of these were specially dangerous symptoms or conditions mentioned as apparently connected with these high temperatures. On the strength of this Dr. Teale again comes to the front in a communication to the *British Medical Journal* of January 24th, in which he claims that his observations have been fully vindicated, and that the following points are clearly established: (1.) "Temperatures above the degree formerly supposed to be necessarily fatal do sometimes occur without a fatal issue; nay, even without extreme peril to life. (2.) Such exceptional and excessive temperatures as a rule end in recovery. (3.) The conditions of body in these cases of excessive temperature appear to be distinct from the conditions existing in fevers, in which the rule as to the extreme peril of temperatures of 107° F. and upward remains unassailed."

NEW YORK.

— Dr. Salvatore Caro, who some time ago brought suit against the Metropolitan Elevated Railroad, in order to recover damages for the injury done him by the running of the road in front of his residence on Fifty-Third Street, has had a decision rendered in his favor by the superior court. In his complaint he referred to the noise of the trains, the obstruction of light, the offensive odors arising, and the fouling of the air by noxious gases, detrimental to the inmates of the house, and stated that he would never have bought his lot nor built his house in that street had he known that he would be subjected to such a nuisance. The company demurred to the complaint, and the referee in the matter sustained the demurrer. Some months ago the case was argued on appeal by

eminent counsel on each side, and on the 5th of April Chief Justice Curtis announced that the judgment was reversed, two written opinions being read in favor of the decision, that of Judge Speir, and a concurring one by the chief justice. Judge Speir concludes his opinion as follows: "No one will question the utility of the elevated railroad as a public improvement of great convenience and accommodation to the city and the public at large, but these accommodations cannot authorize or justify its invasions on the rights of any portion of our citizens. The individual whose property is affected because the road is of great public value should be indemnified and fully compensated by the public or by the company which profits by the improvement for any loss or damage he has or may sustain. . . . The defendant admits the injury and wrongs done to the plaintiff, as alleged in his complaint, and its want of ability to make reparation. We are of opinion that the appellant is entitled to relief, and that the judgment should be reversed, with costs." This, it seems, however, is not the end of the case, as it is now to be carried to the court of appeals.

—At a meeting of the Medico-Legal Society, held April 7th, Dr. William A. Hammond read a paper on general paralysis of the insane, with special reference to the case of one Abraham Gosling, which has lately been before the courts, and which has attracted a good deal of attention on the part of the public. During the course of it he stated that he was perfectly willing to stake his medical reputation on this case, and that if Gosling were alive in three years he would burn his diploma and retire from the profession. In the discussion which followed the paper two physicians who were employed as experts on the opposite side of the case combated Dr. Hammond's views, and attempted to prove the entire absence of the symptoms of general paralysis, and the perfect sanity of the patient.

—At the last meeting of the society, April 14th, the evening was principally taken up with a discussion of a paper, previously read by Dr. George M. Beard, on The Problems of Insanity, Dr. Beard bringing the debate to a close with some remarks in which he also discussed the Gosling case.

—On the 2d of April the first of a series of free popular lectures, by physicians, at the Young Men's Christian Association was given by Dr. Willard Parker, Jr., on Good Health and How to Keep It. The second, on The Skin in Health and Disease, was given by Dr. L. Duncan Bulkley on the 9th, and the third on Some of the Relations between the Physical Organism and the Moral Nature, by Dr. Fessenden, on the 16th. The remaining three will be by Drs. Bosworth, Kelsey, and William H. Thomson, their subjects being respectively, What is a Cold, and How is It Contracted? The Bowels and the Care of Them, and Psychological Relations of the Will.

—At the recent Brinley sale of rare old books, some of the works of Cadwallader Colden, the medical lieutenant-governor of New York, brought very high prices. His *Explication of the First Causes of Action in Matter, and of the Cause of Gravitation*, brought

\$112.50, and his *History of the Five Indian Nations Depending on the Promise of New York*, printed by Bradford, in 1727, brought \$330, while his *Papers Relating to an Act of the Assembly of the Province of New York*, printed by Bradford, in 1724, sold for no less than \$685. It was purchased by Mr. Moore for the Lenox Library.

—The commissioners of charities and correction have made several changes in the medical staffs of the public insane asylums of the city, the principal of which are the following: Dr. A. E. MacDonald, superintendent of the asylum on Ward's Island, who, several months ago, on the removal of Dr. Strew, was placed in charge of the one on Blackwell's Island in addition, has been relieved from the latter, and Dr. Franklin, who for some time has had the management of the branch institution on Hart's Island, has been appointed permanent superintendent of the Blackwell's Island asylum, while Dr. Healy, who has been assistant physician there, will succeed Dr. Franklin as chief of staff at the Hart's Island asylum.

ST. LOUIS.

—It is again our painful duty to announce the death of a prominent physician of St. Louis. On the 27th of March, 1880, at Hot Springs, Arkansas, Dr. John James McDowell departed this life. He was the son of Dr. Joseph Nash McDowell, the founder of the Missouri Medical College, the first medical college west of the Mississippi River. He was a nephew of Dr. Daniel Drake, of Cincinnati, and grandnephew of Dr. Ephraim McDowell, the originator of ovariectomy. From 1855 to 1861 he was demonstrator of anatomy in the Missouri Medical College, and from 1864 to 1873 was demonstrator of anatomy in the St. Louis Medical College. In 1873 he was unanimously chosen professor of anatomy in the latter institution, which position he held till the time of his death. He was most sincerely loved by the large circle of his professional acquaintances and by his patients. St. Louis, and especially the St. Louis Medical College, have met with a truly great loss in his death. Appropriate memorial resolutions were adopted by the St. Louis Medical Society.

—The February meeting of the St. Louis Obstetrical and Gynecological Society discussed Dr. S. G. Moses' paper on post-partum hemorrhage, reported in the *JOURNAL*, April 1st. Dr. George G. Engelmann indorsed the views expressed in Dr. Moses' paper, and in addition recommended in desperate cases swabbing out the uterus with cotton balls steeped in a solution of the perchloride of iron, "thus causing mechanical irritation, bringing the iron in contact with all the parts, and at the same time removing the dangerous coagula." He had used this method and seen it used a number of times where it had answered admirably, and he regarded it as much safer than the injections usually recommended. He objected to the injections of solutions of iron, because they form clots which remain in the womb, and about the third day begin to putrefy and disintegrate, and thus expose the patient to septicæmia. He regarded the free use of

ergot as dangerous, as being liable to produce prostration and weakness. In great prostration following post partum hemorrhage he recommended the hypodermic injection of ether, not upon his own experience, but upon that of Dr. Chadwick, of Boston.

Dr. Gehring thought that cases of great prostration depending on a relaxed condition of the uterus remedied by the use of ether could be explained in the following manner. The excited condition of the nervous centres prevented their concentrating their energies on the uterus, and it remained relaxed; but the effect of the ether was to quiet the nervous centres, and thus to allow them to act upon the uterus without any disturbing influence coming in to divert them.

Dr. Moses, in corroboration of this theory, said that in prostration from other causes he had used hypodermic injections of ether without the benefit he had expected.

The use of nitrite of amyl, hot-water applications to the head and to the spine, and hot-water injections into the vagina were also spoken highly of as means of treating post-partum hemorrhage.

Dr. Gannall reported a case of trismus nascentium, treated with minute doses of bromide of potassium and chloral, in which recovery occurred.

Disclaim.

THE INHALATION OF ETHYL IODIDE FOR THE RELIEF OF DYSPNOEA.¹

BY ROBERT M. LAWRENCE, M. D.

AMONG the agents whose use by inhalation has been recommended for the relief of certain forms of dyspnoea, there is one — the iodide of ethyl or hydriodic ether² — which has been but little used in this country, but which appears to possess merits entitling it to a fair trial. As early as the year 1850 experiments were made by M. Huette,³ with a view to testing its therapeutic value. After this it seems to have been for a long period quite forgotten, until attention was directed to it by Professor Sée⁴ in 1878, in a report of twenty-four cases of asthma successfully treated by iodide of potassium and iodide of ethyl. After a series of observations extending over several years he thus summarizes his conclusions: "Ethyl iodide cures the paroxysms of asthmatic dyspnoea very speedily, and appears to present advantages as a remedy in cardiac, and even in laryngeal, dyspnoea." Dr. Thorowgood⁵ has also reported beneficial results from its use in the treatment of several cases of asthma at the Victoria Park Hospital.

It may be administered by pouring a few drops on a piece of linen; or, where a stronger effect is desired, inhalation may be directly from the vial, care being taken to allow a sufficient admixture of air. Its physiological effects, when thus employed for purposes of experiments, are those of a mild exhilarant. It strengthens the pulse, increases the appetite, and invigorates the

functions generally, and particularly that of respiration. After frequent prolonged inhalations, repeated for ten and fifteen minutes, I have experienced no ill result except a slight degree of dizziness. By means of the chloroform and starch tests, I have found iodine in urine voided at the following intervals after the inhalations: Forty-five minutes, one, seven, eighteen, twenty-four, and thirty hours. Before and after these limits its presence in the urine was not detected.

The rationale of its action appears to be as follows: In certain cases, as in the reflex variety of nervous asthma, ethyl iodide may relieve dyspnoea by lessening excitomotor action. In the dyspnoea of bronchitis complicating asthma, it not only relaxes bronchial spasm, but, by virtue of its iodine, promotes free mucous secretion. In other chronic affections of the air-passages, it may relieve embarrassed respiration in one or both of these ways. Its action is therefore partly antispasmodic and partly expectorant and alterative. Inhalations of ten minutes each twice daily, may be prescribed. It should be borne in mind that failure to obtain the best results in a given case may be due to individual idiosyncrasy. A hasty judgment on the merits of the drug, after a single trial, is therefore to be deprecated.

CASE I. Katharine N., aged fifty, short and of slender build, unmarried, tailoress, first came under the writer's care at the Boston Dispensary, in October, 1876. She had been a martyr to asthma and chronic bronchitis for twelve years. Frequent paroxysms of dyspnoea had greatly reduced her strength, and her sufferings were unusually severe. During the next two years trial was made of nearly every known remedy, but without much benefit. Tonics and alteratives seemed of no avail.

The nitrite of amyl gave some relief, but was dreaded by the patient on account of its disagreeable physiological effects. In February, 1879, trial was made of ethyl iodide. The result was remarkable. Not only was the dyspnoea relieved, but there was no recurrence of it for several hours, and a good night's rest was obtained. Similar favorable results have followed each inhalation. At the present time, April, 1880, the attacks of dyspnoea are few and far between, and much less severe than formerly.

CASE II. James B., aged fifty-six, slender-built indoor man, contracted spasmodic asthma in the army in 1865, and has been subject to it ever since. He had attacks of dyspnoea frequently in the early morning. Has tried most of the usual remedies. In February, 1879, began inhaling ethyl iodide, and found that it gave positive relief. When used at the commencement of a paroxysm, it had the effect of rendering the latter abortive. A decided amelioration of symptoms followed its continued use.

CASE III. Thomas A., aged fifty-seven, plasterer, has had nervous asthma for sixteen years. It first supervened on an attack of bronchitis. Paroxysms of dyspnoea were frequent, and lasted some hours. Was obliged to sit up at night. After trial of different remedies, began inhaling ethyl iodide February 14, 1879. Marked relief followed. After several weeks of this treatment, the paroxysms, which had steadily diminished in number, at length ceased altogether.

April 16, 1880. Patient has been free from dyspnoea for a year past, though his respiration is still wheezy.

In several other cases I have employed this treatment for the relief of dyspnoea, and in almost every

¹ Abstract of a paper read at the annual meeting of the Suffolk District Medical Society, April 24, 1880.

² Dr. J. F. Oliver has lately prescribed a syrup of hydriodic acid in the treatment of asthma with excellent results.

³ Journal of Pharmacy, vol. xvii, 1851.

⁴ La France médicale, February 2, 1878.

⁵ Braithwaite's Retrospect, July, 1879. Page 115.

one with excellent effect. If others shall be induced to give it a trial my object in reporting these cases will be attained.

REMARKABLE RESUSCITATION.

In the *Medical Record* Dr. W. E. Forest gives these details of his successful treatment of a case of prolonged asphyxia in a newly born child:—

"The child was placed in a sitting posture upon blankets before the fire. My hand was placed behind the head and thorax of the child, and its body leaned backward so that it rested upon this hand. The hands of the child were carried as far as possible above its head by my left hand. By this the ribs and shoulders were raised, while the head was thrown backward, thus expanding the thorax and drawing air into the lungs. The second movement was to lower the arms of the child so that they fell by its side, while my hand, still retaining those of the child in its grasp, rested against the front of the child's thorax and head. The third movement was to lean the child forward and press suddenly downward upon its shoulders, at the same time that the hand in front pressed the ribs inward. This method, which is somewhat difficult to describe, but easy to carry out, caused the first certain expulsion of air from the child's lungs (and a consequent refilling of them), for the air could be heard bubbling out through the nose and mouth of the child. Then the lungs were refilled by the first movement. Still this respiration was entirely involuntary on the part of the child, and ten minutes' persistent effort by this method gave no sign of returning animation. Nearly three quarters of an hour had now elapsed since the birth of the child, and meantime the child's skin began to feel cold and clammy. On account of the coldness of the child I determined to use external heat in conjunction with artificial respiration. I called for a deep bowl partly filled with water, at a temperature of about 112°. I placed the child in the bowl in a sitting posture, so that the water came up to the child's diaphragm when its body was in what I have called the 'first position' in the last method of artificial respiration.

"Then the artificial respiration was kept up according to this method, while the child's body was partly immersed in hot water. After a few minutes I was astonished at the child showing a little color in its cheeks, and then making its first spasmodic effort at inspiration. Fully five minutes elapsed before it made another gasp, but gradually its efforts became more frequent, and at the end of an hour and three quarters from the time of its birth I ventured to cease artificial respiration. The child was then breathing rapidly with a shallow, gasping respiration. I ordered it to be rolled in blankets, without being dressed, and placed in bed with its mother. Two hours later its breathing was stronger, but still shallow. The following day it appeared as strong as any child, and since then has grown rapidly."

HYDRATE OF CHLORAL.

Dr. H. H. KANE, of New York city, specially requests members of the profession with any experience whatever in the use of the hydrate of chloral to answer the following questions, and give any information they

may possess with reference to the literature of the subject:—

- (1.) What is your usual commencing dose?
- (2.) What is the largest amount you have administered at one dose, and the largest amount in twenty-four hours?
- (3.) In what diseases have you used it (by the mouth, rectum, or hypodermically), and with what results?
- (4.) Have you known it to affect the sight?
- (5.) Have you ever seen cutaneous eruptions produced by it?
- (6.) Have you known it to affect the sexual organs? If so, how?
- (7.) Do you know of any instances where death resulted from or was attributed to its use? If so, please give full particulars as to disease for which given; condition of pulse, pupils, respiration, and temperature; manner of death; condition of heart, lungs, and kidneys; general condition, age, temperament, employment, etc. If an autopsy was held, please state the condition there found.

(8.) Have you seen any peculiar manifestations from chloral, as tetanus, convulsions, or delirium?

(9.) Do you know of any cases of the chloral habit? If so, please state the amount used, the disease for which the drug was originally administered, the person's temperament, and the present condition of the patient, with reference to the state of body and mind in general, and of the various organs and systems in particular.

Physicians are earnestly requested to answer the above questions *fully*, especially 7 and 9, in order that the resulting statistics may be as valuable as possible.

All communications will be considered strictly confidential, the writer's name not being used when a request to that effect is made. Address all letters to Dr. H. H. Kane, 191 West 10th Street, New York city.

CULTIVATION OF THE CINCHONA-TREE IN CALIFORNIA.

THE *Pacific Medical and Surgical Journal* writes on the cinchona-tree as follows: "There is no subject on which our legislature could act with so much benefit to the Pacific coast as in the adoption of measures for introducing the growth of the cinchona-tree. We are more and more convinced, from all we read of its introduction and cultivation elsewhere, that there are many sections of country in our State in which it would flourish and prove a source of bountiful revenue. The latest evidence of this which we have met with is in a communication to the department of agriculture at Washington from Willis Weaver, written at Bogota, South America. Mr. Weaver has studied the habits and history of the tree, which, he says, seeks a soil inclining to dryness, but well watered during a portion of the year. We copy from his letter a few passages, which may be found in the *Scientific American* for February 28th:—

"The coasts of Northern California and Oregon would fulfill the conditions as to moisture; the slopes, of the mountains would probably furnish hilly ground very similar to that occupied by the tree in its native habitat; while I believe that the temperature would admit of its cultivation even north of the mouth of the Columbia. It is also uncertain as to how far any undue dryness of the atmosphere may be overcome by

irrigation. The surprising results already attained in the cultivation of the trees prepare us to expect further advances, and this may be one of them as naturally as anything else.

"It is well known that the barks produced under cultivation are much superior to the natural bark, as the process of mossing the tree causes a remarkable development of the alkaloids in which their virtue consists; also, that the cultivated trees are not destroyed. A strip is taken off reaching the length of the trunk and one third its circumference. The wound is then dressed with straw matting, and kept wet until the bark forms anew. The next year another strip is taken, and so on indefinitely. I am told that the harvest begins when the tree is five years old, but am not in a position to verify the statement.

"I have calculated roughly, according to the prices of land and labor here, that a plantation of a hundred acres might be put in at less than \$1000 an acre, covering all outlay, or, say, \$1500 to cover interest and all contingencies. A yield of \$8000 an acre has been reported from Indian plantations."

OBESITY.

"No doubt," says the *London Lancet*, "it is unpleasant to be excessively obese; but the morbid dread of fat which has in recent years become fashionable has no foundation in physiological fact. Fat answers two purposes: it acts as a non-conducting envelope for the body and protects it from too rapid loss of heat, and it serves as a store of fuel. In the course of exhausting diseases it not unfrequently happens that the life of a patient may be prolonged until the reserve of fat is exhausted, and then he dies of inanition. Fats supply the material of the heating process upon which vitality mainly depends. In great excess it is inconvenient; but the external layings-on of fat is no certain measure of the internal development of adipose tissue. Much less does a tendency to grow fat imply or even suggest a tendency to what is known as 'fatty degeneration.' It is time to speak out on this point, as the most absurd notions seem to prevail. Again, it is *not* true that special forms of food determine fat. That is an old and exploded notion. Some organisms will make fat let them be fed upon the leanest and scantiest and least saccharine descriptions of food, while others will not be 'fattened' let them feed on the most 'fattening' of diets. The matter is one in regard to which it is supremely desirable and politic to be *natural*, adapting the food taken to the requirements of health rather than substance. Simple food, sufficient exercise, regular habits, with moderation in the use of stimulants, compose the maxim of a safe and healthy way of life."

LISTERISM IN INDIA.

THE *Indian Medical Gazette* (February 2d), noticing the welcome fact that antiseptic surgery has "at length won for itself more than tolerance in London," adding that "this measure of recognition will, we feel assured, ere long be followed by its final triumph and all but universal adoption," offers the strongest possible testimony in its favor, founded on the experience of its employment in Calcutta. "We have long held, from

personal observation and experience, that Listerism constitutes an immense improvement in surgery and a great boon to humanity, and in the principal surgical hospital of this city a signal illustration of this truth has been given. Under surgeons of singular eminence and skill, the results of surgery in the Medical College Hospital were, not many years back, — to use a mild term, — most discouraging. Gangrenous cellulitis and osteitis, septicæmia, pyæmia, and the worst forms of erysipelas followed almost every entry of instruments into the tissues. The hospital was blamed, and nothing short of its demolition and the building of a new hospital on a better site and improved principles would, it was held, prove of any avail. Now wounds and sores heal kindly and operations succeed, patients recover in a manner eminently satisfactory, and hospitalism has almost vanished. No great change in hospital arrangements has taken place; diet and stimulants have been less liberal than in those days. The improvement is entirely due to antiseptic surgery, and the more closely Listerism has been followed the better the results. The time has now come when the system should be adopted in its purity and totality in every hospital in India. It is capable of effecting a great saving of suffering and life, and the additional expense caused by it is, under careful management, by no means formidable."

A DISPENSARY IN CABUL.

THE *Calcutta Pioneer* says: "After the capture of Cabul, in October, it was found that there was a vast amount of disease and suffering among the poorer inhabitants of the city, and that native surgery never attempted to cope with these except in the rudest way. Sir F. Roberts therefore ordered a charitable dispensary and hospital to be opened in Cabul, and Dr. Owen, staff surgeon, was placed in charge of the institution. The Kotwal's house, vacant by reason of the execution of that official for complicity in the massacre, was turned into a hospital, and work was begun at once. The rooms were cleaned and put in order, wards for men and women arranged, the tottering walls, shaken by an earthquake, made safe and sound, and then patients were invited to attend. On November 21st, Dr. Owen was first consulted, twelve wretched beings, suffering from various ailments, coming to him for treatment. They were all carefully treated; and although, on account of the scarcity of English drugs in camp, no elaborate prescriptions could be made up, the best bazaar medicines were freely given. The news of the Sirca's latest eccentricity soon began to spread throughout Cabul, and for several days the place was visited by little crowds of persons, who were either sick, or had sick friends who needed treatment. With the suspicion always at work in Afghan minds, that every act of the stranger has some obscure tendency to harm them, the citizens were full of mistrust. They could not appreciate the generosity of their conquerors, and argued that it was absurd to suppose that men who had come to destroy Cabul would sink their ideas of vengeance, and, instead of taking life, would save life and make it worth living. Gradually their ideas changed; they believed in the disinterestedness of the English *hakem*, and the number of patients increased; but no women were permitted to seek relief.

Eventually, however, some women also were found waiting at the hospital doors. A room was set apart for them; a middle-aged woman, a Cabulee, acted as matron, and reassured them when their fears overcame their desire to be made whole. By December 11th, the daily attendance had risen to 118, of whom fully two thirds were women; and Dr. Owen's services were sought after by well-to-do citizens, in whose zenanas were sick wives or favorite concubines pining under mysterious ailments. Just when attendances were daily growing more numerous came the rush of Mahomed Jan's host upon Cabul. The city was occupied, and, in the stupid madness which prompted the Ghazi to destroy all marks of our occupation, the dispensary was looted and partly wrecked. Fortunately, the few cases of instruments which Dr. Owen had to leave behind were taken away by one of the attendants, and buried in a neighboring house. But the bottles of medicines still on the shelves were broken; chairs, tables, and partitions smashed to pieces; and even

doors and windows pulled out. This was in the outer court-yard of the late Kotwal house; the rooms grouped about the inner yard were not much interfered with, as they bore but few signs of the stranger's hand. When, on Christmas Day, Dr. Owen once more visited the place, nothing but empty rooms greeted him, and so filthy that they could scarcely be entered. However, those in the outer court-yard were soon cleaned, and on the following morning patients were again found waiting at the doors. . . . Dr. Owen is now freely admitted even to houses where Afghan exclusiveness is most severe, and thus imperceptibly an influence is being gained over the minds of the people which cannot fail to do great good. The jealousy of Mahomedaus where the women are concerned is quite dismissed when they see how entirely devoted our English surgeon is to his profession, and how little it affects him whether his patients are street-beggars, in the lowest depths of misery, or ladies of the zenana, surrounded with every comfort."

REPORTED MORTALITY FOR THE WEEK ENDING APRIL 17, 1880.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Deaths under Five Years.	Percentage of total Deaths from				
				The Principal "Zymotic" Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.
New York.....	1,085,000	628	256	15.29	25.16	5.41	1.11	.48
Philadelphia.....	901,380	341	140	9.09	7.92	4.40	.88	1.17
Brooklyn.....	564,400	217	92	20.74	15.21	7.83	1.38	.92
Chicago.....	—	205	111	23.41	24.88	8.29	4.39	—
St. Louis.....	—	140	60	8.57	15.71	—	.71	2.44
Baltimore.....	393,796	140	63	18.57	7.14	7.14	3.57	.71
Boston.....	365,000	152	48	17.11	16.45	7.24	.66	2.63
Cincinnati.....	280,000	110	57	11.82	13.64	.91	3.64	.91
New Orleans.....	210,000	114	40	14.91	5.26	—	.88	1.75
District of Columbia.....	170,000	74	30	5.41	20.27	4.05	—	—
Buffalo.....	—	49	16	14.29	18.37	6.12	6.12	—
Cleveland.....	160,000	52	25	26.92	9.62	3.85	17.31	3.85
Pittsburgh.....	145,000	82	31	40.24	13.41	7.32	4.88	17.07
Milwaukee.....	127,000	34	19	20.59	11.88	5.94	5.94	—
Providence.....	102,000	47	14	25.53	12.76	4.26	21.28	—
New Haven.....	60,000	26	8	11.54	11.54	7.69	—	—
Charleston.....	57,000	35	9	17.14	11.43	—	—	14.29
Nashville.....	37,000	15	5	6.67	—	6.67	—	—
Lowell.....	54,000	20	9	5.00	15.00	5.00	—	—
Worcester.....	53,000	23	8	8.70	34.78	—	—	4.35
Cambridge.....	50,400	22	4	—	9.09	—	—	—
Fall River.....	49,000	32	10	18.75	3.13	—	9.38	3.13
Lawrence.....	38,500	11	7	11.67	11.11	—	—	—
Lynn.....	34,000	11	3	9.09	18.18	9.09	—	—
Springfield.....	31,800	15	6	13.33	20.00	—	—	—
New Bedford.....	27,200	9	3	55.56	11.11	11.11	33.33	11.11
Salem.....	26,500	15	4	20.00	6.67	6.67	6.67	—
Somerville.....	23,500	13	4	7.69	30.77	7.69	—	—
Chelsea.....	21,000	6	1	33.33	—	33.33	—	—
Taunton.....	20,200	7	2	28.57	—	14.29	—	14.29
Holyoke.....	18,400	14	7	21.43	7.14	7.14	7.14	—
Gloucester.....	17,300	7	3	—	57.14	—	—	—
Newton.....	17,300	—	—	—	—	—	—	—
Haverhill.....	15,350	5	—	—	20.00	—	—	—
Newburyport.....	13,500	4	1	—	75.00	—	—	—
Pittsburg.....	12,600	3	1	33.33	—	—	—	—
Sixteen Massachusetts towns.....	118,300	54	21	20.37	11.11	12.96	—	1.85

Two thousand seven hundred and thirty-nine deaths were reported; 1118 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fever) 444, lung diseases 416, consumption 385, diphtheria and croup 142, scarlet fever 70, measles 56, typhoid fever 49, whooping-cough 34, diarrhoeal diseases 28, malarial fevers 26, cerebro-spinal meningitis 17, erysipelas 15, small-pox six, typhus fever one. From

measles, New York 18, Brooklyn nine, Philadelphia six, Chicago and Pittsburgh five, New Orleans four, St. Louis three, Cincinnati two, New Haven, Lawrence, Fitchburg, and Worcester one. From whooping-cough, New York six, Boston five, Brooklyn, Cincinnati, and Pittsburgh four, St. Louis, Baltimore, and New Orleans two, Chicago, District of Columbia, Milwaukee, Brookline, and Palmer one. From malarial fevers, New York 12, Brooklyn five, New Orleans four, St. Louis and Balti-

more two, Springfield one. From *cerebro-spinal meningitis*, New York six, Chicago, Milwaukee, and Fall River two, St. Louis, Baltimore, Cleveland, Worcester, and Springfield one. From *erysipelas*, New York four, Boston three, Brooklyn, Chicago, and St. Louis two, Baltimore and Buffalo one. From *small-pox*, Philadelphia and Chicago three. From *typhus fever*, Lawrence one.

One hundred and forty-one cases of measles, 28 of scarlet fever, 24 of diphtheria, five of whooping-cough, and five of typhoid fever were reported in Brooklyn; diphtheria 27, scarlet fever six, in Boston; diphtheria seven, scarlet fever six, cerebro-spinal meningitis six, in Milwaukee; scarlet fever 33, diphtheria 10, measles four, typhoid fever one, in Providence; diphtheria three, in Cambridge; scarlet fever 12, diphtheria eight, in New Bedford.

The total number of deaths reported was somewhat increased over that for the previous week; the deaths under five increased in a still larger proportion. Lung diseases and pulmonary consumption about the same. Principal "zymotic" diseases slightly increased. Typhoid fever continues to prevail in Pittsburgh. An increase of scarlet fever in Providence. Three deaths from small-pox in Chicago, and the same in Philadelphia. In 3 cities and towns of Massachusetts, with an estimated population of 989,650 (population of the State about 1,690,000), the total death-rate was 22.66 against 22.89 and 20.89 of the previous two weeks.

For the week ending March 27th, in 148 German cities and towns, with an estimated population of 7,688,299, the death-rate was 28.9 against 27.6 and 26.9 for the two previous weeks. Five thousand five hundred and ninety deaths were reported; 2044

under five: pulmonary consumption 659, acute diseases of the respiratory organs 579, diphtheria and croup 176, scarlet fever 75, whooping-cough 74, measles and *röteln* 62, typhoid fever 50, puerperal fever 26, typhus fever (Frankfurt a. M., Danzig, Thorn, Posen, Königsbütte, Berlin) eight, small-pox (Danzig, Königsbütte, Ratibor, Görlich) four. The death-rates ranged from 19.1 in Darmstadt to 40 in Elberfeld; Königsberg 32.8; Breslau 33.9; München 37.8; Dresden 25.3; Berlin 27.3; Leipzig 26.5; Hamburg 27; Hanover 27; Bremen 29.3; Cologne 26.1; Frankfurt 25.6; Strassburg 32.7. For the same week, Vienna 31.8, — small-pox and scarlet fever diminishing; Paris 32.2, — small-pox and diphtheria prevalent.

For the week ending April 3d, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 24.9. Three thousand five hundred and seventy-eight deaths were reported: acute diseases of the respiratory organs 395, whooping-cough 215, scarlet fever 119, measles 107, diarrhoea 34, fever 28, diphtheria 19, small-pox nine. The death-rates ranged from 14 in Portsmouth to 36 in Nottingham; London 25; Bristol 23; Birmingham 24; Liverpool 27; Manchester 32. In Edinburgh 27, Glasgow 28, Dublin 43. In the 20 chief towns in Switzerland, population 445,790, there were 46 deaths from acute diseases of the respiratory organs, diarrhoeal diseases 18, diphtheria and croup 11, whooping-cough 11, typhoid fever six, scarlet fever two. Death-rate of Geneva 29.5, of Zurich 38.2, Basle 41.8, Bern 30.7.

The meteorological record for the week in Boston was as follows: —

Date.	Barom-eter.	Thermom-eter.				Relative Humidity.				Direction of Wind.				Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.		
April 11	29.604	37	49	28	83	26	47	52	W	W	NW	16	28	22	F	F	F	—	—		
" 12	29.924	32	41	23	42	53	51	49	SW	W	W	13	22	16	C	F	C	—	—		
" 13	29.773	51	64	30	53	27	43	41	SW	SW	SW	22	27	24	F	H	C	—	—		
" 14	30.045	42	53	37	57	68	81	69	SW	NE	E	5	17	10	G	J	C	—	—		
" 15	29.931	52	72	37	91	71	55	72	N	SE	SW	1	3	8	H	H	C	—	—		
" 16	29.989	45	62	39	41	76	91	69	N	E	SE	8	17	12	F	R	R	—	.27		
" 17	29.829	36	39	33	82	81	100	88	E	E	NW	14	20	4	C	R	S	—	.49		
Week.	29.871	42	72	23				63	Southwest.										28.05	.76	

¹ O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, snow; R, rain; T, threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM APRIL 17, 1880, TO APRIL 23, 1880.

HALL, J. D., captain and assistant surgeon. Assigned to duty as post surgeon at Fort Randall, Dakota Territory. S. O. 42, Department of Dakota, April 13, 1880.

WINNE, C. K., captain and assistant surgeon. When relieved by Assistant Surgeon Corbuser, to comply with paragraph 1, S. O. 74, C. S., A. G. O. S. O. 32, Department of the Platte, April 13, 1880.

MERRILL, J. C., first lieutenant and assistant surgeon. Relieved from duty at Fort Shaw, Montana Territory, and assigned to duty as post surgeon at Fort Custer, Montana Territory, relieving Assistant Surgeon L. S. Tesson, to enable him to comply with S. O. 74, C. S., A. G. O. S. O. 42, C. S., Department of Dakota.

CORBUSER, W. H., first lieutenant and assistant surgeon. Relieved from duty at Camp Sheridan and assigned to duty at Fort Washakie, Wyoming Territory. S. O. 32, C. S., Department of the Platte.

So much of paragraph 1, S. O. 74, April 3, 1880, from A. G. O., as relates to Assistant Surgeon Meacham is revoked, and as relates to Assistant Surgeon W. C. Shannon is suspended until October 1, 1880. S. O. 87, A. G. O., April 20, 1880.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — The regular semi-annual meeting will be held on Monday next, at the hall of the Medical Library Association, 19 Boylston Place. Reader, Dr. H. Derby. Subject, The Use of the Artificial Lench in Ophthalmic Surgery. Election of members.

A. T. CABOT, Secretary.

BOOKS AND PAMPHLETS RECEIVED. — Common Mind-Troubles, and the Secret of a Clear Head. By F. Mortimer Granville, M. D., etc. Edited, with additions, by an American Physician. Philadelphia: D. G. Brinton. 1880.

Wood's Library: Veneral Diseases. By E. L. Keyes, A. M., M. D., of New York. Foreign Bodies in Surgery. By Alfred Poulet, M. D., of Val-de-Grace. Handbook of Physical Diagnosis. From the German of Paul Guttman. By Alexander Napier, M. D., of Glasgow.

Lunacy Reform, III. (Reprint from the Archives of Medicine.)

The Population Question at the Medical Society of London. Edited by Charles R. Drysdale, M. D. London. 1879.

A Few Cases of Leprosy. By J. H. Bemis, M. D., Labaina, Maui, H. I. New Orleans. 1880. (Reprint.)

Sea-Air and Sea-Bathing. By John H. Packard, M. D. (American Health Primers.) Philadelphia: Presley Blakiston. 1880.

Post-Mortem Examinations, with especial reference to Medico-Legal Practice. By Rudolph Virchow, of the Berlin Charité Hospital. Translated by T. P. Smith. Philadelphia: Presley Blakiston. 1880.

Dartmouth Medical College. 1880.

Thirteenth Report of the St. John's Hospital, Lowell. 1880.

Muscle Beating, or Active and Passive Home Gymnastics, for Healthy and Unhealthy People. With Illustrations. By C. Klenm, Manager of the Gymnastic Institution in Riga. New York: M. L. Holbrook & Co.

Aspiration of the Knee-Joint. By Henry O. Marey, A. M., M. D. Riverside Press, Cambridge, Mass.

First Annual Report of the Board of Health of the Taxing District of Shelby County (City of Memphis), for the Year 1879. By G. B. Thornton, M. D., President.

Lectures.

DISPLACEMENT OF THE OVARIES.¹

A LECTURE DELIVERED AT RUSH MEDICAL COLLEGE,
CHICAGO, JANUARY 30, 1880.

BY PROFESSOR W. H. BYFORD, M. D.

GENTLEMEN,—Before speaking to you of the displacements and diseases to which the ovaries are subject, I will remind you of some of the more important points in connection with their position and anatomy.

As you probably know, the ovaries are situated on each side of the uterus, to which they are attached by stout fibrous ligaments about one and a half inches long. They occupy the posterior border of the broad ligament, just behind and a little below the Fallopian tubes. When in their natural position they are slightly below the linea ilio-pectinea, and somewhat anterior to the sacro-iliac synchondrosis. When their size and weight are somewhat increased by congestion they may vary from their usual locality by sinking somewhat in the pelvis. The peritoneal membrane of the broad ligament rises around them and embraces the lower two thirds of their substance, but the upper border of these organs stands out free into the peritoneal cavity, in contact with some of the fimbriae of the Fallopian tubes. The main substance or stroma of these organs is made up of a pretty firm, spongy substance, held together by delicate connective tissue. In the cells of this spongy stroma are numerous dark microscopic points, which by some are supposed to be the points around which the ovi-sacs are formed.

In each ovary of the adult woman may be seen several ovi-sacs of different sizes, from the dimensions of a pin's head to that of a pea. Enveloping the whole of this is a strong fibrous membrane called the tunica albuginea. The stroma presents a delicate buff color when incised.

The first deviation from these conditions to which I shall call your attention is their various displacements. Their intimate and firm ligamentous connection with the fundus of the uterus causes them to partake of the changes of position of that part of this organ. When the fundus rises into the abdominal cavity during pregnancy the ovaries are carried up with it, and in very thin persons may sometimes be felt as small movable, sensitive tumors on the sides of the uterus. The same thing occurs in some cases where the uterus is much enlarged by a fibroid tumor. In the former condition the displacement is physiological, and does not ordinarily give rise to serious inconvenience unless the organ is rendered unusually sensitive by disease.

When the uterus is retroverted or retroflexed the ovaries are displaced to a greater or less extent downward and backward. Sometimes the displacement is so great that they may be felt by the side of the fundus uteri in the posterior cul-de-sac, and constitute a very annoying complication. In fact, this condition is often of more consequence than the uterine displacement, and is a serious barrier to the correction of the uterine displacement on account of their liability to be compressed by the instrument used for that purpose. But sometimes the ovaries fall into this position without the uterine deviation. When this is the case there are apt to be many grave symptoms, which are attrib-

uted to that vague and as yet imperfectly understood term "ovarian irritation." In most cases of this sort of displacement the ovaries are the subject of some form of organic change, when we may reasonably doubt whether the symptoms arise from the preëxisting disease more than the deviation of position. There can be no doubt, however, that the displacement very greatly embarrasses their circulation and contributes still further to their morbid condition. In such cases the enormous reflex nervous influences exerted through the genito-spinal centre awaken a long chain of morbid phenomena, destructive of the comfort of the patient, and sometimes establish a series of oöphoro-neuroses, that wreck the patient mentally and bodily.

To complete the variety of ovarian displacement, I must tell you that, rarely, these organs make their way out of the inguinal canal in something of the same way that the testes do in the male. As there is no scrotum, however, in which they can find lodgment, they are arrested at the upper edge of the os pubis, and there constitute a harassing and painful hernia. In passing, I may say that an ovarian hernia may generally be diagnosed from an omental or intestinal hernia, from the facts, in the first place, that these last two seldom pass out of the inguinal ring in females, but frequently through the femoral ring; secondly, that they are not particularly sensitive to the touch unless in a state of inflammation from strangulation, while the ovary is *always* sensitive; and, thirdly, the sensitiveness of the ovary is said to be peculiar, resembling nothing so much as the sickening sensation experienced upon pressing the testicle.

After saying this much with reference to the different varieties of ovarian displacement, I desire to confine my remarks to the pelvic deviation of position. What are the symptoms of pelvic displacement of the ovaries? I have already alluded to these, and shall be very brief in my further development of them. They may be included under two heads, namely, local and general. The local symptoms are not distinctive: pain, weight, or bearing-down sensations and sometimes heat in the pelvis, backache, sacral or coccygeal tenderness, and occasionally radiating neuralgia. There is also very frequently, though not always, some sort of menstrual derangement. But these local symptoms may be produced by many of the disorders incident to other organs of the pelvis.

Now as to the general symptoms, they are very numerous and varied. It is indeed questionable whether all the hystero-neuroses ought not to be regarded as oöphoro-neuroses, direct or indirect morbid emanations from the ovaries themselves.

It is probably impossible for us completely to separate the general symptoms arising from disease of the pelvic viscera into uterine, ovarian, vaginal, and vulvar. The nervous supply to these organs is essentially a unit, and for their nervous influence they are subject to the same presiding centres. In them is comprised a circle of functions to the perfection of which soundness of all the organs is essential.

Whether the terrible nervous symptoms arising from certain diseases of the vulva, the vagina, or the uterus can be reflected upon the organization in any other way than through their connection with the ovaries is, I say, a question not yet solved. I think we cannot doubt, however, that to the term "ovarian irritation" may be attributed the whole array of reflex nervous phenomena so frequently noticed in the wrecked con-

¹ Reported for the JOURNAL by B. W. Griffin, M. D.

stitutions of broken-down women. In the retro-uterine displacements of the ovaries these conditions are prominent features. The nervous symptoms often assume a very aggravated form, and the suffering of the patient becomes unendurable. The general symptoms are those of ovarian irritation; and this is to be expected, because the circulation and innervation of these organs must necessarily be much affected by the malposition. The diagnosis of the displacements of the ovaries is not generally very difficult. When they are in the inguinal canal, on examination of the tumor its shape and peculiar sensitiveness are both peculiar. The only thing for which this displacement may be mistaken is hernia of the omentum or intestine. A tumor formed by the protrusion of either of these is more globular, less firm, and, unless in a state of strangulation, not very sensitive. The sensitiveness of the ovary has been compared to the peculiar sensitiveness of the testicle; while the sensitiveness of the omental or intestinal hernia is the tenderness of inflammation. When in the cul-de-sac behind the uterus, the ovary, if not changed in shape by disease, has the same outline as when naturally situated, and is movable. We may reach it by passing one or two fingers deep into the vagina or rectum.

In many instances their displacement is associated with retroversion or retroflexion of the uterus, apparently the result of the malposition of that organ. In others, however, the ovaries fall into the pouch behind the uterus, because of their enlargement and increased weight from structural disease. Possibly a relaxed condition of the fold of the broad ligament in which it is contained may permit the ovary to settle down out of its natural position.

Is displacement of the ovaries always and necessarily accompanied by serious local symptoms or distressing general disturbances? I think not. Probably every gynecologist of extensive observation has noticed instances in which the ovaries could be felt in the cul-de-sac, and the patient experienced little, if any, inconvenience from such malposition. These, judging from my own observation, are not very uncommon cases.

Why should some patients suffer so much from these displacements, while others meet with so little inconvenience from them? I must employ another term that is not very definite, and perhaps not always intelligible, to answer this question, — "nervous susceptibility." This nervous susceptibility seems with some patients to be the result of their original constitution, or "make up," if you please, while with others it is an acquired condition. Nervous susceptibility and neurasthenia, if not connected as cause and effect, are very closely associated. To treat these cases successfully we must have in mind this important item of "nervous susceptibility" or neurasthenia in this connection.

When displacement gives rise to symptoms of ovarian irritation, what is the prospect of relief? Such cases are justly regarded as very unpromising, but not necessarily incurable. The treatment of the symptoms attendant, and to some extent dependent, upon displacement of the ovaries is sometimes followed by the most satisfactory results. By treating the symptoms I do not mean the administration of medicines for the relief of nervous headache, hysterical convulsions, sleeplessness, etc., but the removal of the condition of the system which encourages their manifestation.

Whatever may have been the diathesis of our immediate ancestors, whether they were afflicted with dis-

eases resulting largely from hyperæmia or plethora or not, it is evident that we have fallen upon times when anæmia or hydræmia among women is, to say the least, a very common state of the general system. This is especially the case with a large proportion of patients suffering from ovarian irritation, either with or without displacement of the ovaries, and the nervous centres in such people are habitually anæmic. Nervous exhaustion means imperfect nutrition or lack of trophic energy in the nervous centres. This, I have no doubt, is mainly because there is not a sufficient amount of good rich blood circulating through them. I cannot understand how nervous exhaustion can take place when there is an unailing supply of nutrition to the centres; but it is plain that an exhaustion of supply will render the regular working of the brain and spinal cord as nervous centres impossible. It is blood exhaustion instead of nervous exhaustion.

I have allowed myself this much physiological speculation as an introduction to what I have to say about general treatment.

What we want to do with these patients is to turn them entirely around in their habits, and lead them to the adoption of measures that will make them plenty of blood and fat.

Dr. Weir Mitchell has taught us how to do this and his system of managing patients of this character is admirable. It is not always practicable, nor indeed necessary, to adopt his method as a whole. This, however, does not detract from its merits. Absolute rest is essential only in cases of extreme prostration.

In most instances active exercise will be better than passive, and should always be enjoined upon the patient and attendants. The exercise in kind and quality should be prescribed and enforced with exacting regularity, or induced by diversion that will not fail.

The most important part of the treatment, however, is the regulation of food. By regulation of the food I mean the prescription of it in items and quantity from day to day. My routine prescription is four ounces of beef-steak for breakfast, with bread and butter or toast, potatoes and other vegetables, as the capacity for digestion will allow; six ounces of roast beef or mutton, bread and butter, potatoes and vegetables for dinner; for supper the same as for breakfast. After each meal and at bed-time one pint of good fresh milk. With this or some other equivalent method of feeding the patient, there should be associated some plan by which the patient can get plenty of fresh air and have as much exercise as she is able to take. The exercise may be passive at first, but as soon as possible it ought to be active. Active exercise may be begun by having the patient walk supported as much as necessary by a strong nurse. After she can walk alone the support ought to be withheld. You will see, gentlemen, that I do not advise rest, but exercise. I advise exercise because I have proved by experiment, I think, that it is much to be preferred. If nutrition can be supplied the patient will profit by exercise; if nutrition is impossible, then of course exercise will be impossible. Before leaving this part of the subject allow me to say that the limit I would place to the amount of food of the kind I have indicated is the capacity of the stomach to digest it. If the food is not rejected by vomiting, or it does not irritate the bowels enough to cause diarrhoea, I would not allow the want of appetite or the inconveniences that may arise during digestion to be considered as reasons for not taking it. Usually the

stomach will soon become tolerant and after a time the enriched blood circulating through its glandular apparatus will engender a relish for food, and the patient will eat with pleasure. This intimation that an anæmic stomach digests with difficulty is intentional; for I do not believe that energetic innervation, if that were possible without adequate supply of blood, is sufficient to secure good digestion.

I have said nothing about the use of medicines to aid digestion or to increase nerve force, not because I have no faith in them, but for the reason that I believe them of secondary importance, — mere adjuvants instead of principals in the treatment of this condition of the system. I could cite a number of instances in which this course of treatment resulted in averting the dangers and mutilations of the more heroic method of castration by establishing a vigorous and tolerant condition of the nervous system, and thus cured "ovarian irritation." These remarks are applicable to other cases beside displacement of the ovaries in which there is ovarian irritation.

As to the management of the few instances where the ovaries are borne down by a displaced uterus, we may occasionally correct the displacement so far as greatly to improve the circulation of these organs, and thus remove the great element in ovarian distress. This is of course done by correcting the position of the uterus by proper means of support, — a well-adjusted pessary. In the many cases, however, in which the symptoms are the most grave — retroflexion and retroversion of the uterus — the location of the ovaries in the cul-de-sac beside the fundus is a cause of almost insurmountable difficulty. The instrument is pretty certain to cause pressure upon these sensitive organs, and thus become intolerable. We ought not to despair of accomplishing the object, however, until we have exhausted our ingenuity in mechanical appliances for this purpose. When every other measure fails, either to render the condition of the patient bearable, or to save her from mental or physical wreck, we still have the resource furnished us by Dr. Battey, of Rome, Georgia, namely, the removal of these organs. In taking the consequences of this operation, however, we should remember that it is very dangerous, and that if successful it unsexes our patient in the sense that she is at least barren for all future time.

When the ovaries are displaced so as to occupy the inguinal canal the operation for removing them is less hazardous than when in the pelvic cavity, and for that reason may be resorted to with less hesitation.

Original Articles.

THE CAUSE OF SLEEP.¹

BY WILLARD EVERETT SMITH.

It is strange that so practical a thing as sleep should be so illogically investigated. Every one must recognize that there are certain physical conditions accompanying our periodical losses of sensibility which we call sleep, but every one has not recognized that these conditions are almost universally mistaken for actual causes. The gun lock, hammer, percussion-cap, and powder are all of them conditions, but no one would maintain that they are the immediate and efficient

cause of the firing of a gun. They are only disposing causes. The sufficient and exciting cause is that some one has pulled the trigger.

Because this confusion of ideas has been allowed to befog the minds of physiologists, and because the anæmic theory is so firmly rooted in the fancy, many of the attempts to ascertain the active and immediate cause of sleep have been in vain. I say nothing of the mere hypotheses that have been advanced; to accept such vague generalizations as a scientific proof for the complex phenomena of sleep were as sensible as to accept the notion Thomas Cogan held in 1612, that sleep was caused by the ascent of vapors, fumes, etc., from the stomach to the head, and was therefore especially induced by milk, wine, and other drinks.

We must constantly bear in mind always to submit our conclusions to two rigid tests: (1.) Do they incontrovertibly agree with facts? (2.) Do they afford any real explanation of the *cause* of sleep?

The theories offered to explain the immediate cause of sleep are four in number: hyperæmic, anæmic, lactate, and Pilgrer's.

We must not suppose that the hyperæmic and anæmic theories give us a logical dichotomy; that if one be true the other must be false. The hyperæmists concede to the anæmists that the arteries of the brain during sleep may be bloodless, but maintain that this is not the true cause of sleep. According to them, anæmia is only a disposing condition. I hope to show that the most careful observations support neither theory, and that even if they did neither would *prove* anything in regard to the *cause* of sleep.

In discussing the hyperæmic² theory we must remember that there are two kinds of congestion, active and passive; the former due to an excessive nervous excitation, the latter to a want of vascular tonicity. In normal sleep we find a loss of temperature and nerve activity; therefore it is said that we have a passive or venous congestion of the brain. It has been observed, — and both hyperæmists and anæmists accept the very same observations as a foundation for their respective theories, — that the brain when artificially exposed to view becomes during sleep inactive and shrunken because of the anæmic contraction of the capillaries. During waking hours it is said to rise again, and even to protrude above the fractured skull. In the normal skull, then, there would be during sleep a vacuum to be filled. Darham, upon the side of anæmia, says it is filled with cerebro-spinal fluid; Crippie, speaking for hyperæmia, says with venous blood. He thinks the diminution in the molecular vibrations of the brain allows the venous sinuses to enlarge and press so violently upon the gray cortex as to render it inactive.

The hyperæmic theory makes no distinction, except of degree, between sleep and coma, a fatal mistake. That an abnormal insensibility may be produced as well by hyperæmia as by any other pressure upon the brain few would care to deny, but that a normal sleep can be thus produced seems very improbable, both *a priori* and more especially as an authenticated fact.

Even if venous congestion be the actual cause of sleep, what power is there in the system to prevent a still further congestion? Would it not be true that the greater the congestion the less the power to relieve it? Why, then, does not every sleep develop into coma, and why after normal sleep, as after coma, is there not the feeling of languor which always fol-

¹ Read at a Physiological Conference, Harvard Medical School, February 25, 1890.

² Crippie, Causation of Sleep.

lows cerebral congestion? Since such practical questions as these can be asked without hope of satisfactory reply, would it be fair to accept a theory which allows them to be thus propounded?

The anæmic theory¹ steers clear of the intricate hypothesis that venous blood congests in the brain sinuses, and this, *a priori*, seems very probable. What is more reasonable than to say that a free and abundant supply of blood to an organ carries with it activity, while a scanty supply causes a period of inaction? If narcotics and anæsthetics produce sleep, do they not seem to do so through the vaso-constrictor nerves acting upon the cerebral vessels?

This theory holds that during sleep blood is withdrawn from the brain to the alimentary organs. Undoubtedly after a full meal blood is attracted to the stomach to aid digestion, and no one denies that sleep may at such times be agreeable. To say that one is therefore the cause of the other may be and probably is not only to fall into the fallacy of "*post hoc ergo propter hoc*," but also to misinterpret facts. When sleeping after a heavy meal we are likely to present a face, to say the best, not much paled from loss of cerebral blood, but on the contrary often considerably flushed.

On the whole, however, anæmia seems so very plausible that we might perhaps hope there were no objections to it. Let us see. It is well known that cold will produce insensibility with the appearance of anæmia, heat with hyperæmia. Hammond found that chloroform caused sleep by an increased, but ether and opium by a decreased, cerebral vascularity; Vulpius, that ether did not produce much pallor of the brain, that chloroform had still less effect upon vascularity, and opium no effect at all. The action of narcotics, judged by the most careful experiments, is neither to increase nor to decrease vascularity, but to diminish the power of the blood to absorb oxygen and nourish the tissues. It thus favors the theory of sleep advocated by Pfliiger.

Vulpius has destroyed what little plausibility either hyperæmia or anæmia ever had. From his experiments, as well as from the confessions of the advocates of the theories, we are justified in maintaining that although during sleep there may be a slight hyperæmia followed by a slight anæmia, neither appear to precede but only to accompany sleep. Both are effects rather than causes. We can now understand, perhaps, why we feel sleepy when we have eaten a hearty meal, when our feet are at the fire, or when we are exposed to a cold temperature. Some of the conditions attending sleep having been freely furnished us, we are forced, *nolens volens* (generally *nolens*), to yield to them.

This, however, is far from accounting for the fact that sleep regularly and periodically returns to us to repair our wasted energies. Indeed, it does not give the least hope of a solution of that problem. What we demand to know is, granting for the sake of argument that the brain is anæmic during sleep, why it should be so. To reply that it is weary, inactive, anæmic, and therefore is produced sleep, is simply to restate what may be an erroneous idea without assigning the least reason for holding to such an idea. In truth, it seems rather ludicrous, in view of the fact that the inactive state of the brain has been considered to mean sleep, to say that the brain is inactive, therefore anæmic, and

therefore causing sleep, the state with which we started. We reason in a circle, assuming what we wish to prove, and trying to prove what we have already assumed. Thus far, then, we have investigated only some of the conditions attending sleep, but have got no inkling of a cause.

The only theories that even attempt to assign a logical reason for periodical inactivity are the lactate theory and the theory offered by Pfliiger.

I have said that Durham favored the anæmic theory. He does to a certain extent. Nothing, however, has surprised me more than to find him everywhere quoted, even by Vulpius, as the ardent disciple of the theory. I fail to understand how any man can read the essay so as to comprehend it, and then say that Durham believes anæmia to be the cause of sleep. He believes it to be only a condition, and to the question, "What are the proximate causes of such conditions?" very distinctly replies that the probable reason why sleep follows activity is because "the products of chemical action interfere with the continuance of the action by which they are produced." As one of these products he specifies lactic acid.

This can be nothing more nor less than the lactate theory, as recently held by Preyer² and Obersteiner; an exceedingly ingenious theory, resting, however, not upon facts, but merely upon supposition and analogy. We know that the accumulation of lactic and butyric acids hinders the fermentation by which they are produced, that muscle supercharged with lactic acid loses its contractility, that a candle expires in a closed box from the CO₂ generated, and that an electrical battery stops from the accumulation of ZnSO₄. May it not be, then (although we have no direct proof), that in the brain the products of decomposition accumulate faster than they can be excreted?

The most conclusive proof we can obtain is by giving subcutaneous injections of lactates and watching the results. Even the experiments of Preyer, the especial advocate of the theory, were by no means uniformly successful, while those of Drs. Erlcr, Mendel, and Auerbach were almost complete failures. Dr. Auerbach experimented upon sixty patients in a lunatic asylum, some of them being accustomed to sedatives, others not. The dose, varying from ten to thirty-five grains of lactic acid, from twenty to forty grains of lactate of soda, was given during both day and night, under the most favorable collateral conditions. In not a single case was there a sedative effect, but on the contrary in one third of the cases severe intestinal disturbance.

The theory has a plausibility drawn from the fact that the amount of the CO₂ exhaled and of the lactic acid produced in a muscle during contraction is so nearly the same as to suggest a common origin. It loses its probability from these practical experiments, which go to show that, although muscular irritability may be impaired by the accumulation of the products of decomposition, the vitality of the brain is not thus impaired.

The theory advocated by Pfliiger strives to show that it is not the accumulation of waste products that checks the nervous system, but the lack of certain vital conditions. The theory is not entirely original with him. It was foreshadowed by Carnichael, Binz, Ranke, Henker, Sommer, and Richardson. These all queried whether the substance of the brain might not

¹ Hammond, Sleep and its Derangements. Durham, Guy's Hospital Reports, 1860, third series, vol. vi.

² Centralblatt, 1875.

be so modified that external stimuli would be powerless to create cerebral molecular motion. Had the question been asked of them, "Why and how does the brain become so changed?" no answer could have been given. There was simply a tendency of thought in the right direction. Brown-Séquard called sleep a sub-*asphyxia*. Vulpian got so far as to say that the influence of various narcotics was to be found, not in the "vascular modification of the nervous centres," but in some direct "histo-chemical alteration" of the centres themselves.

Pflüger¹ has made the experiments of Voit, Bernard, and Vulpian upon respiration of great account in his theory. He has noticed that frogs deprived of oxygen for a long time become as it were "sleep-drunk," and then insensible. Is this due to a lack of oxygen, to an excess of CO_2 , or to both? When an animal breathes an atmosphere containing only nitrogen, dyspnea follows, but the CO_2 which is generated diffuses, and does not accumulate in the blood. On the other hand, if the animal breathes an atmosphere rich in CO_2 , but at the same time rich in oxygen, true dyspnea does not occur. The action of insufficiently arterialized blood upon the respiratory centres is due, then, to a deficiency of oxygen.

The next question that arises is, "Does this deficiency primarily occur in the blood or in the tissues?" Several different experiments prove that the oxidation of our body takes place primarily in our tissues, and that then the products of decomposition pass into the blood. For example, a frog in which the blood was replaced by a normal saline solution continued for a time all the respirations and oxidations as before the operation; and Pflüger has shown that a frog at a low temperature will continue to produce CO_2 in an atmosphere totally deprived of oxygen. The oxygen necessary to form this CO_2 must have been stored up in the tissues previous to the experiment. Muscle, however, contains no free oxygen, and is not directly oxidized. The oxygen necessary for its oxidation must then, before it can be converted into CO_2 , pass from the hemoglobin of the blood into the tissues, where, in some unknown way, it is locked up as in a store-house.

When, in a way equally unknown, this intramolecular oxygen is unlocked and chemically united with the tissues to form the CO_2 , it produces a little explosion, which excites molecular vibrations that are at once distributed throughout the nervous system. All investigations favor the belief that in the gray cortex of the brain exist the most ready conditions for the breaking up of living matter, since no part of the body needs oxygen for its life as much as the brain. So quickly is the brain destroyed by lack of oxygen that it cannot be restored even when restoration of the spinal cord is still possible.

The consumption of this molecular elasticity of the brain is, however, so great that during our hours of action the absorption of oxygen into the tissues cannot keep pace with the molecular disintegration. Gradually the explosions become less frequent and powerful; stimuli have less and less effect; the cohesion of the cerebral molecules becomes greater and greater, until finally an impulse upon them is without effect. They are insensible to stimuli, and we say we are asleep. The fundamental idea, then, in the theory is that a certain amount of intramolecular oxygen is necessary for the waking state.

It is well known that during sleep the respiration is slower and deeper, the exhalations are less, the beats of the heart slower and less forcible, the circulation is less rapid, and the body heat somewhat lower than during waking hours. It is well known, too, that the voluntary muscles and nerves are at rest, and that some organs—for example, the stomach—are comparatively inactive. These are, however, effects, not causes. At such times the body is unfavorable to oxidation. Oxygen can therefore be stored up. After a time the molecules of the brain are so saturated with this oxygen that their oscillations become more frequent and powerful. They furnish a stimulus to awaken the bodily activity.

Is it not an objection to the theory, however, that we need to sleep so large a part, say one third, of our time to store up this oxygen in the tissues? I do not think so. It is not maintained that there is absolutely no activity in the body during sleep, but that the accumulation of this oxygen results simply as an overplus which is not expended, and which can therefore be absorbed or stored up. Neither is it claimed that all the force, that is, all the intramolecular oxygen of the brain, is consumed by fatigue, because we know that the will—an internal stimulus—has great power to urge on our flagging energies, even when external stimuli fail us. Fatigue from over-exhaustion comes partly from exhaustion of muscular fibres, partly from exhaustion of motor nerves, but chiefly from exhaustion of that portion of the central nervous system which produces voluntary impulses. The will rarely, if ever, calls forth the full powers of the tissues. If, however, every external stimulus could be removed we might expect, even *a priori*, that sleep would ensue, because we know that absence of stimuli must decrease cerebral molecular motion, and consequently the consumption of oxygen.

It has been the good fortune of science to confirm such an expectation by an actual experiment.² A young man of sixteen appeared, in the spring of 1876, at the hospital in Leipsic. His entire skin and muscles had so lost sensation and power that he could be burned or made to move around the room without any feeling of pain or motion. He had lost taste, smell, sight in the left eye, and hearing in the right ear. His only means of receiving sensations was by his right eye and left ear. If these were artificially closed by an attendant, the boy, after two or three minutes of restlessness, would go into a sound and tranquil sleep. This experiment could be repeated whenever desired. By throwing a flash of light upon his eye, or by making a loud sound close to his ear, he could be awakened; if left alone, he would after a few hours awaken of himself, from either external or internal stimulus.

This is in striking confirmation of the theory. To be sure, the boy might not exhaust all his intramolecular oxygen between the times he might be put to sleep; but it must be remembered that he did not at such times go to sleep of his own sweet will and by a demand of nature,—he was put to sleep by diminishing molecular disintegration.

While every evidence, then, is in favor of this theory, we cannot say that it has been perfectly elaborated. It has yet to explain how the store of intramolecular oxygen is exhausted in the nervous system, and exactly what are the resulting molecular changes in

¹ Archiv x.

² Recorded by Strömpell in Archiv. xv.

the brain. Although it has not answered the question *how*, it has answered the question *why*, some "histochemical" change takes place in the nerve centres. It offers a sufficient reason for the periodicity of sleep and for the influence stimuli, both external and internal, exert upon sleep. The possibility of mistaking effect for cause in it is reduced to a minimum. In a word, it is the only theory ever advanced upon the subject which even attempts consistently both with theory and facts to assign an active, immediate *cause* for sleep.

RECENT PROGRESS IN PHYSIOLOGY.

BY G. M. GARLAND, M. D.

DIGESTIVE FLUIDS.

THE researches of Richet¹ have thrown some additional light upon the vexed question of the cause of activity in the gastric juice. The method employed depended upon the observation of Berthelot that when an acid solution is shaken up with an equal volume of ether the free acid, if organic, is distributed between the two fluids, but if mineral, remains almost entirely in the water. The number which expresses the proportion in which the acid is divided between the two fluids is called by Berthelot the "coefficient of distribution," and is constant for each acid. Pure gastric juice, when tested in this way, was found to have a coefficient of distribution very different from that of hydrochloric acid; but by combining hydrochloric acid with various organic substances found in the stomach itself, Richet succeeded in producing a compound which resembled the gastric juice not only in its coefficient of distribution, but in its action upon cane sugar, starch, etc. Richet therefore considers that in pure gastric juice the hydrochloric acid is united with organic substances, particularly with leucine, which somewhat modify its action as a mineral acid. The products of digestion obtained from albuminoid materials by the use of this combination of acid and leucine seem to be much more diffusible than those obtained by pure hydrochloric acid. During the progress of digestion the hydrochloric acid of the pure gastric juice is to a certain extent replaced by phosphoric and lactic acids derived from the food, and separated from their combinations there by the stronger mineral acid with which they are brought in contact. There is also, in certain cases, an acid fermentation in the contents of the stomach, resulting in the production of an additional amount of acid. The *mixed gastric juice* as found in the stomach after several hours' digestion is therefore a very different fluid from the *pure gastric juice* as originally secreted.

These experiments of Richet have been repeated and confirmed by a recent French writer.

This observer has also investigated the action of the pancreatic juice upon the various classes of nutriment in the presence of the gastric juice. The pancreatic juice is found to be a very delicate reagent for determining whether the gastric juice thus used is "pure" or "mixed;" that is, whether its acidity is due to hydrochloric acid alone, or to other acids (phosphoric, tartaric, lactic, etc.) set free from the food by the stronger mineral acid or produced by fermentation. In the former case pancreatine is found to be without

action upon starch, and to digest only five times its weight of albumen; whereas, in the latter case it converts seven times its weight of starch into sugar and changes thirty-eight times its weight of albumen into peptones.

DIASTOLE OF THE HEART.

The diastole of the heart is generally assumed to be a period of rest during which the wear and tear of the previous contraction is remedied, and those who strive after proofs of infinite wisdom in the constructive agencies of the body have delighted themselves in figuring out the amount of rest allowed a weary, self-destroying heart during the busy period of life. On the other hand, skeptics have frequently arisen to deny that the heart is indulged with rest during diastole; for they claim that this phase of its existence is as much an active one as is the systole, the two differing only in intensity. Among such skeptics were Galen and Vesalius. Haller was an advocate of the rest theory, for he considered the heart purely passive during dilatation.

This question has excited much interest of late, especially among Italian and German physiologists, and the discussion thereon has been illustrated by many interesting experiments. Fick introduced a canula into the left ventricle of a dog and connected it with his spring manometer and thereby discovered that the blood pressure inside that cavity was apparently less than in the aorta. Gräde observed the same peculiar condition with a mercury manometer. It seemed hardly credible, however, that the tension in the aorta could exceed that in the ventricle, since the former is directly derived from the latter. It was contended, therefore, that the apparent difference was due to the fact that the spring and the mercury manometers were too sluggish in their movements to trace accurately the rapid variations of pressure which constantly occur in the ventricle. Hence Marey² tested the point with his more delicate air drums, and found that the maximum pressure in the ventricle exceeds that in the aorta.³ Goltz and Gaule examined the subject by a very ingenious method. Every one knows that an ordinary Davidson syringe bulb exercises a suction force through one of its tubes and a positive pressure through the other by means of the opposite action of its corresponding valves. It is also clear that a manometer attached to the nozzle tube of the syringe would exhibit the amount of force with which the bulb contracts, while another manometer, attached to the opposite or basin tube, would show only the negative force exerted by the reëxpansion of the bulb. Goltz took advantage of this simple arrangement of valves in the following manner: he passed a canula through the right carotid of a dog into the aorta, and thence into the left ventricle. The outer end of the canula was connected with a manometer by means of a tube which contained a valve. This valve could be reversed at will, and thus the manometer could be made to record alternately the direct or maximum pressure produced by the contraction, or by a series of contractions, of the ventricle, and the negative or minimum pressure developed during the reëxpansion of the same. Testing first the positive force, he found that the maximum pressure in the ventricle is always a little *greater* than in the aorta. Comparing the two ventricles he obtained the following figures:—

² Marey, *Physiologie mët. de la Circulation du Sang*.

³ Arch. f. d. ges. Physiologie, 1878; Bd. xvii. p. 200.

¹ Journal de l'Anatomie et de la Physiologie, March and April, 1878.

Maximum systolic pressure in left ventricle = 135 mm. mercury.
Maximum systolic pressure in right ventricle = 61.8 mm. mercury.

On reversing the action of the valve he discovered that the left ventricle in expanding exerts a minimum or negative pressure of 52 — mm., mercury, while the right ventricle records — 17.2 mm. As an average he finds that a dog's heart can suck with a force equal to — 320 mm. of water, and the intensity of this force depends on that of the contraction. On taking the heart out of the body and squeezing it, and then noting the force with which it expanded, he could obtain a suction of only — 100 to — 200 mm. of water. In other words, the physiological expansion of the heart is accomplished with more force than that which follows an artificial compression of heart. Mosso poured water around a frog's heart in a small chamber, until the weight of the water prevented further movements, that is, kept the heart compressed. He thus found that 15 to 20 mm. of water are necessary to overcome the diastolic resiliency of the frog's heart.

Morison¹ cut out a sheep's heart, and tied all its outlets except the pulmonary artery, which was connected by a canula and tube, with a manometer. Then squeezing the left ventricle he found it would, on re-expanding, draw up a column of water 30 mm. high. The right ventricle did the same thing to less extent. On injecting the coronary arteries and repeating the experiment, he found that the left ventricle would suck up 120 mm. of water, or four times as much as before.

The influence thus exerted by the coronary arteries has been noticed by Brücke, Donders, and others, who have argued that the diastolic expansion of the heart is intensified by the rush of blood into those arteries from the aorta. Brücke says the semilunar valves are thrown widely open by the discharge of blood out of the ventricle during systole, and are thus brought to lie against the orifices of the coronary arteries in such a way as to prevent blood from entering therein during that phase of the cardiac action. Moreover, he thinks that the blood is even squeezed out of the arteries by the contraction of the muscles. Then, as systole ceases, the cardiac muscles relax; the valves close and uncover the coronary orifices; the distended aorta rebounds and drives blood into the coronary arteries, thereby producing a diastolic erection of the cardiac walls. Donders injected these arteries forcibly, and found that by so doing he was able to produce a diminished pressure in the cavities of the heart, as indicated by manometers attached to the same.

Ceradini² contests this theory on the following grounds: he says that the semilunar valves do not cover the mouths of the coronary arteries, and therefore can not hinder the entrance of blood during systole. Moreover, he has observed, by introducing canulas into these arteries, that the blood spurts out of them during systole, and not during diastole. Brücke says that this spurt of blood is that which enters the arteries at the very beginning of systole, while the valves are opening, but have not yet come against the orifices. Ceradini says that this systolic pulse indicates that the orifices are open both in systole and diastole, and that the rapidity of flow through them is greater in systole than in diastole.

Among the Italians, Luciani has shown a strong in-

terest in this subject, and advances the following considerations to prove that the ventricles are active in diastole: —

(1.) During the systole of the auricles one does not observe a reflux of blood into the vena cava, although those veins are not guarded by valves. This shows that the pressure in the auricle does not exceed that in the veins, and this is due to the fact that the ventricle keeps the auricular tension down by aspirating blood toward itself during its own diastole.

(2.) In the horse, whose heart-beats are slow, and in whom the auricular systole does not begin until near the close of ventricular diastole, we can attach a manometer to the vena cava and see a negative wave of aspiration occur at beginning of ventricular diastole.

(3.) Place a canula in the ventricular cavity of a dog and connect it with a horizontal tube, and one can see a slight aspiration of blood with each diastole.

These various experiments seem to prove indubitably that the ventricles of the heart do exert a negative force during their diastole, and thus assist the circulation in a twofold manner. Simple as the problem thus far appears, it becomes more obscure and more difficult when one tries to explain the mechanism of this diastolic aspiration. Some say it is the negative pressure which is exerted on all the organs of the chest, the heart included. This explanation is unsatisfactory, because it can readily be shown that the diastolic aspiration persists in expiration as well as in inspiration, and even when chest is opened and heart removed from body. Others maintain that the aspiration is due to forcible rebound of cardiac walls after the systolic compression. It is not proven, however, that the heart can squeeze itself powerfully enough to cause such a rebound. Luciani thinks that the heart is supplied with two sets of nerves, — contractors and dilators. Under the influence of the former the longitudinal axis of the molecules of the muscle becomes shorter and the heart contracts, while the dilator nerves produce an elongation of the axis of the molecule and a corresponding dilatation of the heart. Thus he claims that irritation of the vagus does not stop the heart by paralyzing it, but by inducing a particular condition of extension of the muscular fibres, — a sort of "extensible tetanus." A very feeble irritation of the vagus will sometimes cause a contraction of the heart, and Luciani explains this by the hypothesis that the vagus also contains contractile fibres, which are more excitable than the dilator fibres, and therefore become active first. As the irritation increases, however, the action of the dilators begins to overpower that of the contractors, and dilatation takes place.

Another argument in favor of this diastolic activity is derived from some experiments of Claude Bernard. He observed that the injection of quinine into the circulation produced at first an enfeeblement of the systole and a prolongation of the diastole, and that finally the heart became quiescent in a state of exaggerated dilatation which exceeded the ordinary cadaveric diastole. Mosso is a strong opponent to the theory that diastole is marked by an active protrusion of the molecules of the cardiac muscles. He found, as stated above, that fifteen to twenty mm. of water would suffice to overcome the tendency to a diastolic expansion in a frog's heart, while the same heart would lift seven hundred and fifty mm. of water during systole. He seems to think that the mechanical rebound of the heart after compression is sufficient to account for so slight a force.

¹ Edin. Med. Journal, November and December, 1879.

² Der Mechanismus der halbmondförmigen Herzklappen, Dr. Julius Ceradini, Leipzig, 1872.

He cut out a frog's heart and bathed it in a five per cent. solution of neutral sulphate of quinia. This brought the heart to rest in diastole, but the expansion was no more than ordinarily occurs, and therefore Mosso does not believe that quinine can produce an exaggerated diastole.

Engelmann advances an ingenious theory to explain the mechanism of muscular action. He supposes that certain portions or segments of a muscular fibrilla become endowed with a higher absorbing power under the stimulus of nervous impulse, and that they thereby draw into themselves a larger amount of water from neighboring segments. By this means the muscle assumes a greater transverse diameter and a shorter longitudinal one, that is, it contracts. When the osmotic current tends in an opposite direction the reverse of this phenomena occurs, and the muscle elongates or expands. If this be true, then both muscular contraction and elongation are determined by osmotic force, and one may be considered as essentially active as the other, though they may differ from each other in intensity.

To sum up, it is evident that the heart exerts an aspiratory force during its diastole, and thus accelerates the approach of blood to itself, but different authors vary widely regarding the mechanism of this phenomena. A full index to the literature of this subject may be found in the *Revue des Sciences médicales*, tome ix, page 345.

ORIGIN OF THE ASPIRATORY FORCE IN THE CHEST.

Bernstein¹ has raised the question as to the moment and manner in which a negative pressure is established within the human chest. Evidently such a pressure cannot exist in utero, or it would draw the amniotic fluid into the lungs. To test this point Bernstein attached a manometer to the trachea of a still-born infant. Then, having inflated the child's lungs, he opened the chest wall, and found that they contracted with a force equal to 6 or 7 mm. of mercury. This shows that the first breath creates a permanent enlargement of the thoracic cavity. This increased space, he thinks, may result from the driving out of blood which cannot afterward return, or from the establishment of a new set to the ribs.

The latter explanation would seem the more plausible, and Bernstein found that the transverse diameter of the chest is permanently increased 1.4 mm. by inflation. He was unable to explain this inability of the ribs to resume their original position, but suggested that it might be due to some cog-and-ratchet arrangement of the costo-vertebral joint; or that the elastic expiratory agents of the chest might be so over-stretched that they assume a new set, and are thus unable to bring the chest back to its former position.

— Dr. W. J. Morton, of New York, has been invited to deliver the course of lectures on Diseases of the Nervous System in the University of Vermont, Burlington, during the present term.

— A correspondent of the *Medical Times and Gazette* says: "So long ago as 1733, Mr. Paul, a surgeon at Stroud, Gloucestershire, extracted from the kidney of a woman, by an incision through her back, a rough stone as large as a pigeon's egg, and made an entire cure."

¹ Pfliiger's Arch., xvii, p. 617.

Hospital Practice and Clinical Memoranda.

TWO CASES OF HYSTERO-NEUROSES.

BY G. H. LYMAN, M. D.

Few physicians will find it difficult to recall puzzling and annoying cases of long-continued and painful affections, which, for want of a more definite name, they have ranked under the convenient head of neuralgia, or which, perhaps, the simulation being perfect, have with a more positive diagnosis treated a long time without success for cerebral, cardiac, pulmonary, or gastric disorder, until finally, their true reflex character being discovered by themselves, or possibly, to their annoyance, by others, relief is prompt and effectual. I could recount many such cases which have fallen under my own observation: a chronic dyspepsia, for instance, of many years' duration, which was immediately and permanently relieved by the simple rectification of a retroverted uterus; anaesthesia and threatened paralysis of one leg, lasting for months, due to a similar cause, as clearly proved by the result; an exhausting laryngeal cough, continuing half the night for weeks, and resisting all general and local medication, until its cause was discovered in an irritable uterus.

The following cases, occurring recently in my service at the City Hospital, are worth reporting as striking examples of unusual forms, treated for a considerable time without relief before their reflex character was suspected. For the distinction to be made between such cases and the ordinary manifestations of hysteria I would refer to the excellent paper by Dr. Engelmann in the second volume of the *American Gynaecological Transactions*, my experience leading me to acquiesce in his statement that ordinary hysteria is "but very indirectly influenced by the condition of the uterus," meaning thereby its pathological and not its physiological condition.

CASE I. E. M. K., aged nineteen, unmarried, entered the hospital on the 12th of June, 1879, with slight febricula, which ran its course with no unusual symptom but a tendency to vomiting. July 3d she was transferred to another ward to be treated for leucorrhœa. She reported that her catamenia began at fifteen, and that she had been always well before entering the hospital. As will be seen later this was incorrect, and probably arose from her reluctance to speak of these details unless closely questioned in reference thereto.

July 11th. Has a slight, dry cough, and for the past two days it is noted that she is able to retain nothing but a little milk.

July 22d. She now says that all last winter she had pain and distress in epigastrium after eating, and that she vomited blood two or three times. No hæmatemesis noted since entrance.

July 26th. Food is now given only by the rectum.

July 29th. Able to retain but a teaspoonful of milk at a time.

August 1st. A digital examination was made, and the uterus was found to be in position. Some tenderness in the left cul-de-sac and iliac region; dysuria. For the next three weeks her condition was not materially changed; sometimes able to retain a little food, but generally not. Complains occasionally of dysuria and pelvic pain. Her symptoms were at-

tributed to gastric ulcer, and for this she was treated until she left the hospital, on the 23d. On the 18th October she was readmitted, the treatment having been continued outside. Her physician reports a continuation of the vomiting, but no blood, and no localized pain in the greater curvature; food never retained over ten or fifteen minutes. Bowels costive; micturition frequent (twenty-seven times in one day), with burning and tenesmus. It is now ascertained that for the last three years her catamenia have been irregular and painful, and on examination, October 29th, with speculum, through a resisting hymen, a well-marked endocervicitis was revealed, with profuse secretion from the os, the circumference being extensively abraded. The cervix was thoroughly scarified, and iodine was freely applied within and without.

November 6th. The erosion but little modified. Treatment repeated. *No vomiting since the first application.* Ordered beefsteak, which was relished and well borne.

November 15th. Has vomited once since last report, and is occasionally distressed by solid food. She has Valentine's extract, tea, toast, and beefsteak. Menstruation causes no increase of symptoms. Bowels torpid. A large furuncle upon nates.

November 28th. Has rejected her food two or three times only since last report. The erosion has healed entirely, leaving a decided congestion and profuse cervical discharge. To modify the nutrition of the parts more thoroughly fuming nitric acid was applied.

December 7th. Granulations from slough exuberant, and touched very lightly with nitrate of silver.

December 23d. Cervix entirely healed and looking healthy. Since last report has had a sharp attack of diphtheritic sore-throat.

December 25th. No pain, no vomiting, and says she feels perfectly well, and is discharged to return to her home in Nova Scotia.

CASE II. A. B., aged twenty-seven, widow. This patient was admitted to the hospital for acute rheumatism November 23, 1879. She reports that for three months she has suffered from rheumatic pains in both legs, commencing in the ankles and extending to the knees, and of late to some degree to the thighs. For the past fortnight these pains have been worse, with the knees and ankles excessively tender to the touch, and she thinks there has been some swelling. Pain more severe at night. No specific history. Bowels torpid. Micturition frequent and burning. Catamenia irregular, intervals varying from one week to four weeks, very painful, and occasionally excessive. At the first visit the limbs were found enveloped in cotton. Temperature 101.2° F.; pulse 100; tongue coated. The slightest attempt at examination of the limbs caused such turbulent outcries that it was desisted from, and as the diagnosis of acute rheumatism seemed rational enough she was ordered salicylic acid, and for temporary relief subcutaneous injections of morphine. A week later (November 30th), as there was no apparent improvement under treatment, the cotton envelopes were carefully removed, against her vehement protest and apparent suffering. On exposure to the air intense clonic contractions of flexor tendons at ankles and knees occurred, and excessive rigidity of the muscles, causing great pain. The true nature of the case was now suspected.

December 10th. At the termination of a catamenial period examination showed the uterus to be very

tender. There was intense endocervicitis, with abundant discharge of muco-pus from the cervix. No uterine displacement. Vaginal walls somewhat injected. The uterus was swabbed with a strong solution of carbolic acid, and hot carbolized vaginal douches were ordered.

December 11th. The intense pains of the limbs, of some three months' duration, and simulating so completely acute rheumatism, *have disappeared*, and the patient flexes the thighs sharply upon the abdomen without assistance and without complaint.

December 12th. Cervical discharge continues. Vaginal injection repeated.

December 14th. Improved. Secretion from cervix diminished and less purulent. The cervical membrane freely scarified, and acid reapplied. Has had no recurrence of the muscular pains. Sleeps well without an anodyne.

December 31st. Has menstruated during the past week without complaint. The vaginitis has disappeared. There still being a slight discharge from the cervix, the os was again scarified and the acid applied for the last time. She remained another month in the hospital for rest and tonic treatment, and was discharged, well.

CASE OF CONGENITAL UNILATERAL COLOR-BLINDNESS.¹

BY OTTO BECKER.

THE occurrence of congenital color-blindness confined to one eye has not heretofore been indubitably established.

In 1868 Niemetschek² described a case of unilateral color-blindness, which by many authors is viewed as congenital. But Niemetschek expressly says that the visual disturbances of his patient, a man of forty-six, had appeared but a few years before his examination. Vision, both near and distant, was poor in both eyes. Exact data as to refraction and visual power were not given. The patient himself observed that the shadows in a folded white handkerchief appeared to him green. He suffered beside from a central scotoma, which seems to have assumed complementary colors. No difference between the eyes was discoverable by the ophthalmoscope.

By repeated examinations it appeared that the right eye perfectly distinguished colors, but that the left, with the polarizing prism, while it saw red and green correctly, perceived yellow and blue as red or pink and green or greenish. This eye must therefore, according to our present arrangement, be classed as blue-yellow blind. In this particular it is of special interest, even if we must consider the color-blindness as acquired, since acquired blue-yellow color-blindness has scarcely been observed.

Niemetschek connects the lesion of the left eye with a depression extending over the parietal bone and right half of the frontal, and caused by a former cavernous tumor.

The second case of unilateral color-blindness which is regarded as congenital seems also suspicious. Woinow³ observed in a lady of thirty-four years, with normal visual power and slight myopia, a peculiar dis-

¹ From Graef's Archiv, v. xxv. P. 2, 1879. Translated for the JOURNAL by J. F. Head, Surgeon United States Army.

² Prager Vierteljahrschrift, page 231.

³ Graef's Archiv, v. xxv. P. 2, p. 316.

turbance of color perception in the right eye. This, according to his examination, was green-blind, with a very pronounced photophobia, especially with regard to red colors. Whether this erythrophobia (*roth-furcht*), as he names it, affected one eye or both does not appear from his report. With the right eye alone the patient readily confused light green and dark pink (purple); all external objects appeared to her tinged with red; spectral yellow she designated as light blue. She was most comfortable with blue and bluish-green light. The visual field was also concentrically narrowed.

The patient had besides all sorts of hysterical sensations, and on the right parietal bone a depression of the size of a thaler, resulting from a fall six years before. To be sure, the photophobia and color-blindness would seem to have existed before the fall. Should we nevertheless be inclined to connect the color-blindness with this accident, it would be interesting to note that, unlike the preceding case, the injury was upon the same side as the color disturbance.

I had already, in the winter of 1873-74, had occasion to examine a girl, then twelve years of age, brought to me by her grandfather, who had remarked that with the left eye she could distinguish no colors at all, while with the right eye her color perception was perfectly normal. I examined the girl in the manner then customary with me, and particularly, as I will incidentally remark, with the worsted test, the color disk, etc. In company with Kirchhoff I also determined the limits of her spectrum, and the point of greatest brightness in it. It was then a matter of special interest with us to learn whether the physiological perception of brightness were the same in both eyes with equal illumination. For this purpose Kirchhoff constructed a binocular photometer so arranged that for comparison two strips of white paper, illuminated from the same source at different distances, were seen through a Wheatstone's stereoscope close together in the visual field. With this it appeared that the color-blind left eye required a stronger light to produce the sensation of equal brightness. By further experiments it seemed to be shown that the color seen with one eye differed from that seen with both. This surprising result led to the discontinuance of the examinations at that time.

A publication of Dr. Magnus in the *Ausland*, which the young lady's grandfather happened to read in the course of this winter, led him to communicate with our colleague of Breslau in relation to his granddaughter's peculiar faculties of color perception. I thus indirectly learned again the address of the girl, now grown to be a young lady. She as well as her grandfather had sufficient interest in the matter to permit a renewed accurate examination.

Miss L. S., seventeen years of age, comes of a family in which both unusually developed color-sense and also color-blindness have been observed. One of her mother's brothers is a celebrated artist in high repute as a colorist; another is color-blind. Her own color disturbance was discovered when Miss S. was a child of three years, by her asking her mother why the carpet, when she lay in bed upon her right side, had quite different colors from those which it showed when she lay on the left. As the pillow masked the eye of the side upon which she lay, the child saw only with the other. It could at that time be determined that in fact to the left eye everything appeared colorless. As the little one never before or since had any disease which usually produces disturbance of color perception, we

may conclude, with great probability, that the color-blindness of the left eye is congenital. The results of the more accurate examination reduce this to a certainty.

At present there is myopia of both eyes (right eye, myopia = D. 2.75; left eye, myopia = D. 3.00) with perfectly normal visual power ($V. = \frac{5}{5}$). Her hair is blonde, her iris grayish-blue; the young lady enjoys blooming health, and possesses more than ordinary intelligence. The ophthalmoscope shows absolutely no appreciable difference in the two eyes. The visual field is not contracted, and is of equal extent in both eyes; nor are any subjective perceptions of peculiar character announced. The distance between the pupils is fifty-six mm.

The examination of color perception gives the following: With a large Hoffmann's spectroscop *à vision directe*, the red end of the spectrum with each eye extends as far as with any normal eye. The blue end appears for the left eye to be a very little shortened, but the shortening is quite inconsiderable. The point of greatest brilliancy lies for the right eye somewhat to the right of the soda-line, for the left almost exactly in the soda-line. Through a green glass, the greatest brilliancy is moved somewhat to the right; a red glass does not change its position. By Stilling's method with colored shadows, red and green, as well as blue and yellow, are quickly and surely recognized with the right eye; with the left all shadows appear pure green, and are distinguished only by their degrees of darkness. These distinctions, however, are given with the greatest precision. Exactly the same results are obtained with the tissue paper, by Weber's method. The bright-colored letters, both red and blue, of the tables annexed to Stilling's Contributions, No. IV., Miss S. promptly recognizes at twenty feet and more. The tables of the new edition of Stilling's *Zur Prüfung des Farbensinnes* were also read; those adapted to blue-yellow blindness without any difficulty; those for red-green blindness with certainty, though somewhat more slowly. The letters and marks of the latter became very distinct when viewed through red glass; not so through green.

With Rose's colorimeter blue and orange, and also red and green, appear to her perfectly alike.

On Woitow's disk Miss S. recognizes only as respectively lighter and darker gray the colored rings which with the right eye she distinguishes quite correctly.

With Holmgren's worsted test she places with pure green other shades of green, flesh-color, bluish and yellowish greens, and pure red. Pale purple she matches with pure blue, purples of medium saturation, dark green, bluish green, and olive green; brick red with dark brown and bluish green, as well as with all colors containing any tinge of red. With this test it is highly interesting to observe Miss S.'s astonishment when the covered right eye is opened, and she is thus enabled herself to correct the errors which she has made. While with the right eye all the colors presented are distinguished, pointed out, and even named with the accuracy of a *virtuoso*, to the left eye everything appears only of a light or dark gray. It is very remarkable, however, that *brown* appears to the left eye as a color; indeed, this applies not only to worsteds, but to other stuffs, papers, oil and water colors.

The experiments with Maxwell's disks show that the left eye not only perceives as such all the matches for normal eyes, but that to any given gray a match

can be produced from two, three, or several colors at will, provided only that the right degree of saturation be hit. It is therefore of no interest to give the numerical values of the color matches obtained.

The experiments in binocular vision were specially interesting with reference to the results obtained in 1874. Ability to realize solid effects from stereoscopic pictures exists in a high degree. There is a surprising result, too, in the lustre tests.¹ If to the left eye be presented a red surface and to the other a blue, and then *vice versa*, in the first case blue alone and in the second red only is perceived; the same is the case with green and blue. And yet in all these tests an influence of binocular vision can be appreciated. That is to say, if the color presented to the left eye, whether red, blue, or green, be lighter than the color presented to the right eye, the color seen with both eyes is lighter than when the left eye is closed. As a check test, first gray and then black before the left eye were added to the blue before the right. The effect was in the first case a lighter, in the second a darker, blue.

Finally, I examined the differentiating power² of each eye separately and of both together by means of Massou's disk, and not only by rotating black strips on white disks and white on black, but with yellow on blue and green on red, and *vice versa*. From this it appeared that the distinguishing power of the left eye for black amounted to about $\frac{1}{15}$, that of the right eye to about $\frac{1}{15.5}$, and the binocular differentiation to about $\frac{1}{15.6}$. Compared with my own eyes, the amount for Miss S.'s right eye agrees with that of each of mine; but, on the other hand, my binocular distinguishing power is considerably greater, about $\frac{1}{15.5}$. Hence it is evident that the diminution of light perception in the left eye has a most precisely appreciable effect in binocular vision. The differentiating power found is greater than that elsewhere given.³

I propose to publish in another place, with further experiments, the more exact data regarding the separate series of examinations.

From all the foregoing there can be no doubt that in this case we have to do with congenital unilateral total color-blindness. I refrain from entering upon a detailed discussion of the facts reported, but yet will remark that the effect of binocular vision upon the color perception observed five years ago is fully explained by the renewed examination. The difference is not in the color, but in the shade of which it appears.

Since the occurrence of congenital unilateral color-blindness is established by this case, its rarity appears to me only the more doubtful. It is supposable that many cases have been overlooked, because both eyes are usually examined together as to their color perception.

As the subject of this case is a young lady from a family in whose male members also color-blindness occurs, the special examination for unilateral color-blindness of the female members of those families in whose male branches the occurrence of color-blindness has been ascertained should commend itself. Possibly we may thus find the key to the enigmatical overlapping of congenital color-blindness from the grandfather to the sons of a daughter not color-blind.

Reports of Societies.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

A NEW INSTRUMENT FOR THE READY, EFFECTIVE TREATMENT AND PREVENTION OF BLOOD-POISONING IN SURGICAL OPERATIONS.

JUNE 14, 1879. DR. BIXBY exhibited the instrument, his own device, and read a paper embracing observations upon the subjects of pyæmia and septicæmia in surgical and other cases, with examples illustrating the use and value of the instrument. The paper will be published.

UTERINE AND VAGINAL INJECTIONS.

DR. RICHARDSON said that he agreed with Dr. Bixby as to the use of intra-vaginal injections. For the past six months in the Lying-In Hospital these had been the invariable rule in all cases where there seemed to be evidence of any septic absorption. Winckel claimed that a rise of temperature in some cases indicated absorption of poisonous matter from some solution of continuity along the vaginal tract; these points being sought out and touched with caustic the trouble would cease. Vaginal injections should be employed to avoid that absorption which, in Dr. Richardson's opinion, was one of the causes of puerperal fever. At the same time there is a liability to absorption at the placental site, or at some other part within the internal os. In a specimen which Dr. Richardson had shown to the society in the winter, there was a marked difference between the mucous membrane of the cervix and that of the body of the uterus, the former being perfectly healthy, while the latter, separated by a sharp line of demarkation, was seen to be broken down. Should a chill occur, especially with a marked elevation of temperature, he would at once resort to intra-uterine injections. He had seen the greatest benefit result from them, a temperature of 103° to 106° F. falling in two or three hours to 100° F., and again, if recurrence. The injection used was a mixture of carbolic acid and water, one part to ninety, used as hot as the patient could comfortably bear it, — about 116° F., — and in large quantity, or until the fluid came away clean, and repeated according to the symptoms, generally three or four times a day for two or three days, when, if there were no recurrence, they have been gradually left off. The injection has been made through a tube corresponding in shape to a male catheter, but perforated near its end with numerous small holes spirally arranged, for the better dispersion of the fluid; but should the os not be freely patulous a double catheter should be substituted. It is very rarely that there is not a decided fall of temperature within two or three hours after an injection, frequently not to rise again. Sometimes, perhaps in half the cases, the temperature will again go up, and the process will require to be repeated accordingly. Dr. Richardson stated that he did not use intra-uterine injections without special symptoms, but in case there were an offensive lochial discharge, with a rise in temperature which was not accounted for by the coming of the milk, such injections would be indicated. Vaginal injections, on the other hand, he used in all cases, both in hospital and private practice, as a preventive measure. Three

¹ "Glanz-Versuch." Vide Helmholtz, *Physiolog. Optik.*, 1867, page 782. — TRANSLATOR.

² "Unterschiedsempfindlichkeit." To those acquainted with the use and object of Massou's disk the above translation of this word will convey the author's meaning. To those who are not so no word would be intelligible in this connection. — TRANSLATOR.

³ Comp. Helmholtz, *Physiolog. Optik.*, page 315.

months ago very high temperatures were running at the Lying-In Hospital, and vaginal injections had, as it happened, been interrupted for some time. The injections were renewed, and the temperatures all fell again within two weeks.

Dr. C. E. STEDMAN remarked that he had just finished attendance upon a case of labor in which the pulse rose to 130 and the temperature to 104° F. There had been no vomiting, chill, nor offensive lochia, neither was there cause for alarm, as Dr. Stedman had conducted the patient through very severe labors before in which similar phenomena, which were simply peculiar to the patient, had appeared.

A healthy patient whom Dr. Stedman had delivered a month ago complained upon the third day that something was protruding from the vagina. A long string of membranes was extracted, entirely free from odor. No injections had been used; no harm resulted.

Dr. BIXBY remarked that in an extreme case of puerperal fever, as well as after the removal of intra-uterine fibroids, it would be desirable to establish a constant irrigation of the uterine cavity.

Dr. RICHARDSON agreed that that would be the perfection of treatment if it could be made practicable. In this connection he spoke with approval of a bed-pan in regular use at the Lying-In Hospital, the invention of Dr. Joseph Stedman. Its advantage consists in a nozzle for the attachment of a rubber waste-pipe.

Dr. LYMAN held that a woman should have a clean vagina as well as clean face and hands, and that vaginal injections should be used as a matter of cleanliness as well as a safeguard against possible infection.

Dr. RICHARDSON said that we should use them on account of possible fissures along the course of the vagina, and because we do not know when we are going to have trouble and when not. Of course to completely carry out this idea of antiseptic obstetrics, we should use intra-uterine injections also, so as to avoid the danger of absorption within the uterus, but with our present appliances and lack of skilled nurses he did not consider that method safe, except where danger actually threatened.

Dr. SINCLAIR said that he had very little to add to what had already been stated. At a previous meeting he had read a case of death from septicæmia occasioned by a decomposing clot and portion of membranes in the uterus. At the autopsy he felt that life might have been saved had uterine injections been employed. In his last three months of service at the Lying-In Hospital eight or nine cases of septicæmia had occurred, and the situation was alarming. Vaginal injections were dropped to diminish the chance of carrying the disease from one patient to another. The use of intra-uterine injections of permanganate of potash, from once or twice daily to once every three or four hours, was instituted for the first time, and lives were undoubtedly saved by the procedure. The adjuncts employed were quinia, beef essence, and brandy, and sponging with diluted alcohol. One patient, who was extremely low, consumed a bottle of brandy daily without intoxicating effect, and she took in all, daily, eighty grains of quinine and an equal amount of salicylic acid.

Dr. STEDMAN said that in the case recently read by him before the society, there was no doubt that life was saved by intra-uterine injections. The temperature went down at least two degrees after each injection.

Dr. RICHARDSON, in answer to questions by Dr.

Boardman, stated that he had never observed any fall or variation of temperature whatever from the use of vaginal injections which were as hot as the others.

Dr. HOSMER asked Dr. Hodgdon whether his puerperal patients were usually free from offensive lochial discharge. Dr. Hodgdon replied in the affirmative. Dr. Hosmer stated that his standing direction to the nurse was to administer a catholic injection *whenever* (every hour if necessary) the lochial discharge gives rise to the least unnatural odor. He supposed that Dr. Hodgdon simply intended to say that his experience had included a period (now passed by) in which cases with bad symptoms were presenting themselves in rapid succession.

Dr. SINCLAIR said that if the lochial odor became foul, one would find a fall of temperature.

Dr. INGALLS remarked that foul odors were especially obnoxious to him, and that he was quick to perceive them. Of late years he had very rarely had offensive discharges after delivery in his cases, and he had never been obliged to inject the uterus. The vagina has to be kept clean quite often, indeed, always. He had never had a case of puerperal fever, but had seen several in consultation. For that matter, out of two thousand cases he had never had a placenta prævia, and but three cases of convulsions.

Dr. ABBOT stated that he had never even seen a case of puerperal fever.

A CASE OF PUERPERAL CONVULSIONS WITH ALBUMINURIA, IN A PRIMIPARA AT THE SEVENTH MONTH OF PREGNANCY; PREMATURE DELIVERY BY MANUAL DILATATION OF THE CERVIX; CYSTITIS; DEATH FROM UREMIA ON THE SIXTEENTH DAY.

Dr. SINCLAIR reported the case as follows:—

Mrs. —, seen in consultation on May 24, 1879, with three other physicians, one of whom was the husband of the patient, had substantially the following history: Age twenty-two, married eighteen months, never strong, said to be advanced seven months in her first pregnancy. Her health was sufficiently good until the end of the sixth month, when she developed signs of renal disease, with extensive oedema, for which she was treated. The swelling disappeared from the face and extremities, but not the albumen from the urine. In the midst of this apparent improvement she was suddenly seized with convulsions, which recurred frequently and severely. Consciousness became less and less. She was treated by cathartics and enemata, and the paroxysms somewhat mitigated by the inhalation of ether. Urine taken from her bladder at the time of my visit became nearly solid on heating. She was sufficiently conscious to make resistance to the use of the catheter. In conference with the gentlemen already referred to, who had watched the case from the beginning, it was agreed that premature delivery was justifiable, and it was effected in one hour and three quarters by manual dilatation of the cervix. The child was turned, was still-born, but was alive when first touched in utero. It was small. There was no injury done to the soft parts, and ether was given during the process of delivery. There was no unusual flow, and the uterus contracted normally.

About an hour after the uterus was emptied she became extremely restless, turning from one side to the other every minute; pulse rapid, temperature 101° F. This disagreeable condition was quieted by opium, and she rested calmly for several hours. During the fol-

lowing day (25th) she became somewhat more conscious, and it was then observed that she was blind. Abdomen tympanitic. The subsequent behavior of the case is given from report. On the 26th, the tympany was less. Vaginal douches of carbolyzed tepid water were commenced; lochia natural; blindness continues; seems to comprehend when spoken to. One and a half pints of urine, by catheter. Density 1020. Albumen one eighth; hyaline and granular casts. 27th. Pulse 96, temperature 101° F. More conscious; eyes the same; flatulency; less tenderness of abdomen. Urine the same. Takes food more readily. 28th. Two pints of urine by catheter. Some tenderness of abdomen on pressure; lochia well; sight returning; recognizes family and physicians. 29th. About the same. 30th. Two pints of urine by catheter in twelve hours; odor disagreeable. Albumen one half. Microscopically as on 26th. Pulse 100. Milk in breasts. June 4th. Soon after a vaginal injection there came suddenly a flow of blood from the vagina to the extent of six ounces. Pulse 110. Ergot was given, and a tampon used. 6th. One pint of urine withdrawn in nine hours. Density 1010. Albumen one fifteenth. 7th. Very comfortable, but the temperature 102° F. Urine one and one third pints in eleven hours. Albumen one twentieth; slight mucous deposit. 8th. Urine, one and a half pints in eleven hours. Milky appearance; putrescent deposit of mucus. Nine p. m. Recurrence of hæmorrhage from the vagina. 9th. Urine withdrawn; one half pint in twelve hours; cloudy, putrescent, alkaline. Albumen one sixth; disintegrated granular casts. Pulse 128, temperature 101° F. 10th. Had a comfortable night. At ten o'clock, A. M., pulse 134, feeble; slight hæmorrhage from vagina; vomited for the first time this A. M., and several times during the day. 3.30 p. m. Pulse intermittent. Sinking. Jactitation. Sighing. Died at 5.45 o'clock. P. M.

On review of this case my reporter stated that the temperature ranged from 100° to 102.5° F., and the pulse from 100 to 112 until the day before her death, when it mounted higher; that she took and retained food, and seemed to gain until the 9th, or even later, when she suddenly collapsed. The flowing was not profuse at any time, the whole loss not exceeding eight to ten ounces. The albumen in the urine diminished after delivery, then gradually increased until the time of the hæmorrhage, when it again diminished. The uterus was well contracted at time of death.

Dr. SINCLAIR remarked that he thought he could dilate the os uteri with the hand without abrading the mucous membrane.

Dr. LYMAN questioned the possibility of doing this (dilating the os without abrading the mucous membrane).

Dr. CURTIS stated that he had been present at an autopsy in a case in which he had manually dilated the os, and delivered by turning three days before. No abrasion could be discovered.

Dr. LYMAN said he thought it quite possible to overlook a superficial abrasion, which might indeed leave no trace, and yet have been sufficient for the reception of septic matter.

Dr. STEEDMAN observed that in Dr. Sinclair's case it seemed hardly necessary to go back to septicæmia to account for the death. In cases of Bright's disease patients sometimes do go off suddenly, it is difficult to say why, as in the case of a patient who was suffer-

ing from amyloid disease of the kidneys and other organs, and who, after conversing as usual with a number of people, suddenly died. She had passed a sufficient quantity of urine. Her temperature frequently rose in the course of the day to 102° F.

RECTAL SPECULUM.

Dr. HOSMER exhibited a recent modification of his rectal speculum. The improvement consists in the fact that the narrower mirror can be so placed as to make a larger angle with the axis of the instrument, and at the same time leave a larger aperture for the admission of light. The larger angle alluded to very much aids inspection.

Dr. RICHARDSON said that he had used the speculum in its original form. As changed it works admirably. Looking into the mirror one is entirely out of the way of the light.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. ROTCH, M. D., SECRETARY.

APRIL 26, 1880. Dr. JAMES C. WHITE, permanent chairman, presided.

SUDDEN AND TRANSIENT SWELLINGS OF THE LIPS.

Dr. T. B. CURTIS read a paper on this subject, which he reserved for separate publication.

Dr. C. B. PORTER said that he could corroborate the statements made by Dr. Curtis in his paper from his personal experience in three cases. They were all adults. In two cases the upper lip was the seat of the swelling, and in the other the lower. The notes taken in one of the cases state that he was a healthy man, aged thirty-seven years; he had not had a sick day for twenty-five years. He retired to bed with an uncomfortable stiff feeling in the upper lip, but without marked swelling. He was awakened in the night by a sensation of discomfort and tension of the lip, and on rising and looking in the mirror he was alarmed by the hideous expression of his face, the upper lip being enormously swollen, so as to overhang the under one. Early in the morning he consulted a dentist, thinking to cruminate his teeth as a cause of his disfigurement. No trouble with them was found, and he was recommended to come to Dr. Porter. The swelling involved the whole upper lip, gradually losing itself in the cheeks, and being symmetrical. There was no heat, no pain, no redness, only the great discomfort and disfigurement produced by its size. He was advised to do nothing and to wait, as there was no indication for treatment. He followed this advice, and during the afternoon the manifestation commenced to disappear, and by the next morning there was no evidence of the swelling of the previous day. He had never had urticaria. The condition seemed to be simple œdema, but of the cause of the same Dr. Porter had no knowledge. He considered no treatment necessary, unless the distress of mind caused by the disfigurement might make a placebo desirable. The other two cases were similar, but he had no notes of them, and did not remember the duration of the trouble, but only its fleeting character.

Dr. BRADFORD mentioned having seen five cases, all of the lower lip but one. The patients were all adults under thirty, except one, a child of fourteen. The symptoms were exactly those described by Dr. Curtis, except that there was no tenderness or heat.

Dr. J. P. OLIVER had seen a number of cases in children, especially in the spring, and among the poorer classes rather than the wealthy.

Dr. EDES said that this paper threw much light upon a case occurring in a professional brother, where great swelling of both lips took place without known cause, and subsided in a few days, though less rapidly than in Dr. Curtis's cases. He had also seen a rapidly developed swelling of the whole face in a young woman, and a swelling of one half the tongue in an old man, which he supposed to be of the same character. He thought the swelling to be oedematous, and suggested that the reason why the same pitting found in other localities cannot so easily be produced in the lips might be due to their structure, that is, the absence of a subcutaneous layer of lax cellular tissue. In some cases of old dropsy, where the skin itself as well as the subcutaneous cellular tissue contains fluid, it requires considerable pressure to produce much pitting.

Dr. BOLLES felt obliged to Dr. Curtis for so carefully studying this neglected but not very uncommon affection, and could testify from a few cases which he himself had seen to the accuracy of his descriptions. The short duration, the great and ludicrous deformity, the absence of pain and tenderness, characterized all his (Dr. Bolles's) cases also; but these very circumstances made it difficult for him to recognize any inflammatory character in them, and he was inclined to agree with Dr. Edes as to their principally oedematous nature. He also believed that the cause would often be found to be a local one.

Dr. WADSWORTH said he had once observed the affection in his own person when fourteen or fifteen years old, being at the time in very good health. The swelling appeared in the afternoon in the lower lip, was attended with some feeling of numbness, and passed off, or nearly passed off, before bed-time. He wished particularly, however, to refer to certain cases in which there was rapid oedema of the upper lid and chemosis of the conjunctiva, and which he thought were of the same nature as those described by Dr. Curtis. He had seen perhaps half a dozen such cases. They were all in adults, all occurred in hot weather, and the swelling was first noticed on waking in the morning. In every case the oedema and chemosis mostly disappeared in the course of twenty-four hours under the application of ice compresses, which treatment he had always advised. At the first glance these cases suggested the commencement of a violent purulent ophthalmia, but there was no redness of the skin, very little conjunctival congestion, and no mucus, even scarcely increased watery secretion.

Dr. CURTIS said that if this was an oedematous condition of the lips it was rather curious that the lips should not swell after an operation had been performed on them, as is the case with the eyelids. — Dr. BOLLES remarked that the lips do at times swell considerably from a blow, perhaps where the tooth cuts the inside of the lip. — Dr. WADSWORTH said that it was also rare for the eyelids to become oedematous after operations.

Dr. WHITE related the case of a gentleman who, while undergoing some dental operation one afternoon, noticed that a swelling suddenly appeared above his left eye. It reached at once so alarming a size that he came immediately to Dr. White for advice. The tumor then (within half an hour of its beginning) was as large as a goose egg, occupying the whole left side of the forehead and nearly closing the left eye. The skin cover-

ing it was tense, but otherwise unchanged. There was no alteration of temperature or in the sensations of the part excepting the strangeness of its presence. He considered it to be a form of so-called giant urticaria, and assured the patient that it would quickly disappear. Cold evaporating lotions were advised, and on the following morning the swelling had wholly disappeared. Dr. White regarded this term "giant urticaria" as well applied in such cases, because it seemed to him that the anatomical changes were identical with those in ordinary urticaria. He had, in fact, seen similar developments in two patients with ordinary chronic nettle-rash, swellings as large as small hen's eggs, which ran the same course as those described by the reader and preceding speakers. He considered the process in no sense inflammatory, but as a sudden and violent oedema affecting the deeper corium and subcutaneous tissues, and presenting, except in its seat, the same phenomena of evolution and involution as the simple wheal. It seemed impossible to explain it in any other way.

PECULIAR AFFECTION OF OCULAR MUSCLES.

Dr. WADSWORTH reported a case of peculiar affection of the ocular muscles. A week ago a youth of sixteen came to him with the complaint that he was unable to turn either eye toward the left. On examination, it appeared that when an effort was made to turn the eyes toward the left they moved scarcely, if at all, beyond the median line. Sometimes with such effort there was a slight movement of the eyes upward and downward, similar to that which is seen with paralysis of an ocular muscle when other muscles attempt to assume its function.

If, however, the eyes were directed to an object in front they could be maintained in this position while the head was rotated toward the right, so that, in consequence of the rotation of the head, they came to assume in regard to it the same position they would have had if they had been turned strongly to the left while the head remained quiet; or, the head and eyes, the latter being in the median position, could be turned to the left, and then the head rotated to the front again, leaving the eyes still looking to the left. In all other directions the movements of the eyes were normal, nor did there seem to be any disturbance of function other than that described.

It was learned on inquiry that the patient had worked in a nail factory since eight years of age, the last few years having been employed in feeding iron plates to the machine that cut the nails. About the first of March last he began work at another factory, making much smaller nails than before. At his new work he was obliged to watch intently the machine some two feet in front of him, while directing the iron plate with his hands. There was also in front and to his left a pile of hot plates, so near as often to be very troublesome and lead him to turn his head far to the right to screen his face from the heat as much as possible. It was since this change in work that the affection of the eyes had come on.

To explain satisfactorily the phenomenon here observed is not easy. But it is perhaps reasonable to suppose that the continued strain to which the muscles acting to turn the eyes to the left were subjected, on account of the twisted position of the head while at work, excited after a time a certain rigidity of the other ocular muscles also. So that, finally, whenever an attempt was made to turn the eyes to the left all the oc-

ular muscles contracted, or so many of them as sufficed to keep the globe immovable or nearly so. That this explanation is not wholly sufficient is readily admitted.

ABSCESS OF THE BRAIN.

DR. EDES showed a specimen of abscess of the brain from a case with the following history:—

A young man fell from a coal staging, striking upon the right side of the head and face; was unconscious for ten minutes.

Upon entering the City Hospital, February 9th, no fracture of the skull was discovered. The facial bones seemed to be movable, but there was no crepitus. There was ecchymosis of the eyelids.

February 11th. Rational and free from pain.

February 17th. Stiffness of limbs and pain at base of skull.

February 22d. Comfortable, but drowsy and apathetic.

March 6th. Discharged relieved. At this time pupils of right lid dilated pupil. At home is said to have been sulky and morose, instead of cheerful, as usual. Vomited a good deal.

Reëntered hospital March 17th, insensible. Had had a "bad spell." Face and hands congested and cold. Respiration 37; pulse 137; breathing difficult. From this condition he soon recovered.

Urine 1022. Albumen present. Many casts.

After this time the symptoms were chiefly drowsiness and disinclination to talk. At times severe headache not distinctly localized, and gradually developed pains of the left side of the face and left hand. At times the right pupil was dilated, and for a few days there was a decided protrusion of the right eyeball and a little swelling of the lid. The head was turned to the right and an attempt to turn it to the left was attended with considerable pain.

The urine became normal a few days before his death; there was no decided difference in the temperature of the two temples; he died April 26th.

The autopsy disclosed the frontal lobe of the right side greatly distended and fluctuating. The convolutions were flattened, and adherent at one point on the lower surface to the alba mater and to the orbital plate of the frontal bone.

An incision showed an abscess with a very well-defined capsule, holding perhaps 100 cc. of green pus. It extended inward to the wall of, but did not perforate, the lateral ventricle. It did not involve the great ganglia, unless possibly the very anterior border of the nucleus lenticularis. The lower was very thin, but above and externally to the capsule there was a tolerably thick layer of comparatively normal brain substance. Through the orbital plate of the frontal bone, at the point of adhesion, extended a small hole with irregularly tilted edges, apparently a united fracture. The tissues of the orbit showed no trace of inflammation. In this case, had the exact relation of the abscess to the roof of the orbit been known it would have been possible to empty it through the orbit. The reporter asked whether any instance was known of an opening being made into a cerebral abscess, guided by a diagnosis based on symptoms alone and without visible external injury.

OVARIAN CYST.

DR. JOHN HOMANS showed an ovarian cyst removed ten days before from a lady forty-seven years

old. It was from the left ovary, and was without adhesions. The operation lasted about twenty minutes, was done under the spray, and the pedicle, after ligation, was cut through with Paquelin's thermo-cautery. No opiate has been given since the operation, and the patient is now, apparently, perfectly well. Dr. Homans remarked that in his last two cases he had cut through the pedicle with the cautery, and thought this method superior to that of the knife or scissors.

OPERATING TABLE.

DR. HOMANS also exhibited an operating table for ovariectomy, and said that it was sometimes desirable during an ovariectomy to turn a patient more or less completely on her side. This becomes necessary when the cyst is very friable, or has been ruptured since the operation was begun, and consequently there is great difficulty in keeping the cystic fluid from running into the abdominal cavity. With the patient on her back any fluid that may be leaking around the clamp or running out from a laceration in the cyst gravitates into the abdominal cavity; the operator then calls upon his assistants or some of the spectators to turn the patient towards him. Now, however willing and strong the assistants may be, there is a slight feeling of uncertainty as to whether one of them may not become fatigued, and allow the patient to slip or fall back. A patient placed on this board, which is eighteen inches wide and has an iron trunnion or axle at either end, like the trunnions of a cannon, is securely strapped thereto, and when it becomes necessary to turn her on the board, with her on it, is rotated by means of a lever attached to a cog-wheel, and by dropping the pall the patient may be kept as long as desirable in any position and at any angle. These little tables support the board at either end, and when not in use fold up. There are two dovetail-pins beneath the table at either end, which drop into holes in the tables, and thus prevent the board from slipping. When the operation is finished the board is lifted out of its sockets at either end, and the patient is carried to her bed. This new operating table will probably soon be described more at length, with explanatory drawings.

Recent Literature.

The Student's Manual of Venereal Diseases. Being the University Lectures delivered at Charity Hospital, B. L., during the Winter Session of 1879-80. By F. R. STURGIS, M. D., etc., New York: G. P. Putnam's Sons. 1880. Pp. 196.

"Audacious self-esteem, when well grounded, is imposing," says the Autocrat. "The Student's Manual" it is, and the student's manual it is to be. The cardinal points of a manual are clearness, conciseness, comprehensiveness, and correctness, and these are the marked and characteristic qualities of the little book we are considering. It is plain even to bluntness, thoroughly practical, and in every way on a level with the best knowledge of the day upon the subjects of which it treats, though a somewhat quaint and *bris-a-brac* aspect is imparted to it by the exclusive use of the systemless system of weights and measures "of the forefathers," which, supported by *selich vis inertia* and indolent conservatism, is now rapidly half tottering, half sneaking, "down the back entry of time." Dr. Sturgis has cast his little book upon the waters "to

take its chances," asking only "candid criticism, and that if the work be worthless it may be damned, the sooner the better." "Candid criticism" is all we have to offer; it shall not be our fault if the world do not find it, and that before many days. We have rarely been so interested in any book. Mooted points are carefully omitted, proved ones are insisted upon; errors are exploded, while vital truths are given in the excellent form of italicized mnemonic axioms. It is *par excellence* the manual, not only for the students *in posse* of the schools, but also for those *in esse*, the actual practitioners of town or country, now for the first time perhaps read students under the inflexible task-master necessity.

The results of treatment obtained by Dr. Sturgis after the use of particular remedies have varied somewhat from those attained by us with the same medications, in plus and in minus degrees. But we are no sticklers for absolute superiority in any hobby, our own or another's. Too much depends upon how he is handled. Varying uses of different means give identical results, just as varying uses of the same means give diverse results. The effects upon the "poor wayfarer man of grief" of lightning from aloft or a volcanic eruption from below may be the same; but should he escape these perils, and, taking his ease in his inn, give a horizontal rather than a vertical sweep to his razor, his jugular would suffer rather than his whiskers.

Apart from the "treatment," which is excellent, and, as a whole, hardly to be improved upon, we call attention to the value in particular of two chapters, namely, that upon Syphilis of Special Organs and the one upon Syphilis of the Nervous System and of Bone. We would notice also, and specially commend, the adoption by the writer of the German plan of parallel tables with comparison of symptoms, for the purpose of fixing in mind points of differential diagnosis. Furthermore, we agree to and approve of, as true, certain italicized sentences, and profit by this opportunity to cite some of them for the instruction of our readers: "Nitrate of silver is not a caustic; do not use it as such; it stimulates, but does not de-roy." "The initial lesion of syphilis may be soft." "A chancreoid is dangerous up to the very moment of its complete cicatrization." Syphilis begins "always by an initial lesion, seated at the point where the virus gained entrance," and "no portion of the body is exempt from being the seat of the initial lesion." "Do not cauterize an initial lesion unless phagedenic." "Do not treat the initial lesion by the internal use of mercury, but await the development of secondary symptoms." "Paralysis of single muscles, or sets of muscles, is, nine times in ten, syphilitic." "Never, under any circumstances, open a gunnison enlargement of bone or gland, no matter how soft it gets." "Mercury is the main-stay in treatment." "Iodide of potassium is of little service in the earlier stages." "Do not hesitate to use either remedy in sufficient amount to dispel the symptoms, no matter what the requisite dose may be." The writer gave, with success in ten days, in a case of nervous syphilis, eight grammes [grains cxx.], three times a day, of iodide of potassium. "The average case of syphilis runs its course in from eighteen to twenty-four months. Under proper and careful treatment, the graver forms of the disease seldom occur. After suspending treatment, keep the patient under observation another eighteen months" before pronouncing him well; that is, three to three and one half years in all of supervision *before*

the patient may marry. "I protest against names for the syphilodermata, borrowed from the slight resemblance they have to the corresponding non-syphilitic eruptions of the skin." "The terms secondary and tertiary are ones of mere convenience, not to be accepted as purely chronological. I prefer to speak of these lesions as superficial and deep." "I call the first symptom of syphilis the initial lesion, and entirely abandon the word chancre." "Call the chancreoid the simple venereal ulcer, if you do not wish to use the word chancreoid." "Gonorrhoea does not depend upon a virus; it is a simple catarrh of the urethral mucous membrane, and is due to the presence, within the canal, of some local irritant." "Urethritis in the female is always due to some venereal affection." "Syringes made of vulcanized rubber are the only ones fit to be used, and some of these are objectionable from their inordinately long nozzle. The best are those which terminate in a cone." "In taking an injection, a woman should lie on her back, not merely squat down." "Glass and hard-rubber vaginal syringes are of no use." In clasp "a discharge is sometimes kept up by over-medication." In gonorrhoeal ophthalmia "remember never to put the leeches on the eyelids." It will be seen that Dr. Sturgis has adopted the only true and scientific nomenclature. Instead of the erroneously so-called gonorrhoea, he would say urethritis, vulvitis, balanitis, etc. Instead of the "so-called chancreoid" he would say simple venereal ulcer. Instead of the so-called chancre he uses the term initial lesion of syphilis, or primary sclerosis, — in all of which we most heartily agree with him.

Students and physicians, *buy this book!* Do not merely take it from the library. It is cheap, it is complete, it is correct. It will be long before another book of the kind need appear to enter into competition with this one, which entirely supplies a long-felt need. E. W.

A Few Cases of Leprosy. By J. H. BEMISS, M. D., Lahaina, Maui, H. I. Reprinted from the April number of the New Orleans Medical and Surgical Journal. New Orleans: L. Graham, Steam Book Printer, 127 Gravier Street. 1880. Pp. 16.

This little pamphlet contains twelve wood-cuts, representing very fairly cases of leprous disease the histories of which were taken either by the writer or by some friend. As to the time and manner of introduction of leprosy into the Hawaiian Islands, Dr. Bemiss sets the period at about the year 1825-30, and believes that the disease was imported from without. A generation later the cases were so numerous that the government established a leper hospital at Molokai. The writer recognizes tubercular and anæsthetic leprosy, but does not feel warranted in recognizing macular leprosy as a third variety. Leprosy has nothing to do with syphilis, is hereditary but not contagious, unless possibly by the direct introduction of its virus into the blood, as, for example, by inoculation. Treatment is merely palliative, though amelioration has followed the use of Hoàng Nân pills.

— On the 22d of April Miss Sara Van Buren, a daughter of Prof. William H. Van Buren, and granddaughter of the late Valentine Mott, was married to Mr. Jules E. Biagière, of New York, at Dr. Van Buren's county-seat, at Shrewsbury, New Jersey.

Medical and Surgical Journal.

THURSDAY, MAY 6, 1880.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly by Houghton, Mifflin and Company, Boston. Price, 15 cents a number; \$5.00 a year, including postage.

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INSANE ASYLUMS IN THE UNITED STATES.

In the evolution of the insane asylum of the past from a place of custody for lunatics to the modern hospital for the cure of mental disease, and in the progress of the study of insanity from the curiosity of metaphysicians and terror of the populace to its proper place in medical science as an exact branch of knowledge, the United States, we regret to say, have taken so little part, so far as recent advances are concerned, that our latest foreign critic has scarcely more than repeated Dr. Bucknill's sharp and to a considerable extent deserved criticism in saying, "*If I had not been aware of the fact, I should hardly become cognizant of it here [in America], that psychiatry has gradually developed into a respectable science, which, like all sciences, must be taught and learned.*"¹

Dr. von den Steinen spent the greater part of his time, while with us, in New York, and observed the asylums of that State with a considerable degree of care. He complains of the extravagant "palace prisons" as unnecessarily jail-like and cruel, of the great overcrowding and lack of attendants,² and of the excessive amount of mechanical restraint and seclusion, with the correlative evil of want of employment, curiously enough repeating Dr. Bucknill's very word, "menagerie," in referring to some of the cage-like arrangements seen by him. He meets the objections of our superintendents to the employment of the chronic insane on the ground that they cannot be got to work by showing how much has been done in that direction for even a more hopeless class of cases, namely, idiots. Dr. von den Steinen says that non-restraint and employment must go hand in hand, and continues, "When I mention the fact that under unfavorable conditions absolutely no restraint is exercised on the considerable number of refractory patients in the Charité Krankenhaus, at Berlin. I am always certain of meeting somewhat dubious faces, and invariably receive the answer, 'But in our experience we have found that in a certain number of cases [which, however, are always to be met with] it is impossible without restraint to prevent patients from injuring either themselves or others, and our apparatus is the best adapted for that purpose.' I must frankly confess that, in my opinion, they have no such experience as they believe themselves entitled to claim. The non-restraint

system cannot be subjected to many experiments; it must either be rejected or accepted; the essence, the nature and secret, of it is its unconditional application. The transitory stage at which you stop includes the greatest difficulties; truce is not peace, but war. When you become doubtful of success, you put on the jacket again, but you cannot get along without it until you have none to use. Do not believe that we allow our patients to be abused by the fists of attendants and have their ribs broken; do not suppose that we poison them by substituting chemical restraint, or, as Neumann has ingeniously termed it, 'the restraint of the pedunculi'; and, lastly, do not believe—for the contrary would be correct—that the number of suicides is greater than in your asylums. But still we do not require your means of restraint, because we are not in possession of them, and because we possess naught but a single jacket that serves to demonstrate to the students the method formerly in practice. But something else is true: when the new system was introduced in the Charité, all the attendants, with the exception of one or two, had to be dismissed. Neither physicians nor attendants should know that a system of restraint is in existence. In this point is involved as well the only possibility of solving the task, as the greatest benefit of treatment. The asylum undergoes an entire change. A superintendent of very humane principles told me that he never employed crabs, although they might be of service at times, because if he had one the attendants would demand more. And so it is. Restraint serves to insure the comfort of the attendants, while now they are compelled to treat free patients kindly and deferentially to accomplish those results that were formerly obtained by force.

"In the better asylums I did not observe any of the cruelties for which they are reproached; but I did notice in all instances that the patients sat downcast in their chairs while the nurse was attending to his private affairs. In no case have I seen a ward for violent cases where the attendants were really intent upon subduing the excitement of the patient by kindly and intelligently adapting themselves to his humor. . . . It cannot be too often impressed on the minds of attendants that they are dealing with *patients*; this simple truth, which we so fully understand, they are unable to comprehend, when these so-called patients are bound. . . . We must admit free treatment is not possible when the corps of nurses is deficient in the qualities requisite. Nothing is more lamentable; for the nurses constitute a part of the therapeutic appliances of the asylums, as bandages form part of the therapeutics of the surgical hospital. But there are a number of institutions where this fault has not to be overcome, and where restraint is nevertheless retained. . . . There may be cases where it would be indifferent, from the stand-point of humanity, whether weak and violent patients were secured or not; but I cannot emphasize too strongly that the value of strict non-restraint will be experienced from the wholesome influence it exerts on the hospital in general, and that even the few cases of restraint existing should be abolished; two discordant notes will spoil the effect of an

¹ A letter on American Asylums for the Insane, by Dr. von den Steinen, of Berlin, in reply to a request by Dr. E. C. Seguin, reprinted from the Archives of Medicine, vol. iii, No. 2, April, 1880.

² In the Charité, where he was trained, there is one attendant to every three patients, from three to five times as many in our public hospitals for the insane.

entire piece of music. Free treatment is the only means of insuring real medical observation and of transforming the institute of detention into a hospital."

It is a curious fact that some of the Germans unconsciously even Conolly in their rejection of mechanical restraint, most English superintendents using it very rarely indeed, as has been their custom for many years, and then as a very uncommon exception to an all but rigid rule.

The paper continues:—

"The superintendent is fully taken up by administrative duties, and has not the opportunity of instructing his assistants and letting them profit by his practical experience. Nowadays no trade is learned autodidactically, much less a science. . . . Without sufficient education neither pathological nor clinical results can be attained. I do not wish to criticise the reports, which often give proof of very confused ideas in regard to the classification of mental diseases, but I was often astonished to . . . find that even so plain a disease as general paralysis is so insufficiently known as I have constantly had occasion to observe. I wish to know the number of paralytics, and after a hasty visit I ascertain as many more as have been reported."

Dr. von den Steinen urges the importance of clinical instruction in insanity, and of practical knowledge of that disease. His criticism that only trained and experienced physicians should be placed in charge of those suffering from mental diseases ought to be as superfluous as if the remark applied to lying-in hospitals. We second him most heartily in his recommendation of a moderate-sized hospital for the treatment of diseases of the mind, where every appliance which science can suggest or art can supply may be devoted to the cure of the insane. In our opinion, there is at the present time no greater need in our vast system of charities and noble endowments.

So far, at least, as our Massachusetts asylums are concerned, we have never sympathized with the howlers for office, the shriekers for notoriety, and the earnest and honest, but we think mistaken, friends of the insane, who have needlessly agitated the public mind with their ill-judged efforts to "reform" evils, the most of which exist only in imagination. We fully believe in the truth of a statement by the late Dr. S. G. Howe, that "all human institutions are of course liable to abuse, but our Massachusetts hospitals for lunatics are as well guarded against them as any public establishments with which I am familiar;" and again, "There are rather too many than too few difficulties in the way of committal" of patients to asylums in our State. We would gladly quote his whole letter but for want of space, and we would recommend its perusal (in the *Boston Daily Advertiser* of March 22, 1873) to those panic-stricken and Butler-fearing legislators of last year, who so recklessly threw the State Board of Health, Lunacy, and Charity tab to a still unsatisfied and unamused whale. We feel quite sure that few boards, commissions, or institutions, including the above-mentioned long-named board itself, could come out from a searching investigation

more unscathed and demonstrably altogether clean in all their operations than our lunatic hospitals have been lately proved to be. Nevertheless, we do see the need of improvement in certain directions, as do the superintendents themselves, and we fully appreciate the great difficulty of the work, as well as the obstacles (some of them unnecessary) which lie in their way. If Dr. von den Steinen's criticisms are received in the same friendly spirit with which they seem to be given, much good will result from his visit. We are fortunate in having for the medical superintendents of our insane hospitals men of the highest character, who fully deserve the sympathy and support of the community and of the medical profession. The trustees of the various institutions need only to be named in order to show on how vastly higher a plane than politics they stand. Political expediency had nothing to do with their appointment, and political ends have no part in their work. A generous support of the officers of the asylums, and a liberal policy towards the management of the insane on the part of the State, will be fully repaid by better results to the community and to a large class of suffering humanity, who are too often regarded as a useless mass of helpless poverty, or as a part of an interesting problem in social science.

We are glad to receive Dr. von den Steinen's criticisms, and consider them, in the main, of great value; but we must say that to compare the hospital for acute cases in Berlin, having every appliance and all the attendants necessary, with our asylums, crowded with the chronic insane, is hardly fair. If he had looked a little farther in his own country he would have found very much there also to criticise in the treatment of the chronic insane.

FIRST ANNUAL REPORT OF THE BOARD OF HEALTH OF THE TAXING DISTRICT OF SHELBY COUNTY (CITY OF MEMPHIS).

This first annual report of the Board of Health of what is euphemistically known in the language of the law as the Taxing District of Shelby County, but is really the city of Memphis, is for the year 1879. Information as to the steps which are being taken to improve the sanitary condition of Memphis is of more than local interest; it concerns the country at large, and this first report of the board of health will therefore command attention.

The president of the board, Dr. G. B. Thornton, frankly acknowledges that an appreciation of its sanitary deficiencies has not kept pace with the commercial growth and importance of the city; makes a deserved acknowledgment of the work done by the National Board in its behalf; expresses the conviction that the effort has not been made to little purpose, and that the part of the compact devolving upon the local authorities will be faithfully complied with.

Dr. F. W. Riley, an inspector of the National Board, under whose direction the house-to-house inspection of the city was made, and at the same time a census taken, places the average death-rate of Mem-

phis during three non-epidemic years at thirty-five, and states that of the total number of deaths during the past five years over fifteen per cent. was due to phthisis, pneumonia, and other diseases of the lungs, the excess being fairly attributable to defective sub-ventilation of dwellings and to an undrained, retentive soil; that excremental and malarial diseases caused nearly fifty-seven per cent. of the total; and that this excess may be set down as due, in great measure, to soil and water pollution. Dr. Thornton thinks that the population is underestimated by about five thousand, and the death-rate consequently over-rated. The temptations of local sanitary authorities, however, to reverse this error, and by magnifying the population to minimize the death-rate, is well known. Commercial rivalries, too, have their influence in swelling the estimated populations of cities, especially at the West. It is only fair to Memphis to call attention to the fact that the death-rate among the colored population, according to Dr. Thornton's estimate, is forty and a fraction over, while that of the whites is eighteen and a fraction over, which, as Dr. Thornton justly remarks, compares favorably with cities enjoying a better reputation than Memphis for health. Among the many nuisances abated and unsanitary conditions removed, the emptying, disinfecting, and filling up of privy vaults and destruction of unsanitary houses bear an important part. A garbage service under the immediate charge of the health officer has been established; this is the first attempt at a garbage system Memphis has ever had. There are at present about a dozen private scavenger companies engaged in the removal of night soil; these companies are all required to use air-tight barrels, and are subject to the regulations of the board of health.

The report discusses the question of a wholesome water supply, and also the sanitary arrangements of the public schools, which are far from satisfactory. Attention is called to the necessity for the construction of a general abattoir, and the erection of public latrines is suggested. The report concludes with a summary of the yellow-fever epidemic for 1879, and an account of the Auxiliary Sanitary Association. This part of the report is not altogether uninteresting as showing some of the evils of a multiplicity of sanitary organizations. In a multitude of sanitary com-mittees there is not usually safety.

Memphis has now taken the best advice for improving her condition which she could get, and her authorities seem anxious, as far as the means at their disposal will permit, to act upon it, and that the rest of the country had a right to demand. The provincial customs of a village existence cannot be exchanged for the arrangements suitable to a good-sized city in a year.

A beginning has been made which could serve as an example to places not far away; for if they have any occasion to thank themselves that they are not as other cities are, it is to be found rather in the absence of a large and ignorant negro population and of a semi-tropical climate during six months of the year than in their own hygienic virtues.

MEDICAL NOTES.

— At a meeting of the State Board of Health, Lunacy, and Charity, held May 1st, an order was passed requiring the city of Boston to abate the Roxbury Canal nuisance by dredging out the sewage deposits in its basin. The Pegan Brook case has not yet been finally passed upon.

Dr. George F. Jelly and the secretary of the board were appointed as experts to examine convicts at the state prisons reported to be insane and fit subjects for treatment in a lunatic hospital, as required by the following provision in section five of a recent act of the Massachusetts Legislature concerning the commitment and transfer of lunatics: Sect. 5. The State Board of Health, Lunacy, and Charity shall designate two persons, expert in cases of insanity, to examine convicts in the state prison or reformatory prison for women alleged to be insane. When any such convict appears to be insane, the warden or superintendent of the prison shall notify one of the persons designated by said board, as aforesaid, who shall, with the physician of such prison, examine the convict, and report to the governor the results of their investigations. If upon such report the governor shall deem the convict to be insane, and that his removal is expedient, he shall issue his warrant, directed to the warden or superintendent, authorizing him to cause the convict to be removed to one of the state lunatic hospitals, there to be kept until in the judgment of the superintendent and trustees of the hospital to which he may be committed the convict should be returned to prison.

— We have received the thirteenth annual report of the St. John's Hospital Staff, of Lowell, Mass. The institution is in a flourishing condition. A strong appeal is made by Dr. Nathan Allen in favor of the institution of Hospital Sunday.

— We regret to be obliged to announce the recent deaths of two well known Boston practitioners, both, we are informed, from pneumonia, Dr. A. B. Hall, and Dr. John P. Ordway. Dr. Hall was a graduate of Dartmouth, of 1845. The following year he joined the Massachusetts Medical Society, and has resided in this city. For many years he has filled the post of treasurer of the Suffolk District Medical Society, and in that capacity has come in contact with practitioners from all parts of the State at the annual meetings. He will be pleasantly remembered by them for his uniformly courteous bearing, and by the District Society for the efficient and faithful discharge of his duties.

Dr. Ordway did not begin the study of medicine until comparatively late in life. He graduated at the Harvard Medical School in 1861. A man of versatile accomplishments, a musician and sportsman as well as an active practitioner, he was a well known character in the city. His enterprise and genial nature obtained for him a host of friends. He devoted himself chiefly to the treatment of fistula in ano, in which he claimed great success with the ligature. Some years since he received a severe railroad injury, having been thrown from his seat in the cars, sustaining a blow

which produced ventral hernia. This interfered, however, in no way with his activity, which was undiminished at the time of his death. During the war he served in the army in a medical capacity.

— We are very sorry to receive intelligence of the death, from pneumonia, of Dr. Samuel Choppin, of New Orleans. Dr. Choppin's active professional labors and great services in behalf of sanitary science have been such that his loss will be felt in the country at large as well as in that part of it where his life has been spent.

— It is related of an eminent painter, Vernet, says the *Lancet*, that on one occasion, being asked to produce a pencil sketch, he did so while the applicant waited. When the latter protested against the price charged the painter replied, "Do you think I spent but ten minutes in drawing that sketch? It represents the labor of thirty years." The anecdote should be useful to patients who criticise the just charges of their physician.

— Dr. F. E. Clarke, of Staten Island, reports in the *Medical Record* a case of scarlet fever in which the period of incubation was exactly determined, and was a remarkably short one. The patient, a robust young man, called, on the night of February 10th, on some relatives who had lost a child from scarlatina maligna seven days before. He did not know of this death until the evening of his call. He stayed with the family for several hours. On the following evening his throat became sore, and he did not feel very well. At this time he ate heartily of soft-shelled clams. The next forenoon, about thirty-six hours after leaving the infected house, he was taken with violent vomiting, slight diarrhoea, headache, and sore throat. The next morning, two and a half days after exposure, the rash was first seen. By the same night it was fully developed. The patient went through the usual course of scarlet fever. At the end of a week he was convalescent, and his recovery was rapid and satisfactory.

Dr. Clarke states that this was the shortest stage of incubation he had ever seen, and only knew of three others that were shorter. Two of these were reported by Marchison, the incubation being in one eighteen and the other twenty-four hours. Trousseau reports a case where the incubation was only seven or eight hours.

— According to the *Medico-Chirurgicale Rundschau*, Admiral Lapellin draws attention to a bean which is used by the inhabitants of Central America in the treatment of the cold fever, and which is said to be a good substitute for quinine. Dr. Coignard, who obtained the remedy in Puerto Arenas, Costa Rica, obtained favorable results with it, and Drs. St. Père and Quesnel found it even more powerful than sulphate of quinine. The bean is cut into bits as large as a pea, several of which are given in the interval between the paroxysms. This almond or bean is obtained from the *Simaruba ferruginea*.

— In the treatment of neuroses of the genito-urinary organs, Dr. Uitzmann, of Vienna, teaches that electricity plays an important part. Faradization of the bulbo-cavernosus and ischio-cavernosus muscles is

a useful procedure in impotence. One of the electrodes should be used in the rectum, the other applied externally.

PROVIDENCE.

— The *JOURNAL* has already published an account of the sudden death of a patient while under the influence of ether, which occurred in this city in December last. The relatives of the deceased have brought a suit for damages against the attending surgeon. In view of this action the Rhode Island Medical Society at a recent meeting unanimously adopted the following resolutions:—

Whereas, We have heard with much surprise and indignation that a most unjustifiable suit has been entered against a physician, a Fellow of this society, for an unavoidable accident, which occurred in the administration of ether, rendered necessary by the nature of the injury from which the patient was suffering, whereas the facts in the case as testified to before a coroner's jury prove that no blame attaches to the physicians in attendance on the case, and whereas a similar accident may happen to any member of the profession in handling their cases, when the administration of an anæsthetic is absolutely demanded for the relief of their patients, or otherwise patients must be abandoned to their fate.

Resolved, That we, as a society, knowing the difficulties that we encounter in our practice, deprecate a proceeding which, if sanctioned, would expose us to annoyances and persecution; that we deprecate it on behalf of the poor, who are exposed to severe accidents, and to whom our services, so often rendered gratuitously in their sudden and sharp affliction, would be denied if we are in peril of being persecuted by law suits as a reward for the exercise of charity and for carrying out the humane spirit of our profession.

— A singular case has recently come under the observation of Dr. F. B. Smith, of the town of Coventry in this State. The patient, a lad of fourteen years, has become possessed of an inordinate appetite, which leads him to devour with avidity all that he can obtain in the way of food, even raw meat being eaten with apparent relish. During the past year his weight has increased at the rate of half a pound per day, and has now reached two hundred and eighty-four pounds. The intervals between his meals are spent principally in sleeping. He appears to be in good health in other respects, and complains of nothing except hunger. The further progress of the case will be watched with interest.

NEW YORK.

— An unusually large and interesting meeting of the American Medical Association is expected this year, and the New York committee of arrangements, under the energetic chairmanship of Professor T. Gaillard Thomas, are now busily engaged in making such provisions as will insure a successful and enjoyable session. Among the entertainments contemplated are a grand reception at the Academy of Music on the first evening of the meeting, receptions at Mayor Cooper's and at the Academy of Medicine on subsequent even-

ings, and a steamboat excursion up the Hudson and down to Coney Island, which is to take place immediately on the final adjournment of the association, and the expense of which will be borne by Mr. William Wood, the publisher. The committee of arrangements consists of Dr. Thomas, chairman. Dr. Walter R. Gillette, secretary, Drs. Stephen Smith, C. I. Pardee, W. M. Polk, R. F. Weir, A. A. Smith, and M. A. Allen, of New York, Dr. Joseph C. Hutchinson, of Brooklyn, Dr. M. A. Burton, of Troy, and Dr. E. H. Parper, of Poughkeepsie. There is also an associate committee, consisting of Drs. C. A. Leale, Le Grand N. Denslow, L. A. Rodenstein, P. Brynberg Porter, Charles W. Packard, Daniel Lewis, and others.

—The dreadful calamity at the Madison Square Garden, where the fair in aid of the homoeopathic hospital was being held, is naturally exciting a great deal of public interest, and it is hoped that the inquiry concerning it, which is now in progress, and the investigations made in connection with it, will have the effect of rendering the occurrence of such a needless catastrophe henceforth impossible in this city. As far as can be made out at present, there seems to be no doubt that the owners of the property and the Department of Buildings are directly responsible for this wanton destruction of human life: the former being culpable for constructing such a wretchedly insecure edifice, and the latter for allowing its erection. For a considerable time past it has been believed by those who had the best opportunities for information on the subject that there has been not only the most reckless negligence, but even gross corruption, on the part of the principal officers of this department of the city government (an opinion which this disaster would seem to go very far towards confirming); but hitherto political trickery has interfered with an exposure and removal of the existing evils. Efforts have not been wanting from time to time, however, to put an end to such a disgraceful state of affairs, and since the Madison Square calamity some resolutions were introduced into the board of aldermen by one of its most efficient and public-spirited members to the effect that a committee should be appointed for the purpose of bearing testimony and collecting all facts, statements, and other matter bearing on the subject. The preamble of these resolutions is as follows: "*Whereas*, The late dreadful calamity at Madison Square Garden, by which several persons have lost their lives, and many others have been mutilated and injured, has filled this community with horror and just indignation; and, *Whereas*, this disaster has again directed public attention to the administration of the Department of Buildings, in regard to the proper conduct of which frequent allegations have been made,—which allegations have as yet received no thorough official investigation or inquiry; and, *Whereas*, This occurrence, coupled with the facts and statements previously averred, which have never been satisfactorily explained, furnishes strong ground for belief that the administration of the Department of Buildings is such as to shake public confidence in its efficiency and honesty, and to cause it to be regarded,

not as a protection to the lives and property of the community, but as an agency which is placing these in peril."

WASHINGTON.

—The following, as a joint resolution, passed the United States senate on April 29th: *Resolved, etc.*, That the president of the United States is hereby authorized to call an international sanitary conference to meet at Washington, District of Columbia, to which the several powers having jurisdiction of ports likely to be infected with yellow fever shall be invited to send delegates, properly authorized, for the purpose of securing an international system of notification as to the actual sanitary condition of ports and places under the jurisdiction of such powers and of vessels sailing therefrom.

A resolution in the form of an amendment to this was offered, appropriating \$5000 to defray the necessary expenses, but it was voted down.

—As an evidence of the sometimes disastrous effect of tardy legislative action on the "save at the spigot, lose at the bung," principle, that part of the discussion on the Indian appropriation bill which refers to the supply of medicines and medical services is very forcible. The Northern Cheyennes, some five thousand in number, were placed upon a government reservation, comprising a radius of fifteen to thirty miles, which was infested with malaria, a condition of things hitherto unknown to these Indians, who had come from a region entirely free from it. To meet their wants they were supplied with *one* attending physician (recently he has been furnished with an assistant). Hundreds of these Indians fell sick; a requisition for medical supplies was made upon the department in May. June 19th the contract was awarded; August 27th the contract was approved; November 28th the medicines were delivered; January 17th these supplies were received at the post for which they were intended. What an encouragement for medical men who seek such places! — a family of five thousand under the exclusive care of one man, with miles of territory between him and his patients, the probabilities that all will suffer more or less from a disease which they have never before encountered, and no medicine.

But then they have a fair appropriation for industrial schools; moral pocket handkerchiefs are not set down as such in the bill.

Miscellany.

CRUDE PETROLEUM IN ASTHMA.

MR. EDITOR, — It is a well-known fact that many of our most valuable medicines have been borrowed or developed from general impressions or the prevailing prejudice of the common people in some district or country. Jenner deduced an important scientific truth from the vague notions and common prejudice of the dairymen of Gloucestershire. In like manner it has been with many of the important remedies of the now extensive materia medica, which have often been in use by the common people before being investigated by the profession.

Pursuing this line of observation, we find the veterinary surgeons, farmers, and horse-jockeys now pre-

scribing the ordinary crude petroleum as a remedy for broken wind and heaves in horses, and with astonishing success, improving the general condition of the animal, giving him a fine appearance, and removing the difficulty of breathing as if by magic: a cure which they are willing to swear is permanent, which assertion I accept with several grains of allowance. Heaves and broken wind I have always looked upon as due to emphysema, and consequently treatment must necessarily be only palliative. Crude petroleum is a stimulating anti-spasmodic expectorant and diaphoretic of no mean power. It seems to act by stimulating the secretions generally, especially those of the skin, and improving the digestive functions. The dose for the horse is one teaspoonful in meal, placed well back upon the tongue, two or three times per day, continued until relief is afforded.

Having seen the beneficial effects of this remedy frequently applied to the horse, I was led to experiment on that difficult disease to cure, asthma. I used the ordinary oil in various combinations, as in syrups, emulsions, etc.; but however it might be combined, I found that it always produced a disagreeable cruetation, and that it was hard to induce patients to persevere in its continuance. But the semi-solid oil that accumulates on the tubing and casings of the wells, and hardens to the consistency of putty, made into pills of five grains by incorporating with some inert vegetable powder, and taken every three or four hours, has afforded almost instant relief. The paroxysms will not return under its usage. It is not curative, but the patient does not suffer while taking the pills, and after a few days the spasmodic symptoms seem to pass off. Many asthmatics cure affected only in the spring or fall, and after these attacks pass off they are comparatively comfortable. Nothing has afforded me as much relief in the treatment as these pills in hay fever, autumnal catarrh, or asthmatic bronchitis. The cough and dyspnea are promptly alleviated.

I have already called the attention of the profession to the value of this remedy in pulmonary tuberculosis.

M. M. GRIFFITH, M. D.

IRVING, N. Y.

LETTER FROM ST. LOUIS.

THE ST. LOUIS MEDICAL SOCIETY; A CASE OF DOUBTFUL GENDER; THE SANITARY COUNCIL.

MR. EDITOR,—At the meeting of the St. Louis Medical Society, held April 10th, Dr. S. T. Newman reported that in combining calcined magnesia and hydrate of chloral in a prescription, chloroform had been formed after the solution had stood for some hours, and the effect of the medicine was the same as if chloroform had been given internally. At first he supposed a mistake had been made, but experiments proved that the combination of magnesia and chloral produce chloroform.

Dr. Fairbrother, at the same meeting, reported a case of disfigurement by gunpowder, the treatment of which showed considerable ingenuity. Some time previously the patient had his face blackened and burned by the explosion of a gun which he was attempting to fire. When he presented himself for treatment, his face being very much discolored, he was anxious to have the discoloration removed. The doctor saw that it was impracticable to accomplish this by any *vis a fronte*, and devised the following method for producing

a *vis a tergo*. He painted the face (small portions at a time) with cantharidal collodion, producing vesication, and then applied poultices. The discoloration in the epidermis of course disappeared so soon as the epidermis was removed by the blistering, and the discoloration located in the rete mucosum and corium was washed out by the serum in its exudation into the blisters. The result was very gratifying; the face regaining its normal color except in the angle between the nose and the cheek, where the vesication was not done as carefully as in the other situations.

Dr. E. H. Gregory invited the members to examine a case of doubtful gender, which had presented itself to him to know if marriage were possible. The face, figure, and general appearance of the patient were those of a man. It wore a beard, and was rather above the average size. Upon examining the genitals there was found an organ resembling a penis, from two and a half to three inches in length, in a flaccid condition, and a little larger than a man's thumb in circumference, bent upon itself as if in a chronic condition of chordae. The glans was disproportionately small, being about the size of the last phalanx of a man's little finger. The covering of the corpora cavernosa was perfect integument. Upon raising this organ perfect labia majora and minora and a vagina about three inches in depth and rather small in circumference were revealed. The urethra did not extend to the end of the organ resembling a penis, but opened into the vagina, the meatus being farther back than it is in women, the urethra being continued on the under surface of the penis as a deep groove. The labia minora on the under surface of the glans seemed to replace the *frænum preputii*; farther back they extended up over the corpora cavernosa, and as we have already said in this position they had all the appearance of true skin. These attachments of the labia gave the peculiar curvature to the organ.

With a catheter in the bladder and a finger in the rectum no uterus could be discovered. There were no testicles in the labia majora. The patient is nineteen years old; has orgasm accompanied by some sort of ejaculation; has never attempted connection with a woman, but the passion is directed toward women. The patient came to have the urethra extended to the end of the penis or clitoris, which ever it may be, as the statement had been made that if this were accomplished he or she would be able to beget children. There is no menstruation, and no ovaries have been found. Dr. Gregory will probably discourage any idea of marriage.

The Sanitary Council of the Mississippi Valley has just held its meeting in St. Louis. Dr. J. D. Plunket, president of the State Board of Health of Tennessee, presided, and Dr. John H. Ranch, of the Illinois State Board of Health, acted as secretary. Among those present were Dr. H. A. Johnson, of Chicago, member of the National Board of Health; Dr. Thompson, delegate of the Kentucky State Board of Health; Dr. Lindsley, representing the Tennessee Board of Health; Dr. Lyman, of the New Orleans Auxiliary Sanitary Association; and Dr. Geo. Homan, from the St. Louis Board of Health.

Reports from several committees were received, showing that the members of the council have been attending to their duties since the council's organization, not quite a year ago. They also adopted the following resolutions:—

Resolved, That the passage of the bill now before

Congress, to increase the efficiency of the National Board of Health and to provide the funds necessary to enable it to aid financially state and local boards of health, is in all its essential features wise and judicious.

Resolved, That the senators and representatives in Congress, from the States represented by this council, are respectfully requested to support in all important particulars this measure.

The usual tours of inspection were made, and on one of them the following resolution, very gratifying to St. Louis, referring to our quarantine station, was adopted, it being introduced by Dr. Lindley, of Tennessee:—

Resolved, That the council have viewed with special interest the provision made at the quarantine station for the care of those having infectious or contagious diseases. From a strictly sanitary stand-point, and for the general purposes for which it is intended, it is superior to anything in the valley of the Mississippi.

The officers for the ensuing year are Dr. R. C. Kedzie, president, president of the Michigan State Board of Health, and Dr. Pinckney Thompson, vice-president, president of the Kentucky State Board of Health. Dr. John H. Rauch tendered his resignation as secretary, but the council declined to accept it.

Dr. Plunket, who was famous for his Order No. 6,

last summer, and was hanged and burned in effigy in Memphis, when asked if there was likely to be an epidemic of yellow fever this year, replied that there might be a few scattering cases through the Mississippi Valley; but he did not anticipate another epidemic.

X.

COLOR BLINDNESS.

MESSRS. EDITORS.—In the journal of the British Medical Association it has been proposed, as a test question, to examine for color-blindness all the members present at the annual meeting at Cambridge, August 3d to 5th.

It would be a valuable contribution to science to be able to do the same in reference to the Massachusetts Medical Society at our coming meeting. This I hope to undertake if the members are willing to spend the time, not over one minute, for the test. The value of the investigation would, of course, largely depend on having all the members recorded. Names would neither be used or published, thus it would not be known who proved to be defective in the chromatic sense. May I ask for the coöperation of the JOURNAL in this investigation? Respectfully yours.

B. JOY JEFFRIES, M. D.

15 Chestnut Street, Beacon Hill, May 3d.

REPORTED MORTALITY FOR THE WEEK ENDING APRIL 24, 1880.

Cities.	Population estimated for July, 1875.	Reported Deaths in each.	Deaths under Five Years.	Percentage of total Deaths from				
				The Principal "Zymotic" Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.
New York.....	1,085,000	565	214	13.10	23.54	3.19	1.59	1.78
Philadelphia.....	901,380	350	130	10.00	10.00	2.57	1.14	2.00
Brooklyn.....	564,000	220	97	20.45	14.09	7.73	1.82	—
Chicago.....	—	193	99	19.69	22.28	9.84	2.59	1.55
St. Louis.....	—	140	70	9.29	16.43	1.43	.71	—
Baltimore.....	393,796	127	48	10.31	7.09	3.15	1.57	.78
Boston.....	365,000	144	36	7.64	20.83	5.56	—	1.39
Cincinnati.....	280,000	97	42	17.53	13.40	3.09	5.15	2.06
New Orleans.....	210,000	—	—	—	—	—	—	—
District of Columbia.....	170,000	68	29	10.29	17.65	5.88	—	—
Buffalo.....	—	—	—	—	—	—	—	—
Cleveland.....	160,000	57	28	19.50	7.02	5.26	7.02	5.26
Pittsburgh.....	—	77	35	29.87	12.99	2.60	2.60	11.69
Milwaukee.....	127,000	47	—	19.15	6.38	8.51	2.13	—
Providence.....	102,000	41	10	21.95	17.07	2.44	14.64	2.44
New Haven.....	60,000	15	5	6.67	6.67	—	—	—
Charleston.....	57,000	34	17	8.82	14.71	—	—	2.94
Nashville.....	37,000	13	6	38.46	7.69	15.38	—	7.69
Lowell.....	54,000	26	7	7.69	26.92	3.85	—	3.85
Worcester.....	53,000	21	9	14.29	19.05	—	—	—
Cambridge.....	50,400	11	1	—	9.09	—	—	—
Fall River.....	49,000	16	8	18.75	—	—	6.25	12.50
Lawrence.....	38,600	11	6	9.09	18.18	—	9.09	—
Lynn.....	34,000	14	2	—	14.29	—	—	—
Springfield.....	31,800	10	2	40.00	20.00	40.00	—	—
New Bedford.....	27,200	18	4	—	33.33	—	—	—
Salem.....	26,500	7	1	14.29	14.29	—	14.29	—
Somerville.....	23,500	7	—	—	14.29	—	—	—
Chelsea.....	21,000	5	—	20.00	20.00	—	—	20.00
Taunton.....	20,200	5	2	20.00	—	—	—	—
Holyoke.....	18,400	15	6	26.67	13.33	—	13.33	—
Gloucester.....	17,300	12	5	—	25.00	—	—	—
Newton.....	17,300	5	—	—	—	—	—	—
Haverhill.....	15,350	11	3	18.18	36.36	—	—	18.18
Newburyport.....	13,500	8	1	12.50	—	—	—	12.50
Fitchburg.....	12,600	5	3	40.00	20.00	—	—	—
Seventeen Massachusetts towns.	134,910	38	7	7.89	15.79	2.63	5.26	—

Two thousand four hundred and thirty-three deaths were reported; 933 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 342, lung diseases 404, consumption 372, diphtheria and croup 102, scarlet fever 50, measles 48, typhoid fever 38, diarrhoeal diseases 31, whooping-cough 20, malarial fevers 19, erysipelas 16, cerebro-spinal meningitis 15, small-pox three. From *measles*, New York 15, Brooklyn 10, Philadelphia eight, Chicago, St. Louis, and Pittsburgh four, Holyoke two, Cincinnati one. From *whooping-cough*, Pittsburgh four, Brooklyn and Cincinnati three, New York, Philadelphia, Baltimore, and Nashville two, St. Louis and Worcester one. From *malarial fevers*, Brooklyn eight, New York six, St. Louis four, Baltimore one. From *erysipelas*, New York six, Chicago three, Philadelphia and Brooklyn two, Baltimore, Cincinnati, and Milwaukee one. From *cerebro-spinal meningitis*, New York four, Philadelphia, Milwaukee, and Fitchburg two, District of Columbia, Pittsburgh, New Haven, Worcester, and Taunton one. From *small-pox*, Philadelphia, Chicago, and Worcester one.

One hundred and nine cases of measles, 41 of diphtheria, 28 of scarlet fever, three of whooping-cough, and one of typhoid fever were reported in Brooklyn; diphtheria 24, scarlet fever six, in Boston; diphtheria 23, scarlet fever five, in Milwaukee; scarlet fever 24, diphtheria seven, cerebro-spinal meningitis four, erysipelas two, typhoid fever two, measles one, in Providence; diphtheria four, scarlet fever one, typhoid fever one, in Cambridge; scarlet fever five, diphtheria four, in New Bedford.

The total number of deaths reported was considerably diminished from that for the previous week, and the deaths under five diminished in about the same proportion. Lung diseases and pulmonary consumption diminished. Principal "zymotic" diseases diminished twenty-five per cent. Typhoid fever diminishing in Pittsburgh. One death from small-pox in Philadelphia, in Chicago, and in Worcester. In 36 cities and towns of Massachusetts, with an estimated population of 1,023,560 (population of the State about 1,690,000), the total death-rate was 19.82 against 22.66 and 22.89 of the previous two weeks.

For the week ending April 3d, in 150 German cities and towns, with an estimated population of 7,13,077, the death-rate was 28.6 against 28.9 and 27.6 for the two previous weeks. Five thousand six hundred and ninety-nine deaths were reported; 1976 under five; pulmonary consumption 677, acute diseases of the respiratory organs 597, diphtheria and croup 162, whooping-cough 63, typhoid fever 60, scarlet fever 59, measles and *rubella* 50, puerperal fever 24, typhus fever (Braunschweig, Königsberg, Thorn, Beuthen) five, small-pox (Königsberg, Beuthen) four. The death-rates ranged from 18 in Potsdam to 38.6 in Aachen; Königsberg 37.8; Breslau 33.7; München 36.9; Dresden 26.5; Berlin 25.7; Leipzig 28.6; Hamburg 28.6; Hannover 21.4; Bremen 24.8; Cologne 28.3; Frankfurt 26.4; Strassburg 27.7. For the same week, Vienna 35.3, small-pox greatly diminished, scarlet fever one death; Paris 29.8, small-pox, diphtheria, and typhoid fever prevalent.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.		Thermom-eter.		Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	5 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
April 18	30.233	38	48	33	71	66	63	67	N	SE	SE	9	7	7	F	F	F	—	—
" 19	30.215	45	53	37	73	41	69	61	S	S	S	4	16	10	F	O	O	—	—
" 20	30.082	51	62	45	100	40	70	70	SW	W	W	8	12	13	R	O	F	—	.07
" 21	30.232	51	60	42	79	46	45	57	C	SE	SW	0	14	8	C	C	F	—	—
" 22	29.973	56	73	44	39	16	35	50	SW	SE	SW	9	22	8	C	F	F	—	—
" 23	30.081	42	51	41	43	50	45	45	NW	SE	S	20	13	19	F	C	O	—	—
" 24	30.138	39	43	33	100	66	65	77	S	S	S	7	8	5	S	O	O	—	.17
Week.	30.136	46	73	33				58	South.									6.22	.24

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., sleet; R., rain; T., threatening.

DR. HENRY JOHNSON.

At a meeting of the New Bedford Society for Medical Improvement, held on April 21st, the following preamble and resolutions were passed:—

Whereas, Death has removed from our midst our muchesteemed friend and colleague, Dr. Henry Johnson, of this city, and *whereas*, it is fitting that this society, of which he was one of the founders, and at the time of his decease its vice-president, should express their feeling of sorrow at this great loss, therefore

Resolved, That we gladly testify to our appreciation of his great professional skill, his readiness to advise whenever called upon by any of us, his honesty of principle toward his medical brethren and toward his patients, his affability at our social gatherings, all of which we shall always hold in grateful remembrance.

Resolved, That the death of Dr. Henry Johnson is a loss to the community in which he lived and worked so many years, but that this loss will be felt more directly by his professional associates.

Resolved, That as a token of respect for his memory this society attend his funeral in a body.

Resolved, That a copy of these resolutions be spread upon the records of this society, a copy forwarded to his afflicted family, a copy published in the local papers and in the Boston Medical and Surgical Journal.

W. H. TAYLOR, M. D., Secretary.

Messrs. W. H. THOMPSON & Co., 32 Hawley Street, Boston, are the New England agents for Reynolds's System of Medicine, noticed in our last number.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM APRIL 24, 1880, TO APRIL 30, 1880.

MOORE, JOHN, major and surgeon. Granted an extension of two months of his present leave of absence. S. O. 90, A. G. O., April 23, 1880.

ATSWORTH, F. C., captain and assistant surgeon. The operation of so much of paragraph 1, S. O. 74, C. S. A. G. O., as relates to him is suspended until September 1, 1880. S. O. 83, A. G. O., April 22, 1880.

SEFFOLK DISTRICT MEDICAL SOCIETY. — A regular meeting will be held at the hall, No. 19 Boylston Place, on Saturday evening, May 8th, at seven and a half o'clock. The following papers will be read: Dr. Douglas Graham, *Massage in the Treatment of Uterine Affections*, with a Report of Seventy-Two Cases; a reply in part to the paper of Dr. Wing on the Modern Abuse of Gynecology. Disputants, Dr. James R. Chadwick, Dr. William H. Baker. Dr. J. B. Swift, *A Case of Empyema illustrating the Value of the Antiseptic Operation*. All members of the Massachusetts Medical Society are cordially invited to be present, and to take part in the discussion.

H. C. HAYES, M. D., Secretary.

We have received the first four volumes of Wood's Library of Standard Medical Authors for 1880, which indicates success on the part of the publishers in their "endeavor to supply standard professional literature at a price lower than ever before attempted in any country."

Lectures.

ON THE DIAGNOSIS OF OVARIAN TUMOR.¹

A LECTURE DELIVERED AT RUSH MEDICAL COLLEGE,
CHICAGO, FEBRUARY 9, 1890.

BY PROFESSOR W. H. BYFORD, M. D..

GENTLEMEN, — We will consider to-day the subject of the ovarian tumor. An ovarian tumor, when small, may be mistaken for extra-uterine pregnancy, tumor of the Fallopian tubes, fibroid tumor of the uterus, and pregnancy. These are, perhaps, the most common disorders of the pelvic viscera which are liable to be confounded with ovarian dropsy, but further along enlargement of the spleen, peritoneal dropsy, enlargement of the liver, kidneys, and bladder, may also be mistaken for ovarian tumor.

Let us now look at some of the symptoms, both objective and subjective, which these disorders present, and compare them with those found in dropsy of the ovary, and see if we shall be able to make a correct differential diagnosis in most cases. In pregnancy the symptoms and signs pertaining to that condition will be present, including more obtained by auscultation and palpation, and the tumor is found in the centre of the pelvis, and is symmetrical in shape. Where we have an ovarian tumor the symptoms of pregnancy are absent, and we will find the uterus crowded forward nearer the abdominal wall, and the tumor will be found in the cul-de-sac of Douglas. How may we know when we have a tumor of the Fallopian tubes? We shall find this variety of tumor located at or near the side of the uterus, and oblong in shape, while an ovarian tumor is globular, and situated behind the uterus. We may be pretty sure that we have a fibrous uterine tumor when we find that the mouth of the uterus is hard and misplaced; that there is menorrhagia or metrorrhagia; that the tumor itself is hard; that when the uterus is moved the tumor moves also, and the cavity of the uterus is enlarged.

We shall probably experience great difficulty in diagnosing an extra-uterine pregnancy, or rather in differentiating it from ovarian dropsy. In extra-uterine pregnancy the tumor is generally in the posterior cul-de-sac, is globular, pushes the uterus forward, and extends up into the abdominal cavity like an ovarian tumor. So far, you see how these two growths may simulate each other and deceive the physician unless he is extremely careful. But there are some other symptoms and characteristics about extra-uterine pregnancy which will enable us to tell the difference between it and ovarian tumor.

In extra-uterine pregnancy we shall have the usual symptoms of pregnancy; gastric disturbance, nausea, enlarged breasts, and the nervous phenomena accompanying a case of pregnant uterus, attended with irregular hemorrhages and the discharge of organized material or membrane.

When the abdomen is large, ovarian tumor may be mistaken for abdominal dropsy, and *vice versa*. In ovarian tumor the patient is often in comparatively good health, while in abdominal dropsy there is generally some serious constitutional trouble. The liver, heart, or kidneys are usually affected. In peritoneal dropsy there is generally oedema of the feet or genital organs, or both, while in cases of ovarian tumor the

patient may go almost to the last stages of the disease without any oedema, and then if any be present it may be caused by anæmia.

For examination, first place the patient on her back, and in ovarian dropsy there will be seen to be some irregularity of contour, while in peritoneal dropsy there is no irregularity. Percussion in ovarian tumor reveals dullness all over, except at the sides near the spine and high in the epigastrium, where you get in testinal resonance.

In peritoneal dropsy there is sometimes very marked resonance over the middle of the abdomen. In dropsy there is fluctuation everywhere, while in ovarian tumor the fluctuation ceases when we get beyond the border of the tumor. Now have your patient sit up, and, if peritoneal dropsy is present, the belly will sag and the tumor will decrease in size above, with increased resonance above, while the abdomen will enlarge below, with dullness in front. In ovarian tumor there will be no change in the shape of the abdomen or the location of the intestinal resonance.

Sometimes abdominal dropsy and ovarian tumor co-exist in the same patient. In a complication like this we need to use unusual care and tact in making a diagnosis.

There will not be resonance in front, because the intestines do not rise up to the abdominal wall. Place the patient on her back, and push the ends of the fingers into the abdominal wall, and press them together from either side. If you can engage a tumor between your hands you probably have something besides abdominal dropsy. The aspirator or trocar will aid us in the diagnosis, as we shall find after a while. An important point in the diagnosis of these ovarian growths is to determine whether they are monocystic or polycystic. The monocyst is generally globular, and fills the abdomen symmetrically, and does not present any very marked prominences or depressions. There is no difference in the wave of fluctuation, no matter at what point you percuss. But in a polycyst the fluctuation is not the same in different localities of the abdomen. You can map out pretty definitely the different cysts which compose the growth.

Sometimes a deposit of fat in the abdominal walls will mislead us, and we may suppose we have an extra-peritoneal growth. Fat is found in the walls of the abdomen from half an inch to ten inches thick. This layer of adipose tissue is outside of the abdominal muscles, between them and the skin. If you place the patient on her back and make percussion, you will get a wave of fluctuation which is similar to that of serum; you will be deceived by it unless you are careful. Now place one hand one side of the abdomen and tap upon the other side and you will feel the whole mass tremble; and although the sensation is similar to that of the fluctuation you get from a sac filled with serum you can detect the difference if in percussing you place the fingers far down on either side opposite each other. If the enlargement is due to fat you can grasp the mass and lift it up in rolls from the abdominal muscles. I have known two instances where patients have been tapped and no fluid was drawn, because the trocar or aspirator was plunged into a mass of fat, which fortunately the instrument did not pass through. I have said that an enlargement of the bladder may simulate ovarian tumor. I have seen the bladder so distended as to reach within three inches of the ensiform cartilage.

¹ Reported for the JOURNAL by B. W. Griffin, M. D.

The history of a case of distended bladder is as follows: The patient is troubled with apparent incontinence of urine, swelling goes on for several months, urine dribbles away all of the time in very small quantities. On introducing the catheter you draw off an enormous quantity of urine, and the tumor disappears. Do not tap a distended bladder, thinking you may have an ovarian tumor. Always empty the bladder before tapping for any purpose. The stomach can be so distended as to fill up the entire abdominal cavity.

I know of a case in which an attempt was made to take out the stomach by surgical means, under the impression that it was an ovarian tumor. On introducing the trocar, after the incision was made, to draw off the fluid which the supposed ovarian tumor contained, a part of the patient's breakfast was brought into view, and it was at once decided that the growth was not ovarian dropsy. Succession and percussion in these cases would do much to reveal the presence of fluid mixed with gas. I should think that there would always be grave gastric disturbances in all such cases. There is sometimes enlargement of the spleen, which presents some similarity to ovarian tumor. In such cases you will find a hard tumor, which sometimes extends from top to bottom of the abdominal cavity.

But in the enlargement of the spleen there is not much elevation of the abdominal walls. The tumor is thick above and thin below. The crucial test is percussion. By forcible percussion you get decided resonance and no fluctuation in hypertrophy of the spleen, while in ovarian dropsy dullness and fluctuation are prominent features. The spleen extends up into the region of the left lung, and the dullness of that organ is increased. Another diagnostic mark of great value is that the tumor is also attached to the left side, and does not descend within reach of the fingers per vaginam. The liver, when enlarged and displaced, sometimes drops down to the brim of the pelvis. These migrating livers may deceive us. As in case of enlargement of the spleen, the tumor is comparatively flat. In percussing, if you commence upon the lung, and follow down to the intestines, you fail to find the usual space of hepatic dullness under the ribs. There is no line of dullness between the resonance of the lungs and intestines; the pulmonary resonance is immediately succeeded by that of the intestines. The liver can sometimes be replaced by pressing it carefully upward, but it will not remain so.

Cystic enlargement of the kidney may also be mistaken for ovarian tumor. This little organ, which is so insignificant in health, so far as size is concerned, often becomes large enough to fill the abdominal cavity from the diaphragm to the pubes. The tumor thus formed is nearly globular, and slightly elongated from above downward. Fluctuation is sometimes well defined. Where the kidney attains to this enormous size, the disease is generally of a malignant character, and the health is broken down. This is not the case in ovarian tumor.

About a year ago I removed a diseased kidney which had attained the weight of fifteen pounds. The patient is now in good health. If the right kidney is enlarged there will be more fullness on that side and a dull sound on percussion, while on the left side there will be resonance. In enlargement of the liver or kidney the tumor does not descend into the pelvis.

Besides the varieties I have mentioned as resembling in different ways an ovarian tumor, there are tu-

mors of the omentum which simulate ovarian tumor. The omentum lies over the intestines like an apron. When a sarcomatous or carcinomatous deposit takes place in the omentum, it is thickened, and presents an irregular surface. It does not elevate the abdominal walls, like an ovarian tumor. By placing the patient on her back and employing deep pressure with percussion, we can elicit a good degree of resonance over a large part of the tumor.

Inflammatory depositions in the abdomen, resulting from local or general peritonitis, in puerperal cases especially, but sometimes not connected with the post-partum condition, are sometimes mistaken for tumors.

In puerperal peritonitis a deposition of fibrin glues the intestines together, and leaves them in this condition for months. The hard masses thus formed feel like tumors, and sometimes extend into the pelvis. They do not render the abdomen so prominent as the ovarian tumor, are firm, and do not fluctuate. They are almost always tender; there is generally greatly impaired health, and they date back to a sharp febrile attack, as before remarked, most frequently of a puerperal character. Percussion elicits loud resonance over almost the whole of the hardened surface.

Small hardened loculi are often found in the iliac region, and even elsewhere near the pelvis, that may perplex the young practitioner. They are immovable, not generally globular, date from an inflammatory attack, and disappear after appropriate counter-irritant and sorbificient treatment.

I come now to speak of the differential diagnosis between ovarian and fibro-cystic tumors of the uterus, which is probably more perplexing to the surgeon than any heretofore mentioned. The external appearances resemble almost exactly, in many instances, an ovarian tumor. There are generally, however, to the practiced eye and skillful touch marks of difference which will, to some extent, serve in differentiating between them. One diagnostic mark is that there are often sulci somewhere between the sacs which compose the growth as a whole. The reason for this is that the walls are thick and not sufficiently elastic to allow them to round out and form a smooth and globular tumor like that of the tumor of the ovary. We may also occasionally observe nodules projecting from their surface, and when closely examined the fluctuation may be found to be less extensive and obvious than in ovarian tumors.

I have said several times in the course of my lectures that tapping by the trocar or aspirator is a very valuable means of demonstrating the character of abdominal tumors. It is now thought that there is very little difference between the trocar and the aspirator so far as danger from their use is concerned. Probably as many deaths result from tapping with the aspirator as with the trocar. Remember, gentlemen, that there is more or less danger in using either of these instruments. I have seen only one death happen in about eighty cases which I have tapped. This is an unusually favorable experience, however, as statistics go to show that about one in fifty cases dies from tapping. There are some things in favor of the use of the trocar.

The patient is relieved more quickly than with the aspirator, and the fatigue which is a result of the use of the aspirator is largely done away with. You can also get a better idea of the character of the fluid drawn by the use of the trocar than by the aspirator.

When you plunge a trocar into a monocystic or oligocystic tumor, the fluid, being there, generally runs away rapidly. You will notice that in these varieties of tumors there is a foam or bead on the surface of the fluid, especially if it is drawn away rapidly. In tapping either variety just mentioned you will see that the abdomen decreases in size equally in all directions. But, on the contrary, in peritoneal dropsy the enlargement decreases first from above. The fluid from peritoneal dropsy is lighter than that from a monocyst, but is not viscid.

After you have drawn off the fluid which has accumulated in the peritoneal space, you can by palpation and careful manipulation map out pretty plainly the abdominal viscera. But this cannot be so well done in case of ovarian tumor. The walls of the tumor may sometimes be grasped by the hands, while in dropsy, after tapping, we can find nothing of the kind. The fluid from the cyst feels viscid between the fingers, although it may be thin. In tapping a polycyst we very often get a dark-colored, viscid fluid, which runs in a stream like a string, and does not fall and produce a splashing sound like a thin fluid. Its viscosity, too, is more marked than in monocystic fluid. Where we have a polycyst and tap the main tumor, we get a collapsed condition of the abdominal wall over the spot where the cyst has been evacuated, and the fact that after the tapping of the main cyst the small cysts still remain full is proof that we have to do with a polycystic growth. Now, when we tap a fibrocystic tumor of the uterus the walls do not collapse and sink in to such a marked degree as in a polycyst of the ovary. The fluid does not run out readily. The reason for this is that the walls are less elastic. Even with an aspirator you can draw out only a small quantity of the fluid from a fibrocystic growth.

The fluid from a monocyst or a polycyst, after standing for a time, does not change, but you will notice that the fluid drawn from a fibrocystic tumor contains a coagulum of lymph, for these tumors are enlarged lymph spaces. The fluid from an ovarian tumor will coagulate on the application of heat or nitric acid. The microscopic properties of the fibrocystic fluid are cells that bear a resemblance to broken-down blood corpuscles. When the dermoid tumor is tapped it sometimes collapses pretty thoroughly, but more frequently only partially. When this latter is the case there is an irregular mass left behind, in which we may detect, by palpation more or less solid material. The fluid is sometimes thin and entirely devoid of viscosity, and when examined in bulk has a bluish tinge. The specific gravity is light, and it is not coagulable by heat. In most specimens of fluid withdrawn from this variety of tumor there will be found floating on top of it a yellow, fatty material, generally collected in small masses, and usually there may be seen fine hair in it. In other cases hair will protrude from the canula or after the withdrawal of the instrument from the orifice of the puncture. In some other cases the fluid will be wholly fatty in character, very strongly resembling melted lard, which becomes hardened sufficiently to look like this same substance when cooled. I once tapped a tumor of this kind behind the uterus, and drew from it the watery fluid. One year afterward I tapped it again, and the fluid was wholly of the fatty character. When the parovarian tumor—the tumor of the broad ligament—is tapped, the abdomen collapses almost as completely as in cases of peritoneal dropsy. The fluid

runs out with great readiness, and in appearance resembles pure water. It has a very low specific gravity, from 1000 to 1005, and has no microscopic characteristics. It does not coagulate when nitric acid is mixed with it, or on the application of heat.

With reference to the microscopic appearance of the fluid, there is considerable difference of opinion. Many ovariologists do not place much reliance upon the cell formation found in the fluid, while others rely upon the microscope to decide in doubtful cases. I am inclined to believe in that cell described by Dr. Thomas M. Drysdale in Dr. Atlee's work on the Diagnosis of Ovarian Tumors.

Original Articles.

THE TREATMENT OF POTT'S DISEASE BY THE PLASTER-OF-PARIS JACKET.

BY E. H. BRADFORD, M. D.

DURING the past three years many of the patients under my care at the Children's Hospital, suffering from caries of the spine, have been treated by means of plaster jackets. I have also applied this method to a few cases at the Carney Hospital and in private practice. The number in all amounts to forty; of these many have not remained under treatment for a very long time, but enough have been continuously observed for a sufficient period to warrant some generalization.

In a number of cases I have used Taylor's spinal splints, and a few have been treated by complete recumbency in a *gouttière de Bonnet*, or in bed. In avoiding exclusive treatment according to any one method I have been able to judge in a measure of the comparative merits of each.

In some cases by wearing plaster jackets there seemed to be little or no improvement from the treatment, and this where there appeared to be no doubt that the jacket had been properly applied. But in the main the evidence was conclusive as to the great benefit to be obtained from plaster jackets in suitable cases. This was evident in various ways; from the improved condition of the patients, their statement, or the testimony of parents and relatives.

In most of the cases the jackets were applied exactly according to Dr. Sayre's method. Suspension did not appear to have any serious effect; it was, however, always employed with care. Dr. Sayre's rule that suspension should not be carried beyond the point of relief to the patient is not generally practicable with young children, who are frequently too frightened to relate their sensation. In one adult suspension caused vomiting. In another adult fainting was said to have occurred during a previous application of plaster jacket. Nothing of the sort happened when the jacket was put on by me. During the first application, according to his statement, the patient, a heavy adult, was hung free of the floor for some little time, and fainted in this position.

Two children, who had worn plaster jackets for two weeks without discomfort, were attacked with dyspnea so severely that it was necessary to remove the jacket. The disease in one case was in the upper dorsal region, and the patient was wearing a jury-mast; in the other the disease was in the middle dorsal. One child was three years old, and the other six. The attack in the second case was quite alarming; the child lost con-

sciousness and became cyanotic, and the condition was only relieved by removing the jacket. A "dinner pad" was applied in both cases.¹ There was no paralysis in either case.

A third patient, on whom a plaster jacket was applied without a dinner pad, but after a hearty meal and a glass of milk, suffered so much the following night from difficulty in breathing that she could not lie down. After the application of a second jacket, with a dinner pad, there was no discomfort. In several cases I have made use of Dr. Reid's method of suspension with adhesive plaster,² which did admirably with children but not with adults. I have applied plaster jackets while the patients, if children, were supported, belly downwards, by the hips and shoulders, if adults between two tables, as recommended by Dr. Andrews;³ also according to Mr. Walker's and Dr. Lee's method.⁴ I was unable to see that the jackets put on in this latter way were less efficient than those made by Dr. Sayre's method. In one case of extreme curvature in the upper dorsal region, and apparently ankylosis, a plaster jacket was applied without suspension, the patient standing during the application, the object being to procure fixation. The jacket appeared to give a good deal of relief during the six months the child was under observation. In a second case, however, a jacket put on in this way did no good whatever, and was taken off the next day on account of the discomfort it occasioned.

Chafing can usually be prevented from becoming a serious trouble by carefully padding on each side of the prominent vertebral processes, and removing the jacket on any complaint of soreness, and reapplying with new padding. For pads I have found thick English saddler's felt more convenient than anything else. In three cases it was necessary, on account of eczema of the skin, to discontinue the treatment by plaster-of-Paris jackets. This was during very warm weather, and the patients were children in poor condition.

For bandages "crinoline muslin" is much better than "cheese cloth" or coarse cotton cloth. Coarse muslin, such as is used for mosquito netting, can be made, if rolled properly, to hold a good deal of plaster. This sets quickly, but is more liable to chip in use than the finer cloth. It can be used for a middle layer in a jacket.⁵

In suspending, Dr. Sayre's head-piece seemed more convenient than Mr. Golding Bird's or Dr. Glazier's.⁶ I found it an advantage to have the head-piece and the bar holding the straps under the axillæ connected with two different cords playing over different pulleys whenever it seemed advisable to regulate readily the strain on the neck and under the axillæ. Plaster jackets without a "jury-mast" appeared to be useless

in cases of disease of the spine in the upper dorsal region.

From many of the reported cases published from time to time, illustrative of treatment by plaster jackets, the impression is natural that every case of caries of the spine does well immediately on the application of a plaster jacket, and that this application is a comparatively easy matter. The experience at the Children's Hospital, however, has led us to believe that in no procedure in minor surgery is experience, care, and a knowledge of detail more important for the cure of the patient than in applying plaster jackets. We have also learned that some cases do not improve at all, even though the jackets are apparently well fitted. There can be no doubt that plaster jackets are dirty and clumsy. This is the price which is paid for an apparatus which is not dependent for its efficiency or inefficiency on the leniency or neglect of the attending nurse.

Exactly how plaster jackets are efficient in the treatment of caries of the spine is a question which seems to be still open for discussion. Opinions of writers on the subject differ. The usual idea is that suspension supplies the means of extending the spine, and that the plaster jacket keeps the spine in an extended position. The pelvis furnishes the base and the thorax the point of resistance for counter-extension. "On account of the conical shape of the trunk and the close manner in which all the interstices are filled by the dressing [plaster jackets], the spine is rendered straight and immovable." An apparatus⁷ has been devised by Dr. Stillman and Dr. Wyeth⁸ by which the rate of extension and counter-extension can be controlled mechanically. In discussing the efficacy of this apparatus, Dr. Hamilton⁹ stated that, although the "axe of the pelvis and the promontory of the sacrum" afforded a good basis of support, the point of resistance to counter-extension furnished by the thorax is not reliable, as the thorax, which is expanded during suspension, becomes smaller, "telescopes within the jacket, and all extension ceases" when the patient is not suspended. Dr. Shaffer¹⁰ writes, "It is absolutely impossible to apply a continuous extension and counter-extension which can be maintained with any degree of success. The change [during suspension] is apparent rather than real, and the great increase in height . . . is due to the extensibility of the unaffected structures and the obliteration and modification of the compensatory curves."¹¹ Dr. Hamilton thinks that if the patient is suspended no extension is made which reaches the seat of the disease.

Mr. Walker¹² believes that suspension is not a necessary part of the treatment. "That a jacket should be effectual it is a *sine quâ non* that it shall be applied when the spine is in such a position that the diseased vertebrae shall be free from all pressure. . . . This condition is found when the patient is suspended, . . . but also in an equal degree when the patient is laid flat on the back."

Some writers claim that the benefit of plaster jackets is that they furnish a means of fixation simply.¹³

¹ For similar cases see St. Bartholomew's Hospital Reports, xiv., 1878, Willett; also Madlung, Berl. klin. Wochenschr., February 5, 1879.

² JOURNAL, May 8, 1879, page 638.

³ Chicago Medical Examiner, April, 1879.

⁴ JOURNAL, May 8, 1879, page 638; also, Remarks on Horizontal Extension, Lee, Transactions of the Medical Society of the State of Pennsylvania, vol. xii., 1879.

⁵ Mr. Squires, of the Harvard Medical School, has found that a cylinder of plaster bandage, formed by rolling six layers of crinoline muslin (with plaster well rubbed in) around a bottle, and removing the bottle when the bandage is hard, will sustain a weight of one hundred and sixty pounds pressing upon either end without being crushed. A cylinder of the same number of layers of bandages of coarse cotton will be crushed under the weight of a few pounds.

⁶ British Medical Journal, September 21, 1878; New York Medical Record, May, 1879, page 450.

⁷ Sayre, JOURNAL, February 12, 1880, page 146.

⁸ New York Medical Record, February 8, and February 22, 1879, and Hospital Gazette, January 20, 1879.

⁹ New York Medical Record, February 22, 1879.

¹⁰ Put's Disease, page 39.

¹¹ Ibid., page 40.

¹² British Medical Journal, March 1, 1879, page 306.

¹³ Owen, British Medical Journal, February 8, 1880.

To determine the effect of suspension on the spinal column I made the following experiment; being enabled to do so through the kindness and assistance of Dr. M. Richardson, assistant demonstrator of anatomy at the Harvard Medical School:—

A portion of the spinal column, consisting of six dorsal vertebrae, was taken from an adult cadaver, including the muscles and ligaments untouched, but not the skin. A stout iron wire was passed through the upper vertebra and another through the lower vertebra at the level of the articulation. The upper wire was fastened to a hook, and on the lower wire a weight was fastened, removable at pleasure. Two pins were driven into the bodies of the two adjacent vertebrae in the central part of the fragment of the spine, and the space between them carefully measured with a pair of compasses. If the two vertebrae were pulled apart this would necessarily be made greater. It was found, however, that after a weight of one hundred and ninety pounds was hung upon the lower wire the distance between the two pins remained precisely the same. The intervertebral cartilage between the two vertebrae was cut half through. When ten pounds were then hung upon the lower wire this space was increased one millimetre; when forty pounds were applied it was increased two millimetres; and when one hundred and ninety pounds, the increase was three millimetres. It was found that if the portion of the spine be bent backwards (towards the spinous processes), the weights having been removed, a slight amount of force, such as could easily be exerted by the hands holding on at each end of the portion of the spinal column, was enough to increase the separation of the pins two millimetres.

It would appear, therefore, that if the spinal column is straight and intact it will sustain practically any amount of weight without permitting the bodies of the vertebrae to be pulled apart. If, however, the column is weakened at any point between the bodies, the bodies at the weakened portions can be pulled apart. But the amount of this separation is no greater when a force of forty pounds is applied than when the spine is bent slightly backwards. If a healthy adult be placed in a suspension apparatus and suspension applied, just enough not to raise the heel of the person in the swing from the floor, it will be found that he has been elongated in height from one inch to an inch and a half. From the experiment just mentioned it is evident that this elongation cannot come from stretching of the ligaments; it therefore must come from the obliteration of the physiological curves of the spine.

The following facts show that straightening of the physiological curves in other ways will also increase the height. The height of two male adults in health was taken while standing erect. Their heights were sixty-seven and one fourth and sixty five and three fourths inches. They were then placed upon their backs upon the floor, their limbs kept straight, and their heels pressed upon the wood-work on the wall of the room, at right angles to the floor on which they lay. The lengths from head to sole were then measured, and found to be sixty-eight and one fourth and sixty-seven and one half inches. When placed upon their faces the measures were sixty-seven and one half and sixty-six and three fourths inches. The spine is evidently straightest when the body is lying upon the back; when on the face the arching backward of the spine, generally present in the erect position, is exaggerated.

In Pott's disease the spine is usually curved with the concavity forwards. The effect of suspension would be, if the laws of gravity were not interfered with by bony union or muscular action, to straighten the curve, and the bodies being on the concavity would be freed from pressure. If the disease were enough advanced to have separated the connection between the bodies by the intervertebral substance, and to have weakened or destroyed the anterior ligament, the bodies at the diseased point would be actually pulled apart, but only to a degree which could not be appreciated by ordinary measurement.¹

The amount which the bodies can be pulled apart is slight, and it seems as if that could not be maintained for any length of time, when the disease is in the dorsal or lumbar region, for the reason that, as Dr. Hamilton says, the thorax does not remain of the same size after suspension, and may readily "telescope" to the extent of a sixth of an inch within the jacket, no matter how tightly this may be applied, or how closely it might fit into the interstices between the ribs mentioned by Dr. Sayre. Suppose, however, that the thorax does not "telescope," and that the amount of force exercised during suspension does still persist after the jacket has become hard and the suspension is removed, this force must be exerted upon the pelvis as its base. The amount of this force would be equal to the weight of the body below the point of disease of the spine. In the case of a heavy adult, with the disease in the middle of the back, where suspension was complete (that is, when the patient was suspended so as to support no weight on the foot), the amount of this force would be between forty and sixty pounds. It seems impossible that the skin over the pelvis could stand for months this amount of pressure without sloughing. Dr. Shaffer believes that the change during suspension is due to the "obliteration and modification of the compensatory curves,"² and that the pathological curve is not affected. That the pathological curve is not changed in many cases is manifest. The benefit which may be expected from a plaster jacket, in these cases is that the spine, which is made as straight as possible before the jacket is applied, is prevented by the jacket from curving farther forward, as would otherwise inevitably happen. When the spine is curved, with the concavity forward, the weight of the head and upper part of the trunk acts like a weight on the end of a curved spring, and on any jar tends to increase the curve and the pressure at the diseased portion. This is less so the straighter the spine is, even if the pathological curve remain, and of course if the spine is bent with concavity backward the effect is reversed. In other words, the spine is held by an efficient although clumsy antero-posterior support. In certain cases the pathological curve is altered by suspension as by recumbency.

In disease of the cervical region the action of the jury-mast is that of simple suspension, with such fixation as the suspension effects. As the weight of the head is comparatively small, it is easy to imagine that suspension enough might be applied to "lift the bodies apart," and, what is probably more important, to prevent, on any jar, the head from falling forwards,

¹ Mr. Owen, British Medical Journal, February 28, 1880, mentions having experimented on the cadaver of a case of curves of the spine. He drove pins into the bodies of the vertebrae above and below the point of disease, measured this distance between, suspended the body, and found that there was no increase in this distance.

² Shaffer, Pott's Disease, page 40.

and by its weight curving the cervical spine and crowding the affected structures, that is, the bodies, together.

The ideal position for fixation in caries of the spine is not with the spine straight, but, if it were possible, with the spine above the point of disease curved backwards, so that the weakened bodies be not crowded together on the inside, but separated on the outside of the curve. This position is frequently assumed by patients in the early stages of Pott's disease, — the back is arched backwards and the head thrown back. In a case of this sort which lately came under my care, there was disease of the lower dorsal vertebrae and marked lordosis. While the jacket was applied the patient was not suspended, but was put in a position to increase this curve backwards. The relief caused by the jacket was very marked, the pain in the limbs and the inability to walk any distance disappeared entirely. The disease in this case, however, was at an early stage, and it seemed possible to separate the bodies of the vertebrae at the affected point more by exaggerating the position assumed by the child than by suspension.

The following patient illustrated the efficacy of a plaster jacket in preventing the spine from curving forward.

X —, a delicate, intelligent boy, ten years old, a patient of Dr. Moses Gunn and Dr. Andrews, of Chicago, with disease in the upper dorsal region, near the junction with the middle third, visited Boston for a few months during the summer. He was wearing a plaster jacket applied by Dr. Andrews. This consisted of an ordinary plaster jacket, to which an addition had been made which passed over the shoulders, encasing all above the ordinary jacket, except at the head and neck. This, of course, threw all the weight of the jacket upon the shoulders, and removed it from the pelvis, the base for extension. The boy had not worn a "jury-mast." On reapplying the jacket, the old one being broken, I determined not to add the shoulder part, thinking on theoretical grounds that it was unnecessary and injurious. The bandages were, however, put as high on the sternum as possible. Two days later the boy begged me to include the shoulders, as without that fixation he felt much less comfortable than in the old jacket, although it was much broken. After making this addition the jacket seemed to give the required support.

CASES.

The following few cases are selected as illustrating certain features of treatment: —

CASE I. is one treated successfully by means of plaster jackets. CASE II., unsuccessfully treated by plaster jackets. CASE III., previous treatment by plaster jacket not successful. Treatment progressing favorably with a Taylor's apparatus. CASE IV., treated successfully by absolute rest in bed, Taylor's brace, plaster jacket. CASE V., a light case, treated successfully by fixation of spine.

CASE I. H. A., aged four, patient at Children's Hospital. Caries in lower portion of the middle dorsal region of the spine. Treated for six months by confinement to bed. A plaster jacket was first applied by Dr. Ingalls in September of 1877. This was worn a short time. Child remained without treatment for several months. Patient reapplied for treatment in the spring of 1878. There was a sharp, angular projec-

tion; the child suffered pain, and walked with difficulty; there was contraction of the psoas and iliacus on the right side, and thickening could be felt deep in the right inguinal region, suggesting the formation of an abscess. The child was fretful; her condition had been becoming rapidly worse in the preceding two or three months.

Plaster jackets were applied, with suspension in the usual way at an interval of every two or three months. The improvement soon began to be quite marked. The treatment was continued up to the present time, one and a half years. The psoas contraction gradually disappeared, together with the thickening in the inguinal region. The child improved greatly in general health, attended school, and played about like other children.

At the end of a year the character of the projection had changed. Instead of a sharp, angular projection it became rounded, though occupying the same number of vertebrae (three), and without having increased in prominence.

The child has been without the jacket recently for a month or so at a time, and can walk about and stoop readily without it. She, however, wears a jacket (applied without suspension) as a precaution against a relapse.

CASE II. W., aged five, patient at the Carney Hospital, a scrofulous child with hip disease of several years' standing, with several sinuses discharging. Patient able to go about with crutches. A prominent spinous process discovered in the lower dorsal region, but no active symptoms were to be found; patient remained without treatment for nearly a year. A second prominent spinous process was then noticed below the first. Grunting respiration became marked at times. A plaster jacket was applied in the usual way, and the treatment continued regularly without intermission for nearly two years. The patient became gradually worse and died. At the autopsy, made by Dr. A. T. Cabot, no attempt at repair was found, the body of one vertebra being entirely, and another partially, destroyed.

CASE III. W., a boy aged four, was brought to me with caries of the spine in the middle dorsal region, which had been treated for a year at home by means of plaster jackets. The child was in a pitiable condition. The skin of the back and belly was chafed and covered with the scales of a dry eczema, with spots of a moist eczema. He was scarcely able to walk, was in a fretful condition, suffered from nocturnal pains, and had been becoming much worse during the past few months. A Taylor's apparatus for caries of the spine was applied. Improvement in the general condition became quite marked in a comparatively short time. The nocturnal pains gradually diminished, and finally stopped. The boy became able to walk about freely, and gained steadily in weight. He has now been under observation for eight months since the application of the brace, and has improved uninterruptedly during that time.

CASE IV. D., aged twenty-five. Caries of spine, lower dorsal vertebrae, with slight projection. A patient of the Carney Hospital, treated by absolute rest for two years. She was at first unable to sit up or move, though while in bed was free from pain. A Taylor's apparatus for caries of the spine was applied; the patient was then able to get up and walk about. This was worn for a year. Owing to a change of nurses,

the application of the apparatus was less carefully attended to at the end of that time, and she became somewhat worse. A plaster jacket was applied and worn by the woman for eight months without change. For several months the patient remained in the hospital under observation without treatment. She then returned home, and six months later reported by letter that she had remained well.

CASE V. A., girl, aged eleven. Caries of the spine in the upper dorsal region, with slight projection of two spinous processes, pains in side and hip. The patient was under the care of Dr. C. P. Putnam and myself. It was decided, instead of applying a jury-mast, to imbed in the plaster jacket, on each side of the spine, steel strips with a buckle at the top of each, and long enough to be a little above the shoulders. Straps were fastened into the front of the jacket and smooth wooden pads were secured, so that when the straps were buckled to the steel uprights pressure would be exerted just beneath the clavicle on each side. In this way quite thorough fixation of the spine could be made. The pain stopped on the first application of the apparatus, and the patient began to improve in general condition. The appliance was worn for a year and a half, being renewed every three months. The patient has now been without the apparatus for several months and her condition has remained excellent. The projection has not increased. The two spinous processes which were sharply prominent are much less so, but appear involved in a slight gradual curve.

CASE VI. The following case deserves mention. Mrs. G., aged twenty-five, a patient of Dr. Chamberlain, of Lawrence, was referred to me for advice. A sharp angular projection in the lower dorsal region was discovered, and a plaster jacket advised, but the patient declined. This was, however, afterwards applied by a medical student in Lawrence, and the bandages were subsequently renewed with great care by the woman's husband, who had but little money to spend upon physicians. After six months of treatment the symptoms of pain, which had been quite severe, had entirely disappeared, and the husband consulted Dr. Chamberlain as to the propriety of leaving off the jacket, as the woman considered herself well.

CONCLUSIONS.

The conclusions which I have drawn from the above facts are, that—

(1.) Plaster jackets are efficient in Pott's disease when the caries is below the level of the middle of the scapula.

(2.) The efficiency is not due to fixation alone, nor to extension, in the proper sense of the term, but to fixation in an improved position. This improved position is usually obtained by suspension, but also in many cases by recumbency.

(3.) The treatment by plaster jacket requires care in the application of the bandage. A poor plaster jacket will do harm, deceiving patient and physician.

— Dr. Sawostizki, of St. Petersburg, has improved the preparation of sticks of nitrate of silver. He melts together five parts of nitrate of silver with one part of nitrate of lead, forming an *argentum plumbonitricum*. Thus prepared the stick is not easily broken, and can be pointed like a lead-pencil.

RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.

BY E. G. CUTLER, M. D.

REMARKS ON THE PENETRATION OF PARTICLES OF DUST INTO THE AIR-PASSAGES AFTER TRACHEOTOMY.

IN examining a number of lungs from children dead of croup, where tracheotomy had been performed, Balzar¹ was astonished at the comparatively large quantity of particles of dust and other foreign bodies which he found in them. In some cases the surface of sections were black, as in a lung affected with anthracosis. These foreign bodies penetrate different parts of a pulmonary lobule, and often form real plugs, which almost entirely fill the alveoli. With a low power of the microscope they are seen to be distributed through the bronchi to a greater or less extent, and are also found in the exudation, in the walls of the alveoli and blood-vessels. The larger bodies remain isolated, while the smaller ones become imbedded in the protoplasm of the cells. The quantity of foreign particles varies; thus, in three cases where death occurred once forty-eight hours and twice thirty-six hours after operation it appeared large, while in three others it was much less. These bodies may be seen with the unaided eye as blackish plugs springing forth from the surface of a section after the lung has macerated for a while in alcohol. The cause of this striking appearance is probably to be found in the introduction of the canula, which excludes purification of the air in the mouth, nasal sinuses, and larynx; the child after operation is in the same condition as an animal whose larynx is paralyzed by section of the recurrent. Moreover, it is possible that the bronchial walls, having been rendered somewhat rigid through the pseudo-membranous deposit, have aided this entrance of these foreign bodies, while as no less weighty factors are to be mentioned the greater or less amount of dust contained in the air of the room, and also, from the defective ejection of mucus, the drying of the inner wall of the tube. Whether now the entrance of these foreign bodies into the air-passages is the only cause of the inflammation which appears in the lungs, or whether the diphtheritic bronchitis which is present in the lobular inflammations in by far the majority of cases does not play an equally important part, it would be difficult to determine. One finds just as often foci of lobular hepatization in the midst of those foreign bodies as in places where the latter have not penetrated. Next, it would be well to determine also whether many of the consecutive appearances after tracheotomy, namely, slight broncho-pneumonia and other affections of the lungs of an inflammatory nature, might not be referred to these penetrating irritants; and perhaps also in cases of croup without tracheotomy, as well as in many other diseases which interfere specially with the function of the glottis.

To prevent these occurrences and to guard against the penetration of such foreign bodies into the air-passages, it is necessary that children who have undergone tracheotomy should wear some porous substance covering the mouth of the tube, which at the same time also serves to warm the inspired air. In the selection of such a covering it is well to see that nothing be used which may of itself furnish dust. Then, too, the cleaning and airing of the sick chamber must be per-

¹ Bulletin de la Société anat. de Paris, 4 Ser. iii., page 72, 1878. Schmidt's Jahrb., Bd. 184, 1880.

formed with great care, and the throat be carefully covered meanwhile. Finally, it suggests itself to every one occasionally to oil the inner wall of the canula, so that any inspired particles of dust may adhere to it.

ATROPHY OF THE STOMACH.

H. Nothnagel¹ describes a case of *diminution in size of the stomach and disappearance of the peptic glands* with the clinical history of pernicious anemia. A shoemaker, twenty-three years old, for nine years had complained of disorder of the stomach, which manifested itself principally by occasional vomiting or nausea, loss of appetite, a feeling of fullness in the gastric region, and eructations. On being admitted to the hospital in May, 1878, he presented the appearances of progressive pernicious anemia; namely, striking pallor, great weakness, systolic heart murmur, scintillations before the eyes, retinal hemorrhages, small number of red corpuscles, no organic lesion. Later, irregular fever came on, and transitory right-sided hemiplegia was observed. In spite of arterial transfusion the patient died. The autopsy showed, besides extreme general pallor, hemorrhages in many internal organs. The stomach was twelve centimetres long, its greatest breadth six centimetres. At the same time its walls, and especially towards the pylorus, were very much thickened, and creaked on being cut. A microscopic examination of the stomach in the vicinity of the cardia showed that there was a loss of the peptic glands, while the mucous membrane was replaced by wavy fibrillary connective-tissue with few vessels. The muscularis mucosae and the submucous connective-tissue were very much thickened. In the vicinity of the pylorus, peptic glands were to be seen, but they gradually decreased towards the cardia with increase of the connective-tissue.

Although Nothnagel had correctly guessed at the diagnosis during life, yet in his analysis of the observations thus far published he arrives at the conclusion that one cannot get beyond a probable diagnosis. Moreover, we must carefully distinguish three anatomical conditions: (1.) Simple atrophy of the peptic glands without change of the gastric wall or of the size of the stomach. (2.) Cirrhosis of the gastric wall with diminution of the cavity of the stomach, without special change of the peptic glands. (3.) Cirrhosis of the stomach and atrophy of the peptic glands.

HYPEROSTOSES CONSECUTIVE TO OBSTINATE ULCERS OF THE LEG.

Dr. Paul Réclus publishes a careful study² based on the observation of cases. His conclusions are these: (1.) Ulcers of the leg may give rise to divers forms of osteo-periostitis in the subjacent bones. Exceptionally destructive, the inflammation most frequently determines increase of volume; the bone is then light and spongy, covered with osteophytes. In very rare cases, the tissue of the diaphysis is hard and eburnated, the medullary canal obliterated or narrowed. (2.) When the epiphyses are not yet joined, the bone increases in length, and may exceed its fellow by from two to three centimetres. The osteophytes are more abundant. A vertical osseous diathesis may manifest itself, which is shown by the ossification of the aponeuroses of the ligaments of the vascular and nervous sheaths; in a word, of all the fibrous tissues of the leg.

(3.) From the centre of the ulcer prominent exostoses sometimes arise. These have been taken for syphilitic lesions, but the consistence of the tumor and specific treatment will establish the diagnosis. (4.) Osteo-periostitis is a grave complication. It is inimical to the cicatrization of ulcers, compromises the nutrition of the limb, and very often renders amputation necessary.

WOUNDS OF THE LIVER AND KIDNEYS.

Dr. H. Tillmanns³ published a report of experimental and anatomical researches on wounds of the liver and kidneys. The essay consists of two parts, the first dealing with the dangers from hemorrhage in cases of injuries of the liver and kidneys, and the second with the finer anatomical details of the healing of wounds treated antiseptically.

In investigating the first point, the abdominal cavities of rabbits were opened, with antiseptic precautions, and one or more wedge-shaped portions were cut from the liver or kidney. No attempt was made to arrest the hemorrhage, the wound in the abdominal walls being at once stitched up. In twelve animals portions of the liver were thus removed, and, in nine, portions of the kidneys. Of these, none died. The bleeding from the liver was found to be very slight; thus, when the abdominal cavity was examined twenty-four hours after the removal of from two to four wedge-shaped portions (two and one half centimetres in length and one centimetre in thickness) of liver, the wound was found filled up with blood, but there was rarely a trace of blood in the abdominal cavity. The healing of these injuries was complete in from five to ten days. In the case of the kidney the hemorrhage was much more severe, but, nevertheless, no animal died, and here also the healing was perfect after five to twelve days. In man Tillmanns has likewise observed that the hemorrhage from wounds of these organs is but slight, unless some large vessel be injured.

The question to be determined with regard to the healing of these wounds was, whether the white blood corpuscles, or the special cells of the liver or kidney, or the fixed connective-tissue cells, played the chief part in the healing process. The possibility of any participation in this process by the special cells was completely shut out by the following method. Portions of the liver, kidney, spleen, and lungs of rabbits were removed, and kept in absolute alcohol for two or three weeks. Wedge-shaped portions were cut out of these. They were then washed in two and one half per cent. watery solution of carbolic acid, and introduced, with antiseptic precautions, into the abdominal cavity of rabbits. Twenty animals were experimented on in this manner, and of these two died. When examined twenty-four hours after their insertion, the defects in these portions of dead tissue were generally found to be completely filled up with a glutinous mass, which was seen on microscopic examination to consist of white blood corpuscles. These also completely surrounded the dead tissue, and caused slight adhesion of it to some part of the abdominal wall or contents. One or two days later the migration of the corpuscles had become more marked; they had penetrated in all directions into the dead tissue, following, as a rule, the spaces of the cellular tissue; at the same time, in the

¹ Deutsches Archiv für klinische Medicin, xxiv., s. 253.

² Progres medical, December 29, 1879. London Medical Record, February 15, 1880.

³ Virchow's Archiv, Band lxxviii., page 437. London Medical Record, February 15, 1880.

older parts, formation of blood-vessels and connective tissue could be observed. If the infiltration of the dead tissue with these corpuscles goes on rapidly, the former soon disappears, leaving only a small thickened spot behind. In one or two cases, however, it became converted into a cheesy mass, owing, as Tillmans supposes, to too rapid infiltration with cells.

Examined more carefully, the cells next the dead tissue are seen, even after twenty-four hours, to be spindle-shaped, and in two or three days vessels are present both in the defect and also over the whole surface of the dead tissue. At the same time the colorless corpuscles are seen to increase in volume, their protoplasm then splitting up into fibrillae, while the nucleus remains with a small quantity of protoplasm around it. In other parts the corpuscles seem to melt together, and large granular nucleated masses are thus formed. Tillmans looks on these giant cells as merely masses of formative material which may develop to connective-tissue or blood-vessels, or may undergo degeneration. The vessels are formed by processes starting from previously existing vessels. These offshoots are at first solid, consisting of white corpuscles which have become massed together outside the wall of the vessel. They send out smaller branches, which anastomose with each other and with processes from the large formative cells previously mentioned. These various offshoots ultimately become hollow, and communicate with the vessels. Tillmans deems that these processes proceed from cells forming the walls of the vessels, as was previously supposed.

As to the origin of these cells, he considers that they are white blood corpuscles; at the same time he admits that these experiments do not absolutely prove that the fixed connective-tissue cells do not take part in the process. To see if this is the case or not, he inclosed the piece of dead tissue in a glass case having two lateral holes, and introduced this into the abdomen. Here also the tissue became infiltrated and the glass case surrounded by similar cells, which he therefore regards as white blood corpuscles. The special liver and kidney cells take no part in the healing process.

Similar results were obtained when the healing of the injuries to the liver and kidneys was investigated. Here also the same migration of leucocytes, the same large, irregular formative cells, the same processes of fibrillation and vascularization, were observed. The special hepatic and renal cells were quite passive, and underwent fatty degeneration in the neighborhood of the wound.

Exactly the same observations were made on portions of catgut introduced into the abdominal cavity, and Tillmans concludes that the same process occurs in the removal of silken ligatures, of the pedicle in ovariectomy, and of dead bone. In the case of the latter, he supposes that the carbonic acid in the blood dissolves the earthy salts, leaving the animal basis to be served in the same manner as the catgut.

(To be concluded.)

— An unusually large number of medical men go from New York city to Europe this summer, the list including, among others, the names of Drs. Fordey Barker, Vanderpool, Alexander B. Mott, Keyes, Noeggerath, Lincoln, Weir, McBride, and H. F. Walker.

Hospital Practice and Clinical Memoranda.

BOSTON CITY HOSPITAL.

MEDICAL CASES IN THE SERVICE OF DR. HALL CURTIS.

ULCERATIVE ENDOCARDITIS; THROMBOSIS; EXTENSIVE GANGRENE.

C. D. K., forty-six years old, nurse, entered on November 23, 1879, in the service of Dr. Stedman, with a history of intermittent fever (quotidian) while in army. He also had subacute rheumatic attacks. In September had an attack of probable cerebral embolism.

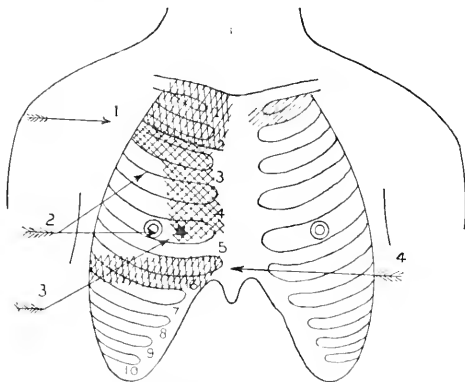
November 19th had chill, followed by fever and sweating, with sharp pain in small of back. Two days later a similar attack. Morning of entrance a third attack, with severe headache and vomiting. Temperature after chill 104° F. Heart and lungs normal. November 24th. Quinine, five grains every three hours. November 25th. Slight chill; in the evening became deaf. Quinine omitted. December 1st. At noon severe chill, pain in epigastrium, and vomiting. December 3d. A similar attack. December 4th. Quinine, five grains, subcutaneously. A faint but distinct presystolic murmur heard at apex; no thrill. December 5th. Nervous; pain in abdomen, and moderate bleeding from hemorrhoids. December 7th. Complaints of pain in legs, where quinine was injected. December 11th. Diarrhea. December 15th. Pain in left ankle. December 17th. Chill last night; another this afternoon. December 19th. Urine opaque, acid; specific gravity 1026; slight trace of albumen; occasional pus and blood corpuscles; no casts; squamous epithelium. Another chill this afternoon. December 21st. Slight chill this r. m. Pain shooting up outer side of left leg from ankle. December 29th. Condition remains the same. Has had several chills, with epigastric pain and vomiting. Presystolic souffle very distinct. January 4th. Service of Dr. Curtis. Had severe pain in right leg during night. The leg below knee is cold; sensation lost; cannot move toes. No pulsation in tibial artery. Pulsation in femoral, in Scarpa's triangle, normal. Eleven a. m. Pulsation in femoral much feebler. Severe pain in leg. January 5th. No pulsation in right femoral. January 6th. Right radial feebler than left; arm cold. Tongue protrudes to the left. January 9th. Spots of gangrene on right leg. January 10th. Marked discoloration from knee down leg, including toes, with œdema. January 12th. Several bullæ on leg, which has become more discolored. Has slight aphasia. January 13th. Has been in same semiconscious condition, with the exceptions of paroxysms of dyspnea for two or three days. Has two spots on anterior aspect of left arm, one above, the other below, elbow-joint; these were the size of the end of one's finger; having a yellow centre and a bright red circumference, well defined; probably small spots of circumscribed gangrene from minute emboli. January 14th. Slight pulsation in right femoral. January 16th. Died. Autopsy by Dr. Cutler, eight hours after death.

Lungs. With the exception of slight adhesions on lower part of right lung, the pleural surfaces were free. Section of lungs showed bronchial tubes considerably filled with thick mucus. Bronchial mucous membrane injected, but not thickened. Some injection of lower portion of lungs, and a little œdema.

Heart. Pericardium adherent, adhesions old and fibrous; left ventricle hypertrophied and consistency diminished. Auricular surface of posterior curtain of mitral valve was the seat of an ulcerated roughened endocarditis, with deposit of lime salt at base, and some fibrinous vegetations. Aortic valve was somewhat thickened on the right curtain. Coronary artery healthy. Color of heart pale. **Liver,** aside from small amount of fatty infiltration, was not abnormal. **Spleen.** In upper part of spleen there was an old hemorrhagic infarction, of a yellow color, and caseous consistency. The size of this infarction was about the size of a silver half dollar. In different parts of the organ there were smaller ones. **Kidneys** large, and in the cortical portion in a state of parenchymatous inflammation. In the lower part of each organ were several embolic infarcts. **Intestines** and **stomach** not abnormal. **Iliac artery.** At division between the iliaes there was a small riding embolus, which did not completely obstruct the calibre of the vessel.

DISPLACED HEART.

R. P., aged forty-three, seamstress, entered the City Hospital February 16th, with ill-defined history of lung trouble, of eleven years' duration. Six months ago she had severe pain in the right side, lasting two weeks, and occasionally recurring since. For past two months has been gradually failing, and gave up work one week before entrance. For three weeks she had



1. Dullness above this line more marked.
2. Area of heart dullness.
3. Apex beat.
4. Area of commencing liver dullness.

had cough; scanty expectoration. Hemoptysis one year, and also six weeks, ago. Persistent diarrhoea for four weeks. Catamenia irregular, last month excessive. Urine, color pale; specific gravity 1025; albumen, faint trace; sugar, none; sediment contained some pus corpuscles and octahedral crystals of calcic oxalate in large numbers; no casts.

Physical examination. Dullness throughout right front, with medium-sized moist râles; left front hyperresonant with exaggerated breathing. Right back dull, in upper third, bronchial respiration; moist râles throughout right back. Respiration through left back somewhat distant, with stridor. Heart's impulse between right nipple and sternum. From fourth rib to

second, on right side, is a well-marked murmur and thrill; there also is apparently a double murmur at base.

February 22d. Is improving. Physical examination by Dr. Dunbar, senior house physician. Slight dullness at extreme left apex in front; remainder of left chest very resonant. Dullness over upper half of right back and in front, as shown in diagram. Medium-sized moist râles over right chest, front and back. Over back the râles are more numerous at base, but in front are more numerous at apex, also heard about two inches to left of sternum. Bronchial respiration over area of dullness, higher pitched behind. Marked pulsation in second, third, and fourth right intercostal spaces, where a thrill is heard (presystolic). First sound is heard most distinctly in fourth right intercostal space, two inches to right of median line. In third intercostal space a presystolic murmur is heard. No oedema of feet. No venous pulsation. No thrill in vessels in neck.

ULCER OF STOMACH.

P. K., twenty-seven years old, car driver, entered hospital March 11, 1880. Six days before entrance was seized with pains in his back and belly, accompanied by vomiting. These symptoms have been persistent. The attack came on suddenly, he states, after a severe exertion. Patient seems exhausted, with feeble pulse, and cold extremities; constant retching.

Physical examination: Tenderness in epigastrium and right iliac fossa, where a sense of resistance is felt; abdominal walls thick and doughy; muscles rigid; no tympanitis; no hernia.

March 12th. Turpentine stupe; milk and lime-water; morphia, *pro re nata*. Vomiting constantly a yellowish fluid. March 13th. Vomitus now has coffee-ground appearance. March 14th. More prostrate. March 15th. Vomitus looks like liquid feces, and has fecal odor. Unable to retain nourishing enemata. March 17th. Died. Autopsy by Dr. Cutler twelve hours after death.

Heart not abnormal. **Lungs** contained blood which had evidently been breathed in during the struggles of patient. This was in dependent parts of lung. **Stomach** had a perforation in anterior wall, near the pyloric orifice, about the size of a quarter of a dollar. A vessel of large size had been eroded, and general peritonitis had ensued. Apart from being anæmic, the other organs were normal.

GENERAL TUBERCULOSIS.

R. H., aged forty-two years, house-keeper, entered on January 13, 1880. Family history good; has generally been healthy, with the exception of an occasional epileptic attack. For three months has had severe cough. Past two weeks complains of pain and distention of abdomen, pain and oedema of legs. Otherwise history not important.

An occasional fine moist râle after cough all over chest. Soft systolic souffle at apex, propagated into axilla. Not heard at angle of scapula. Dullness and fine moist râles heard over lower half of both backs; left side of chest fuller than right. Faint systolic murmur heard over aorta, propagated into carotids and subclavians. Abdomen distended and tympanitic throughout. No fluctuation. Feet and legs oedematous. No albumen in urine. Improved till February 2d, when abdomen became more distended, with pain

and increased dullness in region of liver. February 14th. Since last record has had involuntary discharges, with constant abdominal pain, and excessive tympanites not relieved by rectal tube. Complains of numbness in arms and legs.

Urine, color high; specific gravity 1014; reaction when fresh, alkaline; albumen, a trace; some pus; round and squamous epithelium in large quantities.

February 29th. Is worse. Delirium constant. March 11th. Abdomen greatly distended, fluctuation well marked. March 19th. Abdomen aspirated with relief.

March 25th. Died. Autopsy eight hours after death.

Heart. Evidence of endocarditis more or less recent on mitral and tricuspid valves. Mitral admitting little finger-tip. Aortic valves normal. *Lungs* firmly bound by old adhesions, particularly at base. Tubercles everywhere. *Pleural cavities* contained one hundred ounces of bloody serum; pericardium four ounces of fluid; peritoneal cavity ninety ounces of clean yellow serum. *Spleen* slightly enlarged; engorged; tubercles. *Kidneys.* Tubercular nodules. *Liver.* Capsule greatly thickened. Nutmeg atrophy. *Ovaries.* Cyst size of walnut in each, containing thick bloody material. Abscess in left Fallopian tube. Contents of peritoneal cavity firmly glued together, with tubercles everywhere.

Reports of Societies.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

T. M. ROTCH, M. D., SECRETARY.

MARCH 27, 1880. The president, DR. CALVIN ELLIS, in the chair.

SCARLET FEVER.

DR. J. B. AYER read the following paper:—

Miss L., a bright girl of seven, from a very early age was known to have chronic enlargement of the tonsils, and was frequently subject to acute inflammation of the throat. The attacks of acute tonsillitis were sometimes severe, and caused dyspnoea.

In the fall of 1877 I prescribed inhalations with an atomizer, and applied a nitrate of silver solution to the throat, to the little patient's great relief. However, in the spring of 1878, so severe had the attacks of tonsillitis become, and so urgent the distress in breathing, I deemed it necessary to remove with the tonsillotome a large portion of the right tonsil, which had always been the more obstinately swollen. Although every precaution was practiced inflammation ensued, and during the week following the operation the dyspnoea was as severe as before. It subsided at the end of that time, and during the next eight months she had little throat trouble. Fifteen months ago the tonsils again began to inflame, the right somewhat more than the left. There was no improvement during the spring. In June I removed with the tonsillotome as much as possible of the left tonsil, and also as much of the uneven remnants of the right as the instrument could be made to bring away. There was no subsequent inflammation nor important throat symptoms up to the present illness.

December 16th last she complained of cold chills running down the back, but felt able to attend school.

She woke the next morning feeling chilly. Her parents noticed that she was feverish, and that there was a slight redness of the neck and body, the color becoming more marked during the day. When I saw her (the same evening) the pulse was about 120, and temperature 103° F. The tonsils were not swollen; there was moderate pharyngitis.

On the 18th the eruption had become more marked upon the body, but did not appear upon the face; the disease very mild up to this time.

On the 19th the tonsils were found much swollen, and the respiration noisy, accompanied by dyspnoea, which was in part relieved by inhaling tr. iod. co. c. tr. opii camph. by the atomizer. There was marked hyperaesthesia; she invariably complained of pain when the thermometer was placed and held gently in the axilla.

On the 21st both tonsils were swollen and covered with patches of exudation, which seemed molded to the surface. They were brushed three times daily with an eight per cent. solution argent. nitrat., and large pieces of diphtheritic membrane were detached. There was severe laryngitis. The glands and subcutaneous tissues on both sides of the neck and below the jaw were greatly swollen, and growing hard and tense. She began to be delirious, talking much about her school, reciting her lessons, and frequently raising her hand to attract the teacher's notice.

On the 23d it was found that the diphtheritic symptoms had increased in severity, in spite of frequent inhalations. Dyspnoea was more marked; the face had a dusky appearance; air scarcely entered the lungs on account of obstruction of the throat; the parotids and other glands continued swollen and hard; coryza was present. It was feared that tracheotomy might be required.

On the 24th I brought away several foul pieces of diphtheritic membrane from the right tonsil (the one twice operated upon, and which from the beginning of the present attack had presented the more malignant appearance). On two occasions there were slight hemorrhages from the irritated tonsils.

Up to this time the temperature had ranged between 103° and 104° F., and the pulse between 120 and 140. The same evening (24th) she had two well-marked convulsions, each lasting a few seconds. Later in the evening she took nourishment, and seemed no worse.

On the next day (Christmas), the ninth day from the first appearance of the eruption, the redness had entirely left the body. The purulent nasal discharge persisted, and the tonsils were still inflamed, but the diphtheritic patches had disappeared, and there was less dyspnoea.

While the characteristic appearances of scarlet fever and the diphtheritic complication had yielded, I was surprised to find the fever continue and also many typhoid symptoms beginning to present themselves. The tongue became dry, was thickly coated, seemed too large for the mouth; there was sordes and tenacious mucus in the fauces, and the lips were swollen, dry, and cracked. There was cerebral congestion requiring the constant use of cold-water dressings. She remained delirious, her mind still running upon her duties at school. For several days she lay in a state of stupor, from which, fortunately, she could be aroused to take nourishment.

From the ninth to the twenty-fourth day there was no decided break in the fever, and up to the twenty-eighth day her condition was not sufficiently assuring

to warrant Dr. James Ayer (who saw her in consultation) or myself in pronouncing her out of danger.

From the ninth day the temperature was taken by a careful nurse; the fluctuations, which were very frequent in the course of twenty-four hours, are well shown by the chart. It will be seen that the highest temperature ranged between one and ten P. M., the lowest between five and ten A. M. The pulse did not follow closely the temperature: it ranged between 104 and 140.

On the tenth, eleventh, and twelfth days of the disease all the discharges from the bowels were involuntary, and the urine was passed in the bed. She lay in a state of stupor, from which she could always be roused with considerable difficulty.

During the twenty days of fever following the convulsions, every effort was made to keep up the little patient's strength without causing too much annoyance. Half an ounce to two ounces of liquid nourishment were given at frequent intervals, and during two days only was there marked irritability of the stomach. Except upon these two days we succeeded in giving her every twenty-four hours twenty-four ounces of milk, the *juice* from a pound of beef, or *broth* from a pound of mutton, together with eight teaspoonfuls of brandy and six grains of quinine.

During this period the inflammation of the tonsils and the dyspnoea gradually diminished, and the laryngitis gave place to bronchial catarrh. The glandular swelling gradually disappeared under the use of flaxseed poultices. The tongue became again of its usual size, and the aphthous spots on the edges disappeared.

There was no kidney trouble from the outset, though at times little urine was passed.

On the thirty-fourth day she was lifted to a couch while the bed was made. On the forty-fifth day she sat up in an easy-chair four hours, and was able to walk a few steps. At the end of the eighth week she could walk around the room several times, but became easily tired. She has made a full recovery.

The rise in temperature on the thirty-fifth day could not be explained, as there seemed to be steady improvement at that time.

On the forty-seventh day the bran-like desquamation had not entirely disappeared from the soles of the feet. In the fifth and sixth weeks she suffered from rheumatic pain in the joints and spine.

Deafness, which was marked during the first five weeks, steadily disappeared after that time without treatment.

During convalescence and since she has taken tart. ferri et potass. with cinchona.

Very briefly to recapitulate, the little patient, after an incubation period of twenty-four hours, was taken down with an apparently mild form of scarlet fever; but on the third day the tonsils became swollen, and on the fifth and eighth days inclusive there were severe diphtheritic symptoms, with dyspnoea.

On the eighth day, after eruption had disappeared and throat symptoms were nearly over, convulsions appeared, followed on the ninth day by typhoid symptoms, with stupor, involuntary evacuations and urine, the fever and a portion of the dangerous symptoms not entirely disappearing before the twenty-eighth day, and convalescence not being fully restored before the end of the eighth week.

I would call attention to the severe character of the diphtheritic complication in this case. West says,

"Scarlet fever presents itself in one case so trifling as scarcely to interrupt a child's cheerfulness even for a day; in another it is so deadly that medicine is unable to stay its course even for a moment."

The larger proportion of my cases have belonged to the mild type, the angina and eruption both having disappeared by the seventh day, and convalescence being complete ten days after the eruption was at the height. My principal duty in attending these cases was to be on the lookout for deafness or renal complication.

On the other hand, I have seen four malignant cases, in all of which there was great dyspnoea. One of these was a boy, three years old, who died on the third or fourth day of the disease of diphtheritic tonsillitis, the eruption at the time of death being at its height.

The other three cases occurred in the same house. First, a girl, two and one half years old, was taken ill. On the second day she was removed from the basement to the attic, and there died on the fourth day. The eruption covered the face and body at the time of death.

The next victim was one and one half years old, and lived on the second story. She was said to have kissed the first child when dying, and was taken ill fourteen days later. She died on the fourteenth day of the disease, the eruption not having entirely disappeared.

The third patient was four years old, and lived on the third floor. She was taken ill at least thirteen days after the last-mentioned patient, and died on the seventeenth day.

They all had great dyspnoea from severe tonsillitis, which was probably diphtheritic in character.

The cerebral symptoms accompanying scarlet fever are worthy of close attention. Malignant cases of scarlet fever, showing from the outset high fever, cephalalgia, and delirium, passing rapidly into coma, and proving fatal in two or three days, are not uncommon; but cases like the one reported, in which the disease was in the beginning mild in character, but gradually developed delirium, convulsions, typhoid-like symptoms, and stupor, are rare, and seldom end in recovery.

J. Lewis Smith says, "I have never seen nor heard of any case which recovered when convulsions occurred after the complete development of the eruption."

Rilliet and Barthez state that they have seen recoveries in cases where the intelligence of the patient has been very much disordered; but of those who, during the first fifteen days of scarlet fever, were taken with convulsions, convulsive movements, contractions, in a word, any symptom affecting the locomotor apparatus, all, without exception, died.

Such prognosis, according to Gee (Reynold's system of medicine), is too unfavorable, although the symptoms have grave significance.

Meigs and Pepper state early convulsions generally indicate a fatal attack, and that prolonged delirium and persistent elevation of temperature are very unfavorable symptoms. "Typhoid scarlatina" is the name given to cases of scarlet fever where the febrile symptoms persist, and are accompanied by headache, delirium, thirst, and dryness of the tongue, the local lesions of the disease becoming subordinate.

All authors agree that there is no enlargement of the spleen, nor intestinal lesion, nor typical tempera-

ture in "typhoid scarlatina," and that, apart from borrowing a few of the symptoms of typhoid fever, it has nothing in common with that disease.

Finally, I cannot but feel that the recovery of our little patient was in a great measure due to the persistence with which nourishment and stimulants were given.

DR. BLODGETT asked about the frequency of true diphtheritic disease in scarlet fever. — DR. AYER thought that the frequency was rather greater than three or four in eighty cases.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

THE USE OF NITROUS OXIDE GAS IN CERTAIN DISEASES OF THE NERVOUS SYSTEM.

At the last meeting of the New York County Medical Society, April 26th, a paper on the above subject, written by Dr. Allan McLane Hamilton, was read by the secretary in Dr. Hamilton's absence. The author first spoke of the physiological effects of the agent, and gave a *résumé* of the history of its therapeutical use, referring particularly to the experiments of Mitchell and Ziegler. The latter found it of service, not only as a tonic and diuretic, but also as a stimulant in poisoning by such agents as carbonic acid gas, as well as in other depressed conditions of the system.

For the introduction into this country of its scientific medicinal use, he said, the profession was indebted to Dr. J. Ellis Blake, of New York, who had made much diligent research in the subject, and who had sufficiently demonstrated that in nitrous oxide gas an important addition was made to the materia medica.

Personally, Dr. Hamilton had employed it with a very encouraging degree of success in many cases of depression of spirits, insomnia, neuralgia, melancholia, and hypochondriasis, and he regarded it as a nervous stimulant of great value. It was found to increase the activity of the heart and the arterial tension; while if its administration were carried sufficiently far it would, of course, produce its well-known effect of temporary unconsciousness, with anaesthesia. He had obtained it in the liquid form from the Messrs. Johnston, of New York, and the purity of the article furnished by them was entirely to be depended upon. As a rule, he made use of two gallons of the gas to one gallon of air. The writer then went on to speak further of the effects of its administration upon the system. The temperature, he found, was not very much disturbed by it, though one of the good results usually produced by it was an increased warmth of the extremities, and its general effects were somewhat similar to those of oxygen, as these were demonstrated by the investigations of Dr. A. H. Smith. On account of the exhilaration of spirits caused by it, it was of great service in many nervous and mental disorders, and under its use in his hands taciturn and melancholic patients had often become contented and cheerful. In melancholia dependent on disturbance of the menstrual function, as well as in various forms of hypochondriasis, it had proved very useful, and mention was made of two subjects of melancholia in the insane asylum on Blackwell's Island, who had not eaten any food voluntarily for two weeks, but went to the table cheerfully and ate with alacrity after having had the nitrous oxide gas administered to them.

The susceptibility to its influence varied very greatly in different individuals, and Mitchell had found that in some instances no less than four gallons of the gas were required before any symptoms whatever were produced.

When there was any tendency to mania present, it should never be given, as it either proved negative in its results, or else aggravated the condition. — the latter being more frequently the case; nor ought it to be used in any case where there is organic disease of the heart. It was also contraindicated whenever there was a plethoric state of the system, on account of its effect in increasing arterial tension. In anæmic conditions, on the other hand, it was frequently of the highest service. In a case of amenorrhœa (without appreciable disease of the uterus), accompanied by very severe headache, it had acted most happily; and in several cases of sick-headache it had not only successfully broken up the attack, but had also had the effect of preventing a return of the trouble. So in hemicrania, facial neuralgia, and sciatica, as well as in many cases of insomnia, it had also proved very useful. When given for the relief of the latter condition it had been found best to administer the gas in the middle of the day, instead of just before retiring. In cases of insomnia where there was cerebral hyperæmia, however, it was contraindicated, as would naturally be supposed from what had been previously stated of its effects. Those suffering from functional heart trouble and chlorotic young women were very apt to be much benefited by it; and the same was true of individuals who had used tobacco to excess. Finally, a very useful application of the gas was in the case of those addicted to the use of alcohol or opium, and who had been induced to give up their accustomed stimulus.

At the conclusion of the paper, Dr. Blake made some remarks, in the course of which he stated that he had been induced to make a series of experiments with nitrous oxide gas in consequence of the results from its use which a dentist of Memphis had reported three years ago. Before undertaking an investigation of the subject he had also obtained a report from the superintendent of an insane asylum in Connecticut of the results which had been observed from its use for fifteen months in that institution. The only claim for originality that he could make in the matter was perhaps in regard to the method of inhaling the gas, which he believed to be a point of considerable importance. He had found that it was advisable that once in from three to five respirations the patient should be permitted to take a full inspiration of atmospheric air. In this way the gas was taken in smaller doses, and had the effect of a gentle stimulant, without producing intoxication at all. If in any case during the inhalation flushing of the face or any evidence of intoxication were observed, even a larger amount of air should be admitted. He ordinarily found that, administered in such a manner, one bag of gas was sufficient for a sitting.

The remedy he regarded as a diffusible stimulant and tonic, the employment of which was followed by no depressing reaction, and he thought its effects on the system were comparable to those of a sea-voyage or of a trip to the mountains. His experience with it had been entirely confined to the limited field of private practice, as the state of his health had not permitted him to carry his investigations further, and therefore he was much pleased to hear such a favorable

report of the more extended use of the agent by Dr. Hamilton. Personally he had employed it with excellent results in cases of insomnia, melancholia, anorexia, and nervous exhaustion. Its good effects seemed to be entirely confined to anæmic and asthenic subjects, and he had never seen it prove of any service in the case of plethoric individuals.

When Dr. Blake had finished his remarks he exhibited and explained the latest and most approved form of portable apparatus for supplying the gas, as now manufactured by the Messrs. Johnston, after which there was some further discussion of the paper.

Later, a paper on the Use of Cerium Oxalate for the relief of Cough was read by Dr. Hobart Cheesman.

Recent Literature.

The Venereal Diseases, including Stricture of the Male Urethra. By E. L. KEYES, A. M., M. D., Professor of Dermatology and Adjunct Professor of Surgery in the Bellevue Hospital Medical College, etc., etc. New York: Wm. Wood & Co., 27 Great Jones St. 1880.

But one third of this year has elapsed, and already dermatological literature has been enriched by a volume from the busy pen of Kaposi: a fifth edition of Neumann's text-book; a treatise by V. Sigmund, and one by Fournier; a student's manual by Morris, and another by Sturgis; a monograph by Leonard, and this one by Keyes; while the second edition of Dühring's admirable work is nearly completed, and Bumstead and Taylor's fourth edition of Bumstead's Treatise barely escapes being included. Dr. Keyes is well known as coeditor with Dr. Van Buren of an excellent work, published in 1877, upon the Surgical Diseases of the Genito-Urinary Organs, including Syphilis, and as the author of an interesting little book, published the same year, embodying original observations upon the effects of small doses of mercury, entitled *The Tonic Treatment of Syphilis*.

The present volume is one of a series addressed to the general medical practitioner, and designated as Wood's Library of Standard Medical Authors. It contains three hundred and forty-eight pages, fifty-two devoted to the simple venereal ulcer, the so-called chancreoid; one hundred and ninety-six to syphilis; and ninety-four to gonorrhea and its complications. There are also forty-one wood-cuts, mostly old friends, which have done yeoman service in many books of many men, and which are of value when illustrating shapes and styles of instruments, but are heartlessly and hopelessly depressing if employed to represent dermatological lesions. The mere localization of an efflorescence can be as well described by words, and the memory remains unlogged by a mental picture misleading in its details. We had hoped that the fiasco of Hardy, over ten years ago, had settled this point forever. The text, however, of which the illustrations of disease are not worthy, is what one expects from a writer like Dr. Keyes. It is the knowledge thus far obtained upon the subject thoroughly collated, judiciously arranged, sensibly expressed, and enriched by the results of personal observation. Perhaps less space might have been advantageously devoted to arguing for a distinction between the virus of syphilis and that of the simple venereal ulcer, an accepted fact and a dead issue, while a little more could have been with propriety said upon the

question whether the simple venereal ulcer possesses a specific virus of its own; why the chancreoid is followed by a chancreoid bubo, a simple bubo, or none at all; why the endothelium of the lymphatic vessels does not become chancreous; why the virus (?) stops always at the first gland station, etc. We could wish also to find among the many books now published upon syphilis one which would boldly substitute new and more truthful terms. "Duality in syphilis" means really unity in syphilis, or the existence of *one* distinct peculiar virus, shown by its clinical manifestations to be entirely unlike any other virus. The duality is in the two varying natures of specific and non-specific ulceration, according to modern medical Manichees. The "mixed chancre" is no more what it would imply than a beaten egg is a glass of egg-nog. The "mixed chancre" means a union of totally different things. There are two separate poisons existing side by side, and one of these is not a chancre at all. The German terms chancre and initial sclerosis are preferable to chancreoid and chancre. Dr. Keyes very justly calls upon those claiming to prevent syphilis by excising the initial lesion for a trust-worthy history showing previous freedom from syphilis in such patients, added to confrontation. He modifies his previously expressed opinions as to the treatment of syphilis in that he would now make the tonic dose of the specific rather smaller and the course, in accordance with a rapidly growing judgment among observers, longer than formerly. He protests also against certain recent views in urethral pathology which would account for all ills of the genito-urinary passages by designating natural undulations as strictures, and would cure such ills by cutting said pseudo-strictures. We join heartily with the writer against the use of long-nozzled syringes in clap. They do as much harm as good. The ideal syringe is the one used in Vienna, figured upon page 49 of Bumstead and Taylor as "No. 3," formerly unattainable in America, now bearing (loc cit.) the stamp of G. Tiemann & Co. It is, an enlarged and improved form of the American "No. 0," and much superior to the "No. 1. A" figured by Keyes. Possibly "the Peerless Syringe" may prove itself a formidable rival. We note that Dr. Gouley receives the credit of the invention of the tunneled catheter. The book in general appearance is markedly superior to some other dermatological works recently issued by other publishing houses in the same city. The color of the covers is fast, unlike that of the drab and wine-tinted volumes often seen. The type is clear, typographical errors are few, and the paper is eminently respectable, being devoid of that parvenu gloss so trying to the eyes of the reader. E. W.

Student's Primer on the Urine. By J. TRAVIS WHITTAKER, M. D. Philadelphia: Presley Blakiston. 1880.

This is a very neat and concise little book, and the illustrations, which are etched by the author upon copper, are very good testimony to the claim which he makes of the suitability of the etching needle for delineation of microscopical appearances. The book is appropriately dedicated to Mr. Seymour Haden, known not more as a surgeon than as an aquafortist.

—The late Dr. Andrew Vans Dunlop, of Edinburgh, has left to the university of that city \$250,000.

Medical and Surgical Journal.

THURSDAY, MAY 13, 1880.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly by Houghton, Mifflin and Company, Boston. Price, 15 cents a number; \$5 00 a year, including postage.

All communications for the Editors, and all books for review, should be addressed to the Editors of the Boston Medical and Surgical Journal.

Remittances by mail should be sent by money-order, draft, or registered letter to Houghton, Mifflin and Company, Boston, Mass.

PRODUCTION OF SEX AT WILL.

We have had placed in our hands a series of letters upon the production of a desired sex, written to a scientific gentleman of this city, by Mr. D. D. Fiquet, of Houston, Texas, a graduate of the Harvard Law School, whose failing health drove him from the bar to a business in the open air, and who is at present a practical cattle-breeder.

In these letters Mr. Fiquet claims to have discovered a system by means of which, with unerring certainty, he can cause a cow to give birth either to a bull or a heifer calf, according to his wish. He developed his system at the cost of much previous experiment and many failures in his attempts "to discover the causes which control and the conditions which determine the matter of sex."

He made use of all available scientific authorities of note, discarding them one by one as he proved their fallacies. In this way he disposed of Thury's law, which, says Mr. Fiquet, "is utterly worthless in practice and wrong in theory. It is flatly contradicted by the ordinary experience of stock-raising."

Being impressed by Waldeyer's remark in his work on the ovum, namely, that for some time after impregnation the ovum is, in a certain sense, hermaphrodite, Mr. Fiquet was led to imagine that the matter of sex might perhaps be controlled and determined by the female during pregnancy. Familiar, also, with the fact that in the bee, moth, and butterfly families sex can be governed by the simple conditions of care and feeding, he resolved to try the effects of nutrition upon his cows after the act of coition. To this end he selected two animals whose condition for many months had been identical, and had them served by the bull. Having now two cows in precisely the same physical status, he fed one richly, and underfed the other. At term each cow produced a heifer. He then repeated the experiment with two other animals, treating them during their pregnancy in a similar manner. Each cow gave birth to a bull calf. Mr. Fiquet naturally abandoned this method, and, despairing of securing any aid through physiology, he "turned to nature herself."

An intimate acquaintance with the birth and death-rate statistics of life insurance had led him to remark the uniformity in the proportions of each sex. This suggested the thought that a harmless method of disturbing this uniformity of sexes at birth might be the solution of his problem. How to accomplish this was the next question.

Recalling to mind all his married acquaintance, he

made the observation, not only that in some families female children, in others male children, predominated, but likewise that a vigorous, passionate man and a cold, unimpassioned woman generally begat a surplus of female children, and that, reversing the temperaments, boys abounded. Then occurred to him the idea that if, by any means, he could render his bull more passionate than the cow at the time of coition he would thus secure the birth of the opposite sex, or heifers, and *vice versa*. Believing he could accomplish this by feeding and careful attention, he began his experiments.

Choosing eight cows, he fixed upon one from which he desired a bull calf,—the other seven were to produce heifers. Having carefully noted the dates of the periods of the eight cows, he allowed them to pass one oestrus, and thus was able to anticipate the return of the period in each. The cow destined to produce a bull calf came in first. Mr. Fiquet began to feed her most bountifully upon grain, corn, oats, meal, and rich hay. A few days before the reappearance of her period she was withdrawn from the herd, stabled, "and right royally attended." As anticipated, her passion came and in full blast. The bull, meanwhile, had been fed upon green and cooling food, which moderated the usual vigor of his passion, and the difference between the animals "was thus rendered plainly discernible."

"My theory," says Mr. Fiquet, "was that, the cow being far more desirous for the bull than was the latter for the cow, nature was calling more loudly through the female than through the male for the natural gratification of her desires; that the services of a male were more necessary than those of a female; and that, *pari passu*, the creation of a male thus became a more natural necessity than that of a female." This he supposed to be the desired disturbance of uniformity in nature, and consequently that in her very economy nature required the production of a bull calf. "Think of the theory as you may," he adds, "the cow was served by the bull twice, and the result was the desired bull calf."

The remaining seven cows were submitted to the gaultraity of a castrated bull, who, although impotent, served as a never-failing detective of the periods of the cows. Mr. Fiquet was thus enabled to anticipate their seasons of heat with exactitude, and, moreover, supposed the fruitless activity of this bull would be of use in reducing the passion of the cows.

Previous to his introduction to each of these cows, the other bull was generously fed on various rich grains and clover hay. On the other hand, the several cows were kept cool by light food,—grazing, green fodder, and bran. When their periods arrived, the animals were allowed to run temporarily with the castrated bull, and their frenzy was thus partially allayed. Being finally coupled with the service-bull, the conditions in each case were a rampant bull and a moderately excited cow,—the reverse of the conditions in the first experiment. The bull therefore being more anxious for the cow than the cow for the bull, Mr. Fiquet, for reasons already given, again predicted the birth of a calf whose sex would be the opposite of

that of the more passionate animal. The result was the birth of seven heifer calves. In all these instances, then, Mr. Fiquet was successful. Continuing his experiments, he bred from five other cows, the sex of the calf in every case being correctly predetermined. The cows of several of his neighbors were served by his bull, and, having inquired as to the previous treatment and feeding of the cows, and knowing the condition of his bull, Mr. Fiquet predicted the sex of the resulting calves with unvarying correctness. "My success," he says, "is therefore either unprecedented luck at guessing and the merest fortuitous accidents, or these experiments were based upon physiological truths."

He confesses to a lack of knowledge in the methods of horse-raising, but presumes his theories will hold good in the breeding of all uniparous animals, and believes his results can be reached by any careful, systematic breeder.

He feeds and prepares his bull for every special occasion, and does not allow him to serve more than one cow per week. If the bull be in course of preparation for a particular cow, he is never permitted to serve another which chances to come previously into season. An entire month is sometimes occupied in this preparation.

Mr. Fiquet's system will oblige the owners of large herds of cattle to keep several bulls, but the ease with which they can breed either sex at will (supposing the new theory to be true) will more than compensate for the increased expense, for the growth of their herds will be rapid.

Mr. Fiquet has never used excitants of any kind, relying solely upon a generous supply of rich foods. He expects to encounter incredulity on the part of cattle-raisers, and seems to desire avoidance of discussion. He simply presents his facts, the exactness of which is formally substantiated by certificates signed by trustworthy and well-known citizens of Housaton, and now in the hands of a gentleman of Boston.

Mr. Fiquet has already communicated details and results of his experiments to the *Journal of Agriculture*. In reply, a critic, without reason, we think, finds them a confirmation of Thury's law, namely, that when coition occurs in the early stages of the female's passion female offspring should be produced, the contrary if coition take place late in the period of the female. We fail to discover in what manner Mr. Fiquet's experiments prove the correctness of this theory.

The *Monthly Bulletin of the American Jersey Cattle Club* for July and August, 1879, briefly quotes the experience of Mr. Fiquet. The editor makes no direct comments, but foreshadows a shoulder-shrugging incredulity.

Having carefully read Mr. Fiquet's letters, our own impression is that he is a man of perfect sincerity. The modest manner in which he presents and details his experiments, his impersonal anxiety that practical cattle-raisers should be made familiar with his success, and the very evident absence of all wish on his part to win notoriety seem to be proved by his desire that some gentleman of scientific reputation, or some institution of influence, should call upon agriculturists

and cattle-breeders to try the experiments we have detailed.

If Mr. Fiquet be correct in his theories, and if the results he has obtained be more than mere coincidences, they will, it must be confessed, not only revolutionize cattle-raising, but add enormously to the wealth of the world.

SECOND ANNUAL REPORT OF THE CONNECTICUT BOARD OF HEALTH; SEVENTH ANNUAL REPORT OF THE BOARD OF HEALTH OF THE CITY OF NEW HAVEN.

THE second annual report of the State Board of Health of Connecticut fulfills the promise which the first report of last year led us to await. The number of correspondents of the board has steadily increased, and the zeal and interest in the work in like proportion; the registrars of the larger towns have been prompt in preparing their mortality returns, and in performing the duties assigned to them by the laws; the monthly mortality and sanitary reports have grown more and more comprehensive, and are attracting a wider circle of readers. A large number of copies of circulars on diphtheria and on the restoration of the drowned — the latter like the one issued by the State Board of Michigan — have been distributed.

The general health of the State is reported as having been for the most part satisfactory; malarial diseases have been decidedly prevalent, involving new territory at a pretty uniform rate. Malarial fevers in the Quinipiac Valley are discussed in the special reports, among which "typho-malarial" fever is given a prominent place.

There were quite a number of refugees in Connecticut from Memphis, and in several instances the advice of the board was asked in regard to effects which had been used in connection with yellow fever cases in 1878. The goods, as recommended, remained unpacked until the winter months, when they were disinfected and aerated.

According to the report, New Haven is the only port in this country that receives whole cargoes of rags. These come for the most part from Egypt, where the principal garment of a large part of the population is a long cotton robe, and hence the abundance of cotton rags. These rags are torn up and pressed into bales at Alexandria. The danger of the importation of the Oriental plague through these rags was suggested. The same danger has existed at various times within the last twenty years, though attention has not been generally called to it. The importing companies, the report says, were conferred with, and orders given that no further collections be made from infected regions, and the National Board issued an order for the disinfection of cargoes from infected ports. The rags are imported in closely pressed bales; consequently, the danger would be where the goods are unpacked at the paper mills. No cases of sickness could be discovered among the sailors on these vessels, either at sea or in port, and reports from the manufactories in the State show that no disease has

been communicated by rags, except small-pox in a few instances from domestic rags.

Plague is preëminently a disease of extreme poverty, and we believe the danger of an epidemic outbreak among our comparatively well-fed and well-housed people would be extremely small, even were the poison imported. It is now well known that the disease is to be found pretty constantly in a more or less active form in some parts of the Persian and Ottoman dominions.

Professor Hirsch, in the report of the German commissioners on the outbreak at Wetjanka, reports a very probable case of infection with plague from clothing which had been boxed up.

In speaking of "both typhoid and enteric fevers," in one passage of the report, the secretary seems to apply these names to distinct diseases, whereas they are ordinarily regarded as synonymous. We suppose he applies the term "enteric" to what Professor Clark, of New York, would call "cess-pool fever." In addition to the secretary's report, among other interesting papers is a short one on Sickness from Impure Ice; one on Sanitary and Unsanitary Conditions of the Soil, by Professor Lindsley, the efficient health officer of New Haven; a preliminary paper by the secretary of the board on school hygiene, a subject of great importance, which is sure to attract soon the attention it deserves; and a few words on the Pollution of Streams, by Prof. W. H. Brewer. In a report to the prison commissioners on the state-prison we notice a recommendation that the *insane* criminals be treated elsewhere than in the prison. Provisions for this step were lately made by the Massachusetts board, as was mentioned in our last issue.

Of the Seventh Annual Report of the Board of Health of the City of New Haven it is sufficient to say that the same spirit animates it which is reflected in the Report of the State Board, the president and health officer of the local board being both members of the State Board.

MEDICAL NOTES.

— Dr. James Sawyer, of Birmingham, writes as follows to the *Lancet* on the transverse depressions of the nails:—

"Many years ago Professor Sanders showed me these furrows in the Edinburgh Royal Infirmary, and I have been accustomed since to look for them in the patients who have come under my care. I agree with Dr. Duckworth that there is a rather more rapid formation of nail than that of two complete growths in a year. From my own observations I should say that from three to four months are usually occupied in the passage of a furrow from the lunula to the end of the nail. These grooves are very common. They are sometimes to be seen on all the finger-nails; often they occur only on the thumb-nails. If a person's nails be free from transverse furrows we may conclude, almost with absolute certainty, that he has not had a serious illness in the last three or four

months. I have found three or four of these depressions, equidistant and parallel, on the thumb-nails of women who are the subjects of dysmenorrhœa,—a furrow marking each painful 'period.'"

NEW YORK.

—The programme of the proceedings of the American Medical Association has not yet been definitely determined upon, nor is the list of papers to be read as yet complete; but the arrangements will probably be somewhat as follows: The sessions of the general association will be held in the large hall of the Young Men's Christian Association building, at the corner of Fifth Avenue and Twenty-Third Street; the delegates being seated on the floor, and spectators in the galleries. The different sections, whose sessions will be in the afternoons, will meet in other rooms in the Association building, and also in the lecture-rooms of the College of Physicians and Surgeons, across the street; the amphitheatre being assigned to the surgical section, in order that any demonstrations which may be given can be viewed to the best advantage.

The Association will be called to order at ten o'clock on Tuesday morning, June 1st, when an address of welcome will be delivered by Professor T. Gaillard Thomas, chairman of the committee of arrangements; after which the annual address will be given by the president, Professor Lewis A. Sayre.

In the section of Practice of Medicine, the first paper on Tuesday will be by Dr. William H. Thomson, of New York, on The Classification of Medicines. On Wednesday a paper on The Therapeutics of the Natural Waters will be read by Dr. W. C. Van Bibber, of Baltimore, and one on The Strong Galvanic Current in the Treatment of Sciatica, illustrated by Cases, by Dr. V. P. Gilvey, of New York. On Thursday Dr. Leonard W. Pitkin, of New York, will read one on Epilepsy.

In the section of Surgery, on Tuesday papers will be read by Dr. Benjamin Lee, of Philadelphia, on Spinal Extension, its Modes, Means, and Motives, and by Dr. George M. Beard, of New York, on Phimosia as a Cause of Nervous Symptoms, with Results of Operations. On Wednesday Dr. C. F. Stillman, of Plainfield, New Jersey, will read a paper on Newly Devised Orthopaedic Appliances, including the Seaton Splint, and Dr. James L. Little, of New York, one on Compound, Complicated Hare-Lip. On Thursday Dr. Henry G. Piffard, of New York, will make some Remarks on Lupus, illustrated by the Magic Lantern.

In the section of Obstetrics, on the first day a paper will be read by Dr. J. Marion Sims, on Battey's Operation in Epileptiform Affections; which will be followed by one entitled The True Import of Oophorectomy, or Spraying, for Reflex Symptoms, more particularly in Epilepsy and Catalepsy, by Dr. Montrose A. Pallen, of New York. On the second day Dr. T. Gaillard Thomas, of New York, will read a paper on Ablation of the Uterus, and Dr. William M. Polk, of New York, will read one on The So-Called Malaria of Puerperal Fever.

In the section of Ophthalmology and Otology (including Laryngology), on Tuesday, a paper on Stenosis of the Larynx will be read by Dr. W. H. Daly, of Pittsburgh, Penn., and one entitled Some Remarks on the Lesions of the Larynx in Pulmonary Phthisis, by Dr. Carl Seiler, of Philadelphia. On Wednesday, Dr. F. H. Bosworth, of New York, will read one on Bilateral Paralysis of the Abductor Muscles of the Larynx, and Dr. D. H. Goodwillie, of New York, one on The Surgical Treatment of Naso-Pharyngeal Catarrh. On Thursday a paper on The Therapeutic Value of the Galvano-Cantery in Diseases and Growths of the Nasal Pharynx will be read by Dr. W. H. Daly, of Pittsburgh.

In the section of State Medicine, a paper on the Death-Rate among the Rich and Poor, read by Dr. Drysdale, of London, will be read on the first day, and on the second day there will be papers by Dr. Joseph Jones, of New Orleans, on Hygiene and Fevers, and by Dr. E. C. Seguin, of New York, on The Psycho-Physiological Training of Idiotic Eyes.

The programme for the various public entertainments, as now determined upon, is as follows: On Tuesday evening the general reception tendered the Association by the profession in New York and their friends will be held at the Academy of Music. The parquet will be floored over, as for a ball, the music will be furnished by the Seventh Regiment band, and supper will be served by Delmonico, in Nilsson Hall adjoining. On Wednesday evening an entertainment, consisting either of a grand concert at Steinway or Chickering Hall, or of a performance at Booth's Theatre, with Edwin Booth as the principal attraction, will be given under the auspices of the committee of arrangements, the expense for which will be provided for by some of the large wholesale drug houses. On Thursday evening there will probably be a reception by Mayor Cooper at his private residence on Washington Square, at which the governor will be invited to be present; a reception at the Academy of Medicine, tendered by Professors Thomas and Barker; and receptions at Dr. Marion Sims's and other houses of medical men. On Friday, immediately upon the final adjournment of the Association, at one o'clock, the steamboat excursion provided by Mr. William Wood, the publisher, will take place, as previously announced in the JOURNAL. One feature of all the public entertainments, including that of Mr. Wood, will be that they will be conducted on a strictly temperance basis.

—At the last meeting of the Academy of Medicine, May 6th, Dr. George A. Peters read a memoir of the late Freeman J. Bumstead, which was followed by a paper by Dr. John H. Packard, of Philadelphia, on Some Important Advantages to be secured by Oblique Sections of the Skin in Surgical Operations. At the last meeting of the Academy of Sciences Professor George Macloskie, of Princeton College, read a paper on The Structure of the Vertebrate Skull.

—The bill providing for the establishment of a State Board of Health has been defeated in the New York Assembly.

—Mr. William Astor has just presented \$5000 to the building fund of the Manhattan Eye and Ear Hos-

pital, whose managers are now putting up a suitable building for the institution at the corner of Park Avenue and Forty-First Street.

PHILADELPHIA.

—In this city, where a whitewasher styles himself "Professor," where a colored barber is a "Tonsorial Artist," and every pill and corn-salve vendor is a "Doctor," it has been consistently held that one man's signature to a death certificate is just as good as another's. This plan, indeed, has worked after a fashion for many years; but, as may be supposed, not without coming occasionally in conflict with the good old coroner system, when some possible "quests" were lost forever. Recently the "crownor" has decidedly gained a point. In a case of death, where a colored herb-gatherer signed the certificate, the irate official looked over his spectacles, and read the "doctor" a good lecture. However, he did not stop here, but at his solicitation the board of health authorized its registrar to adopt the rule "to refuse to issue a permit for burial unless the physician who signs the certificate of death is known to be a regular graduate of a recognized medical school; or, if not so known, can exhibit a lawful diploma, qualifying him for the practice of medicine."

Miscellany.

THE DECENNIAL CONVENTION FOR REVISION OF THE PHARMACOPEIA.

MR. EDITOR.—The New England delegation to the sixth decennial convention at Washington for the revision of the Pharmacopœia consisted of Dr. Robert Amory, of Brookline, Mass., Prof. Edward S. Wood, of Harvard University, and Dr. Bennett F. Davenport, of Boston; Prof. George F. H. Markoe, of Massachusetts College of Pharmacy; Mr. Thomas Doliber and Mr. S. A. D. Sheppard, of Boston; Dr. H. M. Field, of Newton, Mass., delegate from Dartmouth College; Mr. A. L. Calder, of Providence, R. I.; and Dr. C. A. Lindsley, of New Haven, Conn., delegate from Yale Medical School.

The convention met at the National Medical College building in Washington, at noon on May 5th, and was called to order by Dr. J. E. Morgan, of Washington, the only surviving officer of the convention of 1870. Dr. Morgan was elected chairman, and Dr. D. Prentiss secretary, both *pro tem*. There soon ensued considerable discussion as to what associations were entitled to representation by their delegates, the call sent out by the officers of the last convention having called for delegates only from the incorporated state medical societies and the medical and pharmaceutical colleges; delegates from the United States army, navy, and marine service had also at the former conventions been always admitted. There were present also delegates from the Philadelphia County Medical Society, who claimed the right of being members of the convention, as it seemed to the delegates from most of the other States, unjustly; they justifying their claims by precedent, and on account of the report of work already done for the revision, which they were ready to lay before the convention. But the county societies in other States, who had likewise already done work

for the Pharmacopœia, had not understood that they were entitled to send delegates under the call. By a vote of the convention the delegation from the Philadelphia County Medical Society, however, were admitted, and Dr. L. B. Squibb, of Brooklyn, N. Y., was invited to take part in the deliberations.

On motion of Mr. Doliber, of Boston, a committee of nomination, consisting of one member from each of the delegations, was appointed to nominate the permanent officers of the convention. This committee reported the following, who were then elected by the convention: Dr. Robert Amory, of Brookline, Mass., president; Dr. S. C. Busey, of Washington, and Prof. P. W. Bedford, of New York city, vice-presidents; S. A. Castle, of New York city, secretary, and C. H. A. Kleinschmidt, of Georgetown, D. C., assistant secretary. The convention also voted that this same nominating committee should be a committee to propose a plan for the revision of the Pharmacopœia to the convention at its next day's session, and also to nominate a committee of at least twenty-five to see to the final revision and publication of the Pharmacopœia, according to the general instructions to be given them by the general convention.

Reports on the revision were received from the Suffolk County (Mass.) District Medical Society, Philadelphia County, National, District of Columbia, New York College of Pharmacy, Philadelphia College of Physicians, and other societies. A printed report from the American Pharmaceutical Association, prepared by Prof. Charles Rice, and a monograph by Dr. D. W. Prentiss, of Washington, D. C., were also presented.

Without transacting any other business of importance the convention adjourned at five p. m. until the next day.

The convention next day was called to order at twelve o'clock, but the committee on nominations not being ready to report, and it having transpired that they would not be able to do so until ten o'clock at night, the convention adjourned until that hour.

At ten o'clock the convention was again called to order in the National Medical College, and the committee on nominations, through its chairman, Dr. Judge, submitted their report, which was considered *seriatim*.

Committee on revision and publication of the Pharmacopœia: the president, Dr. Robert Amory; the secretary, Dr. F. A. Castle; Dr. Huntington, U. S. A., Dr. Gibbs, U. S. N., Professor Oldberg, United States Marine Hospital service, Professor P. N. Bedford, Professor C. L. Diehl, Professor Louis Dohme, Mr. Thomas Doliber, Dr. Lawrence Johnson, Dr. J. F. Judge, Professors J. M. Maisch and G. F. H. Markoe, Mr. H. B. Parsons, Professors H. G. Piffard, J. B. Remington, and Z. G. Wormley, Mr. Charles Rice, of New York, whom the committee chose as their chairman, Dr. W. S. W. Ruschenberger, Dr. E. R. Squibb, Professor A. B. Taylor, Mr. W. S. Thompson (D. C.), Professor O. A. Wall, Professor E. S. Wood, and Dr. T. F. Wood.

The recommendation in the printed report upon the revision of the Pharmacopœia by the American Pharmaceutical Association, as edited by Mr. Charles Rice, of New York, was reported favorably upon, a few alterations and additions having been made. This report directs that all the formulæ are to be in parts by weight, except that in the case of the fluid extracts parts by volume may be used if it seems best to the

committee of final revision so to direct. The contract for the printing is to be given to the publishing house offering the best terms.

The convention continued in session until two o'clock in the morning, when it adjourned *sine die*. The next decennial convention will be called by the committee on revision in March, 1881, and held in this city in May of the following year.

The only female delegate is Mrs. Dr. Clara Marshall, from the Woman's Medical College of Philadelphia. The committee on reception arranged for the delegates a visit to the Corcoran Art Gallery on Wednesday evening, a reception by President Hayes on Thursday, at five p. m., at the White House, and a reception at the National Observatory by Admiral and Mrs. Rodgers in the evening, and a trip by boat to Mount Vernon on Friday.

B. F. D.

WASHINGTON, May 7, 1880.

DR. HENRY CLARKE.

DR. HENRY CLARKE, of Worcester, died at his home on the morning of the 12th of April, of pneumonia, after an illness of only one week, at the age of fifty-five. He was well known to all the members of the profession in Central Massachusetts. For nearly thirty years he had devoted, with an untiring zeal, his whole life to the interests, advancement, and welfare of the profession. He chose it thoughtfully and conscientiously, he cultivated it assiduously, with a high sense of its great and important responsibilities; and to the last day of his life he strove, in spite of many discouragements, to honor and adorn it. Your readers will readily understand me when I say that Dr. Clarke was a model physician. His life and example any physician, old or young, could study with profit, and try to imitate. With broad, clear views of professional duty, he never allowed himself to be hampered within the narrow limits of a specialty. He took in the whole wide field, and gave his best days and his best powers to the study of disease, and its cure, in whatever line of the profession he found it. He was eminently a progressive physician. Always a diligent student, and an extensive reader, he kept pace with the rapid advancement of professional knowledge, and, as it were by intuition, seized upon what was valuable rather than what was new, and subjected it to the crucial trial of keen observant practice. His interest in his patients knew no bounds, and his industry was untiring. He knew that the relation of the sick to him was one of utmost confidence and dependence, and he never failed, in season and out of season, to do his whole duty to them.

Dr. Clarke was a brave and manly man. Throughout his whole professional life he struggled against sickness, fatigue, and overwork; yet he never faltered or complained. And when, in the judgment of his friends, he needed the care and the nursing rather than the patients, he bore up a brave, cheerful heart, never by word or look suggesting the thought that what he was doing for them required any sacrifice or self-denial in him.

A beautiful trait in the character of Dr. Clarke was the interest he took in the young men of his profession. They found in him a kind friend, a good adviser, and an efficient helper, through the struggles and discouragements of a commencing practice. He loved

to put business in their way. He loved to call upon them to assist him, making them feel that they could be of service to him. He always welcomed them to his house and to his generous hospitality.

To his professional confrères he was courteous, cordial, and helpful. He never allowed differences of opinion to mar the good fellowship and respect in which he held them, one and all. His character was pure and clean, open and fair to all the world. He was a good citizen, a kind neighbor, and a warm personal friend.

It is needless to add that such a man was successful. He stood in the very highest rank of the profession. He was honored, trusted, respected, and beloved by all, but by none more than by his patients, rich and poor alike. Their sorrow for his loss is as deep and true as is our own. To them and to us his place cannot be filled, for such friendships and such confidences are not the growth of days, but of many, many years.

RUFUS WOODWARD.

WORCESTER, May 3, 1880.

LETTER FROM BALTIMORE.

MR. EDITOR.—Baltimore, that is, professional Baltimore, received a surprise in January, from which it has not yet fully recovered, in the sudden appearance in our midst of a new medical journal, embracing the collateral sciences and dentistry. Its title was *The Practitioner: An Independent Journal of Medical, Surgical, Obstetrical, and Dental Science*; but the *London Practitioner* taking exception to this, the editor, Dr. Byrd, finally fixed the title as *The Independent Practitioner*. He is assisted by Dr. Wilkerson, who has charge of the dental department. The journal is very ably conducted, and already numbers among its contributors some of our most distinguished confrères. The introduction of dentistry is a great step forward, and the narrow prejudice that existed a few years ago against that science and art seems almost entirely to have disappeared. We should like to see the new journal embrace hygiene also, and enlarge the broad base upon which it has started. It is handsomely gotten up, published monthly, and no journal ever began under more favorable auspices.

Kakichi Mitsuuri, of Johns Hopkins University, has left for Beaufort, North Carolina, where is located the permanent sea-side zoölogical station of the university. C. B. Wilson goes next week, and later in the season Professor Martin, W. T. Sedgewick, E. M. Heartwell, and others. The steam launch goes down about May 10th.

We are still without our morgue in Baltimore, and although the question comes up at very long intervals in the council, yet no definite action has been reached. At present the station-houses are made to answer the purpose as occasion may require.

The ordinance to appropriate fifty thousand dollars for the insane asylum at Bay View was amended by Dr. Fiske that twenty thousand dollars be taken out of this year's levy, and thirty thousand dollars out of the levy of 1881. The amendment was adopted.

Since Dr. Jeffries woke us all up to the fact that color-blindness is very common, that a person can be so without knowing it, and that great danger to life and property may result therefrom, the subject has taken practical form. An examination of sight and

hearing of the employees of the Northern Central and Baltimore and Potomac railroads, similar to that just completed on the Pennsylvania road, has been commenced at the company's office by Dr. J. D. Thompson. The examination includes tests to discover short sight and color-blindness. The employee is required to tell correctly any given color at a stated distance, and for detecting short sight or imperfect hearing the usual experiments known to opticians and aurists are made. The examination will probably last several weeks, or until all the train crews, numbering some hundreds of men, are examined. A report will be made officially at the conclusion.

The State Board of Health under the new law has been appointed as follows: E. Lloyd Howard, C. W. Chancellor, and J. R. Ward, physicians; J. Crawford Neilson, civil engineer; C. J. M. Gwinn, attorney general; and James A. Stewart, health commissioner of Baltimore, *ex officio*. The act provides that the board shall consist of seven members, which includes a secretary, to be elected at the first meeting. It is understood that Dr. Chancellor will be elected secretary, the salary being eighteen hundred dollars a year, and the tenure of office during faithful discharge of duty; in this case the governor will appoint another member by and with the advice and consent of the senate.

The eighty-second annual convention of the Medical and Chirurgical Faculty of Maryland adjourned last week. It was largely attended. The principal addresses and papers were by Professors Chew (retiring president), Mallet, of Washington, Arnold, Tiffany, Miles, Chisholm, and others.

Dr. Samuel Theobald exhibited a bandage, invented by himself, that could be used as occasion might require for one eye or both eyes, or for wounds in which the inferior maxillary bone is to be supported. B.

LETTER FROM ST. LOUIS.

A CASE OF BATTEY'S OPERATION.

MR. EDITOR.—On April 29th Dr. Geo. J. Engelmann again performed Battey's operation. As it is still an operation seldom undertaken, a description of it may be interesting to the readers of the JOURNAL. The history of the case is as follows: The patient is a poor girl, and obliged to support herself by living out. Four years ago, at the age of twenty, she had a fall from a window, which resulted in no external injuries, but was followed by great pain in the region of the left ovary during menstruation, which gradually grew worse, till ultimately she was confined to her bed at these times; this condition made her so irregular in her work that she was no longer able to support herself, and the pain was so extreme that her health became greatly impaired. Various diagnoses had been made, and remedies used: at one time her trouble was hysteria; at another hernia, and, in accordance with the latter diagnosis, she had worn a truss; and there was some swelling and a great deal of tenderness in the neighborhood of the internal abdominal ring.

When she was sent by Dr. Thos. Holland to Dr. Engelmann for some ovarian trouble, he found that at the time of her menstruation there was a prolapse of the left ovary into the left iliac region, which accounted for her condition, and required the removal of

the ovary. A plain statement of the case having been made, the woman consented to the operation.

The primary incision began at a point two and a half inches below the umbilicus, and extended downwards in the linea alba about two and a half inches. At this time the pulse was 80; thirteen minutes afterwards, previous to opening the abdominal cavity (there had been some delay to stop the superficial hemorrhage), the pulse rose to 112.

Just before the peritoneal cavity was opened, Dr. P. V. Schenck, by putting his finger in the vagina, pressed the ovary forward, so that it presented, and was secured without any difficulty. The operation was performed four days after menstruation. The ovary was about one and a half times the normal size. It was seized firmly by forceps, and the mesovarium tied with braided silk ligatures. At the time of the ligation the pulse fell to 80. Sphygmographic tracings were taken all through the operation by Dr. G. Baumgarten, but they showed nothing peculiar. Eighteen minutes after the first incision was made, while the abdomen was still open, the pulse sank to 70, but afterwards rose steadily till the end of the operation, four minutes later, when it was 88.

The pedicle having been cut, it was, as soon as all hemorrhage stopped, returned to the abdominal cavity, and the wound united by three deep silver and three superficial annealed iron wire sutures. The silver sutures were fastened by flat shot. No styptics were used; the wound was dressed with antiseptic dressings of oiled silk, carbolized gauze, carbolized cotton, Mackintosh cloth, and ordinary cotton-wool. The operation was performed in a heated room, about 85° F., under the spray, and with all the usual antiseptic precautions. It lasted thirty-two minutes, and the abdominal cavity was open about twelve minutes. The incision in the peritoneum was about one and a half inches long. Chloroform was used solely. The patient was removed from the operating-room to a heated bed. The operation was performed in a private hospital, which has been open to patients only since January of this year. The result of the operation will be sent on as soon as it is determined.

The annual meeting of the Medical Association of Missouri will be held at Carthage in this State on the 18th, 19th, and 20th of May. This will be the twenty-third meeting of the association. P.

St. Louis, May 1, 1880.

NEW METHOD OF INTRA-UTERINE MEDICATION.

DR. ROBERT BATTY says: Eight years ago I was impressed with the opinion that the results obtained from intra-uterine medication by argentic nitrate and other escharotic remedies, as was then the custom in America, were very unsatisfactory. In my own practice it was a common observation that scanty menstruation of a permanent and intractable character followed upon the treatment, due apparently to a cicatricial condition of the endometrium left behind. In not a few cases stenosis of the os had to be remedied, and in some instances recurred time and again. In a few cases entire occlusion of the os occurred, and retained menses had to be evacuated.

In casting about for eligible substitutes, the iodine tincture and carbolic acid presented themselves, and

were successively tried, both separately and in combination, but the results thus obtained were meagre and unsatisfactory. Theoretically, iodine appeared to offer decided advantages, not only as a local stimulant to the uterus, but, in consequence of its ready absorption, as a local and general alterative also, but the official tincture proved too feeble in power to secure satisfactory results, and the strongest preparation of Dr. Churchill, of Dublin, was to me then unknown.

The thought of employing carbolic acid as a solvent for iodine suggested itself, and experiment developed a knowledge of the remarkable solubility of the latter in liquefied acid. At first, one drachm, then two, three, and four drachms of iodine was found to be soluble in an ounce of the acid. The last and strongest solution proved to be decidedly escharotic in its action upon the tissues, and especially upon heterologous growths of low vitality, and has been much used by the writer for attacking uterine cancer, and more particularly to supplement the curette. The standard solution employed in intra-uterine medication consists of one part by weight of iodine dissolved in four parts of liquefied carbolic acid, and to this solution I have given the name iodized phenol.

Iodized phenol is believed to be simply a concentrated solution of iodine in carbolic acid, and not in a proper sense a chemical compound. It is black in color, syrupy in consistency, and possesses in marked degree the pungent odor of iodine, which is rapidly given off when it is heated.

Since its introduction into my practice, the iodized phenol for intra-uterine medication has been employed by me to the almost entire exclusion of other remedies. In February, 1877, it was brought to the notice of the profession in America through the columns of the *American Practitioner*, and is to-day very much employed, but more especially in the Southern States. The recital of cases to illustrate its uses would be inconsistent with the brevity which should characterize the present writing, and hence it is proposed to present in general terms only the method of its application, and the results obtained from its use.

At first it was employed in a state of more or less dilution with glycerine, but, more recently, it has been used only in its full strength, being the energy of the application, regulated by the quantity employed and the extent to which it is carried into the uterine cavity.

The instrument employed in making the application may be one of the many forms of applicators, so-called, or any uterine probe or sound which will easily enter the canal. It is my habit, and I specially prefer, to use a rather slender and elastic hard india-rubber probe, made slightly tapering, and with a blunt, not bulbous, point. The elasticity of this probe allows it to yield rapidly to pressure, to change its course, to follow easily the canal of the cervix, and to enter the uterine cavity proper, and this in spite even of a moderate flexion or version of the uterus. From the cotton factory is obtained cotton-wool in the form of an untwisted rope or roll, the fibres of the cotton being perfectly straight, and lying parallel to each other. It is technically known to the cotton spinners as "the lap," and can be purchased of the best quality at our factories for eight pence to ten pence sterling per pound. It is admirably suited for gynecological uses.

Mode of Application.—Having selected six or eight of the elastic probes, I break off from the cotton "lap" four or five inches, and with my fingers separate or

split it into several fasciculi of such sizes as, when wound upon the probes, will enlarge them to the thickness desired. The end of a probe is now moistened slightly, and the fasciculus of cotton wound spirally upon it. The cotton-armed probe is now dipped into the iodized phenol, any redundancy is allowed to drip away, and the probe is passed into the uterus with a slow spiral movement as it advances. At first the probe is introduced but a short distance, and immediately withdrawn, and the case rests here to test the tolerance of the uterus for the remedy. At subsequent stages the probe may be carried to the fundus, and followed immediately by a second, and even by a third or fourth if well borne. The remainder of the wrapped probes are employed for wiping off the cervix or vaginal wall any of the phenol that may have touched these tissues. The energy of the application is regulated by the size of the wrapping, the depth to which the probe is passed, and the number of medicated probes used. When a very decided impression is to be made, a backward turn is given to the probe in its withdrawal, so as to leave the saturated cotton in the uterus, there to remain twenty-four hours, or even until it is spontaneously expelled. The application is renewed every four to fourteen days, according to the energy of the treatment.

I have abandoned the use of sponge tents in connection with the treatment set forth. When dilatation is required, the cotton-wrapped probe is employed, and the cotton left as a soft tent in the canal. The dilating power of this is notably less than of sponge, but nearly equal to sea-tangle, and it is believed entirely safe. The results are the following: (1.) A perfect removal of all cervical mucus, which is promptly coagulated, and comes away closely adhering to the cotton. The probes subsequently passed bring the remedy directly in contact with the diseased membrane. (2.) Always comparative, and usually entire, freedom from pain. This is a marked feature of the method, and in striking contrast with former experience. Carbolic acid is a local anæsthetic, and so numbs sensibility as to make the energetic application of iodine for the most part entirely devoid of pain. (3.) The iodine is so rapidly absorbed by the uterus that the patient remarks its metallic taste in the mouth and throat, ordinarily in five or ten minutes after the application. (4.) Softening and more or less dilatation of the cervix and os. (5.) There is temporary arrest of leucorrhœa, followed by (6) watery discharge, sometimes bloody. (7.) There is exfoliation of the superficial layer of the mucous membrane, which comes away in shreds, sometimes entire, and resembles glove-kid. (8.) Abrasions of the os promptly heal. (9.) Indurations of the uterus disappear. (10.) Leucorrhœa is permanently arrested. (11.) Villousities of the endometrium are removed without resort to the curette. (12.) Subinvolution of the uterus disappears. (13.) The menses become regular and healthy; menorrhagia and scanty menstruation, as well as dysmenorrhœa, are remedied. (14.) The appetite and digestion improve, and this, in many instances, without the use of medicines. (15.) So thoroughly is the system impregnated with iodine that alteratives by the stomach are not used. (16.) The form of the cervix and os is often completely changed; a large pulpy cervix, with patulous, slit-like os, becomes even virginal in type after long use of the remedy. (17.) Stenosis has not followed the treatment in any cases noted. (18.) Barrenness of nine

to fourteen years' duration has been removed in several instances.

Remarks.—Rapid, and at the same time satisfactory, cure of chronic uterine ailments, such as are contemplated in this paper, is not attainable by any method of treatment known to me. It is not proposed that rapid cures can be made by the means herein set forth; on the contrary, the long standing and obstinate cases, such as usually fall in my hands, require many months for satisfactory cure.

PRIZE ESSAYS.

CONCERNING the two-hundred-and-fifty-dollar prizes offered by the American Medical Association for essays on original investigations, Dr. Wood, of the *Philadelphia Medical Times*, writes, "It cannot fairly be gainsaid that in this country, whilst medical practitioners of the better sort are at least the peers of those of any other land, scientific medical inquiry is at a comparatively low ebb. When such leaders as Professor Flint occupy their attention with the writing of medical school-books,—the very primers of our art,—when there is not a single well-furnished physiological or pathological laboratory in the land at which active work goes on steadily, our pride in the present must be sustained by our hopes for the future. Original scientific talent is undoubtedly as abundant here as anywhere else in the world, but there is, unfortunately, a most severe dearth of encouragement. We hail, therefore, the proposed alterations in the by-laws of the American Medical Association as a step in the right direction, and as a public recognition of the need of encouragement. It is by no means sure, however, that the amendments, which propose that appropriate committees should select four subjects for investigation, and that four prizes of two hundred and fifty dollars each be offered for the best essays upon such subjects, are exactly what is wanted.

"To investigate a subject at the bidding of another is to take up a task in cold blood,—deliberately; whilst to investigate a subject because you are interested in it is usually to be drawn in, little by little, until eager desire turns work into play. The investigator who has original genius usually does best when, after proper training, that genius is left to select according to its own promptings. There are many prizes offered in this country upon determinate subjects, and very rarely do the essays elicited amount to much.

"Then, again, what is two hundred and fifty dollars as an encouragement to the original investigator? It is not enough to pay the expenses of any extended research in experimental medicine. Dr. S. Weir Mitchell's study of rattle-snake venom cost him over one thousand dollars, and the outlay upon another experimental memoir just completed in this city has amounted to nearly the same sum. If the American Medical Association desires to offer smaller prizes to encourage beginners or to stimulate older hands to dash off some brief essay, well and good; but what is wanted is the possibility of taking one prize which, by its magnitude, by the difficulty of obtaining it, and by the ceremonies surrounding its reception, shall be made so impressive as to make the man who has obtained it distinguished among his fellows. The competition for such a prize should not be with rival memoirs so much as with a standard of excellence so high as rarely to be achieved,

"The sum of money should not be less than one thousand dollars, along with a gold medal, to be a perpetual souvenir of the triumph. The successful candidate should be duly notified, and required to attend at the meeting of the association; and then, in full session, directly after the president's address, the prize should be awarded with appropriate ceremonies.

"The funds of the association are amply sufficient for this. Let there be one annual prize of two hundred dollars, or two biennial prizes of two hundred dollars each, to be given, if it is thought best, for some spe-

cially-directed research, and the grand prize to be awarded not oftener than once in two or three years, and only then when it is undoubtedly deserved. The greatest care should be exercised in selecting the committee of award, so that it should not be composed of those whose good nature should incline them to yield too easily a favorable decision. Rather let the committee feel that their mission is to keep unhalloved hands off the treasure, and only to yield it to him who has proved himself a very high-priest of scientific research."

REPORTED MORTALITY FOR THE WEEK ENDING MAY 1, 1880.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Deaths under Five Years.	Percentage of total Deaths from				
				The Principal "Zymotic" Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.
New York	1,085,000	562	200	17.79	21.71	5.52	1.60	.71
Philadelphia	901,380	311	104	10.61	8.68	2.25	2.25	2.89
Brooklyn	564,400	219	93	16.44	21.46	8.68	2.28	—
Chicago	—	—	—	—	—	—	—	—
St. Louis	—	—	—	—	—	—	—	—
Baltimore	393,796	142	59	16.90	7.82	4.93	4.22	1.41
Boston	365,000	144	44	13.89	15.28	5.56	—	3.47
Cincinnati	280,000	94	37	15.96	21.28	3.19	3.19	1.06
New Orleans	210,000	—	—	—	—	—	—	—
District of Columbia	170,000	70	27	7.14	18.57	—	—	—
Buffalo	—	—	—	—	—	—	—	—
Cleveland	160,000	—	—	—	—	—	—	—
Pittsburgh	—	53	24	39.62	11.32	7.55	5.66	5.66
Milwaukee	127,000	41	20	21.95	12.20	17.07	—	—
Providence	102,000	47	17	40.43	27.66	8.51	27.66	—
New Haven	60,000	21	3	23.81	9.52	9.52	—	9.52
Charleston	57,000	28	12	10.71	7.14	—	—	3.57
Nashville	37,000	14	6	35.71	—	—	—	—
Lowell	54,000	24	8	16.67	20.83	12.50	—	—
Worcester	53,000	21	6	—	33.33	—	—	—
Cambridge	50,400	13	6	—	7.69	—	—	—
Fall River	49,000	—	—	—	—	—	—	—
Lawrence	38,600	13	9	30.77	30.77	—	—	—
Lynn	34,000	10	2	30.00	10.00	30.00	—	—
Springfield	31,800	5	1	—	—	—	—	—
New Bedford	27,200	14	3	7.14	21.43	7.14	—	—
Salem	26,500	6	4	16.67	33.33	16.67	—	—
Somerville	23,500	7	5	14.29	14.29	14.29	—	—
Chelsea	21,000	7	—	28.57	28.57	—	—	14.29
Taunton	20,200	9	1	22.22	—	—	—	—
Holyoke	18,400	12	—	41.67	33.33	16.67	8.33	—
Gloucester	17,300	9	4	—	—	—	—	—
Newton	17,300	—	—	—	—	—	—	—
Haverhill	15,350	12	3	25.00	—	25.00	—	—
Newburyport	13,500	5	0	—	20.00	—	—	—
Fitchburg	12,600	4	2	25.00	—	—	25.00	—
Seventeen Massachusetts towns.	130,010	60	16	20.00	11.67	15.00	—	—

One thousand nine hundred and seventy-seven deaths were reported; 716 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 332, consumption 342, lung diseases 330, diphtheria and croup 115, scarlet fever 48, measles 44, diarrheal diseases 32, typhoid fever 28, whooping-cough 28, cerebro-spinal meningitis 13, malarial fevers 12, erysipelas 11, small-pox one. From *measles*, New York 18, Pittsburgh six, Cincinnati five, Philadelphia, Brooklyn, and Lawrence four, Baltimore, Lowell, and Holyoke one. From *whooping-cough*, New York eight, Baltimore, Boston, and Pittsburgh three, Brooklyn, Cincinnati, District of Columbia, and Nashville two, New Haven, Charleston, and Weymouth one. From *cerebro-spinal meningitis*, New York six, Philadelphia three, Baltimore, Chelsea, Holyoke, and Pittsfield one. From *malarial fevers*, New York eight, Brooklyn two, District of Columbia and Milwaukee one. From *erysipelas*, New York five, Philadelphia and Brooklyn two, Baltimore and Providence one. From *small-pox*, Philadelphia one.

Sixty-six cases of measles, 35 of scarlet fever, 22 of diphthe-

ria, and one of whooping-cough were reported in Brooklyn; diphtheria 22, scarlet fever 10, in Boston; diphtheria 22, scarlet fever three, in Milwaukee; scarlet fever 25, diphtheria 15, measles 12, cerebro-spinal meningitis three, typhoid fever one, in Providence; diphtheria two, scarlet fever two, in Cambridge; scarlet fever 17, diphtheria three, in New Bedford.

There being no reports from several large cities, namely, Chicago, St. Louis, New Orleans, Buffalo, Cleveland, the week's report for the country at large is of little value for comparison. Only one death is reported from small-pox, and that in Philadelphia. An increase of pneumonia, scarlatina, and measles—the last of a mild type—is reported from Providence.

In 34 cities and towns of Massachusetts, with an estimated population of 952,300 (population of the State being about 1,550,000), the total death-rate was 20.50 against 19.82 and 22.66 for the previous two weeks.

For the week ending April 10th, in 148 German cities and towns, with an estimated population of 7,701,350, the death-rate was 28.1 against 28.6 and 28.9 for the two previous weeks. Five thousand seven hundred and fifty-five deaths were reported;

1859 under five; pulmonary consumption 697, acute diseases of the respiratory organs 567, diphtheria and croup 135, typhoid fever 69, scarlet fever 64, whooping-cough 61, measles and *röteln* 48, puerperal fever 16, typhus fever (Braunschweig, six, Minden, Königsberg, Elling, Posen, Magdeburg, Thorn) 13, small-pox (Königsberg, Beuthen, Halberstadt, Mülheim) five. The death-rates ranged from 18.3 in Erfurt to 41.4 in Essen; Königsberg 36.3; Breslau 31.8; München 36.2; Dresden 23.9; Berlin 25.2; Leipzig 29.3; Hannover 25; Hannover 20.6; Bremen 28.2; Cologne 27.2; Frankfurt 22; Strassburg 30.2. For the same week, Vienna 35.7; Paris 30.8, — small-pox and diphtheria very prevalent.

For the week ending April 17th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 22.7.

Three thousand two hundred and sixty-seven deaths were reported: acute diseases of the respiratory organs 348, whooping-cough 167, scarlet fever 107, measles 89, fever 33, diarrhoea 27, diphtheria 13, small-pox nine. The death-rates ranged from 16 in Portsmouth to 30 in Plymouth; London 21.6; Bristol 19.6; Birmingham 23.4; Liverpool 27.7; Manchester 26.7. In Edinburgh 28, Glasgow 24, Dublin 41. In the 20 chief towns in Switzerland, population 445,790, there were 48 deaths from acute diseases of the respiratory organs, diarrhoeal diseases 15, diphtheria and croup 10, scarlet fever five, whooping-cough four, typhoid fever three, small-pox one. Death-rate of Geneva 26.6; of Zurich 30; Basle 30.6; Berne 44.2.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
April 25	30.162	45	52	35	64	43	24	44	C	SE	S	0	12	12	C	F	O	—	—
" 26	29.721	54	63	42	76	87	70	78	C	SW	SW	7	17	8	O	F	O	—	.01
" 27	29.904	53	62	49	54	31	45	43	W	W	SW	24	15	14	C	F	F	—	.07
" 28	30.251	50	59	39	30	40	46	41	W	SE	SW	8	13	8	C	F	F	—	—
" 29	30.162	56	68	45	52	26	67	48	SW	S	S	6	21	22	O	O	O	—	—
" 30	29.687	50	67	36	100	42	39	60	SE	W	W	20	14	22	R	F	C	—	.97
May 1	30.088	44	50	33	36	19	29	28	W	W	SW	26	24	7	F	F	O	—	—
Week.	29.996	50	68	33				49	West.									12.50	1.05

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM MAY 1, 1880, TO MAY 7, 1880.

HEGER, A., major and surgeon. Assigned to duty as post surgeon at Fort Clark, Texas. S. O. 78, Department of Texas, April 24, 1880.

GOLDBARD, C. E., major and surgeon. When relieved by Assistant Surgeon Waters to comply with S. O. 74, C. S. A. G. O. in his case. S. O. 78, C. S. Department of Texas.

WATERS, W. E., captain and assistant surgeon. Relieved from duty at Fort Clark and assigned to duty at Fort McKavett, Texas. S. O. 78, C. S. Department of Texas.

WOOD, M. H., first lieutenant and assistant surgeon. Granted leave of absence for six months, and at expiration thereof to comply with paragraph 1, S. O. 74, C. S. A. G. O. S. O. 97, A. G. O., May 3, 1880.

GRAY, WILLIAM W., first lieutenant and assistant surgeon. Assigned to temporary duty at Fort Point, California. S. O. 55, Division of the Pacific, April 27, 1880.

MCCREERY, GEORGE, first lieutenant and assistant surgeon. Assigned to duty at Fort Apache, Arizona Territory, as post surgeon, relieving Assistant Surgeon Walter Reed, U. S. A. S. O. 48, Department of Arizona, April 16, 1880.

SCHUE, E. D., first lieutenant and assistant surgeon. Assigned to duty as post surgeon at Fort Grant, Arizona Territory. S. O. 48, C. S. Department of Arizona.

COCHRAN, J. J., first lieutenant and assistant surgeon. Assigned to duty at Fort Lewis, Colorado. S. O. 94, Department of the Missouri, April 28, 1880.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.—A regular meeting will be held at the hall of the Medical Library Association, Monday, May 17th, at eight o'clock. Vote upon proposed change in Article VIII. of By-Laws.

A. T. CABOT, Secretary.

BOOKS AND PAMPHLETS RECEIVED.—First and Second Annual Report of the Central Sanitary Bureau of the Home Department of the Imperial Japanese Government. From July 1, 1875, to June 30, 1877.

Remarks on Rectal Feeding in Disease. By William Warren Potter, M. D. New York: Trow's Printing and Bookbinding Company. 1880.

Homeopathy: What is it? A Statement and Review of its Doctrines and Practice. By A. B. Palmer, A. M., M. D. Detroit: George S. Davis. 1880.

The Brain in Health and Disease. By Edward C. Mann, M. D. New York.

Periarthritis. A Study of Forty-Seven Cases.—Caries of the Ankle in Children. Results of Expectant Treatment of Thirty Cases. Two pamphlets by V. P. Gibney, A. M., M. D. New York: William Wood & Co.

Diseases of the Maxillary Sinus. By Edward Borek, M. D. St. Louis, Mo.

The Truth about Vaccination. By Ernest Hart. London: Smith, Elder & Co. 1880.

Ethyl Bromide. By Lawrence Wolff, M. D. (Reprinted from American Journal of Pharmacy.)

Old-School and New-School Therapeutics. By Frederick F. Moore, M. D. Alfred Mudge and Son, Printers.

Report of the Director of the Central Sanitary Bureau to H. E. the Minister of the Home Department, on Choleraic Dis cases in Japan during the Tenth Year of Meiji. 1877.

Surgical Diagnosis of Tumors. By Professor A. Lücke Strasburg. Translated by A. T. Cabot, M. D.

On the Treatment of Empyema by Resection of one or more Ribs. By William Thomas, M. B., London. Birmingham: Hall and English.

A Case of Spina Bifida. By John Ellis Blake, M. D. New York: William Wood & Co. 1880.

Twenty-Sixth Registration Report of Rhode Island for 1878.

A New Study of Cerebral Cortical Localization. The Effect of Willed Muscular Movements on the Temperature of the Head. Prize Essay of Alumni Association of the College of Physicians and Surgeons, New York. By R. W. Amidon, A. M., M. D.

First Annual Report of the Board of Health of the Taxing District of Shelby County (City of Memphis) for the Year 1879. By G. B. Thornton, M. D., President. Memphis. 1880.

The Cinchona Cure for Intemperance. By Charles W. Earle, M. D. Chicago: Bulletin Print.

Lectures.

I. A LECTURE ON INSANITY.¹

BY CHARLES F. FOLSOM, M. D.,

Lecturer on Hygiene and Mental Diseases in Harvard University.

BOILEAU said that all men are insane, the only difference between them being the varying degrees of skill with which they are able to conceal the "crack;" and in 1832 Haslam, perhaps the first expert in mental disease in England at that time, testified in court that he had never seen a sane man in his whole life, adding, "I presume the Deity is of sound mind, and he alone." It was only a few years after that time that Browne, the acknowledged leader of his branch of the medical profession in Scotland, stated in his lectures that a definition of insanity is an enigma which (Edipus could not have solved. We have, let us hope, advanced a step or two beyond this paradox. But before attempting to lay down a strict and modern definition, let us briefly discuss a few of the elements which are commonly considered as constituent of insanity: delusion, hallucination, inability of self-control, impulse, etc.

It should be observed that at the time when these seemingly hopeless views of any intelligent idea of the pathology of insanity were stated, an unsound mind was generally considered to be due to some disturbance of an immaterial soul rather than to a definite disease of a material brain; and therefore the explanation of the phenomena of insanity was thought to lie in the province of the metaphysician rather than of the trained medical man. Nevertheless, it can still be said to-day that it is impossible to give a thoroughly satisfactory definition of insanity, — to draw any hard and fast line, on one side of which we should put all the sane, and on the other all the insane. In well-marked cases, especially when attended with acute symptoms, no one could have any hesitation in settling, to his own satisfaction, the point of the sanity or insanity of any individual; but so long as the abnormal condition is to be described, not by physical signs, but chiefly by mental symptoms, by the effect on the power to think correctly and to act in accordance with logical thought, any one attempting to define insanity would experience the same difficulty which the older physicians found in the more common diseases before the splendid researches of John Hunter and Bichat made a diagnosis possible upon a physical basis.

It is not possible to divide sanity from insanity by a single criterion, such as the existence of delusions. A famous writer of the last century, whose writings will last many generations after the immense majority of his contemporaries are forgotten, was perfectly well able to perform the ordinary duties of life, and indeed was noted for the clearness of his intellect and the soundness of his reasoning; but he had the most extraordinary delusion that his posteriors were of glass, so that at times he did not dare to sit down, and he treated that part of his body with the greatest care so as to avoid smashing it. He recognized the character of his malady so well that he bequeathed a large part of his estate to founding an insane asylum, and indeed his delusion occasionally so interfered with his comfort that he was obliged several times to go to such an institution himself. In this case, the man was evidently insane, al-

though usually fully as capable of controlling himself, outside of his special delusion, as his fellows in society; and somewhat similar cases are by no means infrequent.

May we, then, define insanity as an abnormal condition of the mind, as a result of which some delusion exists?

The definition would not apply to Martin Luther, whose delusion that the devil appeared in his room to do him an injury was so clear that he threw an inkstand at his supposed form. If we examine closely we shall find that there is an important difference in the character of the two delusions. Dean Swift thought something true which was impossible both in the nature of things and from the circumstances of the case. In Martin Luther's time, a personal devil was fully believed in; indeed, according to the canons of the English church even much later than that, it was necessary to one's salvation to hold that Satan walked about the earth in personal form, doing all the mischief he could. Luther's delusion therefore consisted in thinking that something occurred which, in the belief of his time, might readily have happened; and he consequently was not in any sense insane. If a poor man thinks, contrary to the fact, that he has large sums of money in a particular bank, and bases his actions on that belief, he is clearly insane. Without being insane, however, he may have a delusion, very deleterious in its effect upon himself, that he is going to become rich by some fortunate chance or other; for such an event is not impossible, although in the individual case it might be exceedingly improbable, and such things do occur by the death of wealthy relatives and in other ways often enough to relieve the delusion from the appearance of utter impossibility, from the nature of things or from the circumstances of the case. Similar delusions of personal power, attractions, capabilities, injuries, insults, etc., are too common to need remark here.

I might illustrate this point still further by referring to hallucinations, properly speaking; that is to say, deceptions of the special senses. I was consulted not long ago with regard to the propriety of placing in an asylum a gentleman who had marked hallucinations of hearing, whereby he thought that he heard voices telling him that certain people were harming him. In this case the voices sounded as real to him as if they came from actual persons; but he knew that, as a fact, they were not real, and only due to some cerebral disturbance, which he recognized so fully as never to lose his control over them. He was perfectly able to attend to his business as a lawyer, and for a long time none of his friends knew that anything was the matter with him, with the exception of his wife, against whom, especially, the voices were directing his thoughts. The irritation had not got to be so great as to make me suppose at that time that he would be likely then to attack, or in any way injure, his wife or any one else; still it would have been but one step further for him to be driven on by the voices he heard to the actual commission of some crime, — a step often, indeed usually, taken in that class of cases, and it was necessary to consider him a dangerous man. In this case, the only deviation from health and strength in a man thoroughly strong and doing a great amount of mental work was the possession of a hallucination of hearing, and the immense majority of persons would have been utterly unable to detect his insanity, although he was a

¹ Delivered before the graduating class of the Harvard Medical School, and printed by request.

very decided lunatic, and, moreover, from the character of his delusions, unsafe to be at large as soon as they should become so marked that he could no longer control them. But we cannot describe insanity as the possession of a hallucination. Joan of Arc, for instance, had hallucinations of sight and hearing which led her to most heroic deeds, and indeed absolutely governed her whole life. But the delusion that holy spirits appeared to her and spoke to her and advised her, in answer to her prayers, to do what she did was simply an extravagant belief, fully in accord with the spirit and knowledge of the time in which she lived. Brierre de Boismont thinks that her hallucination was purely physiological, and in no sense pathological; it was not, among the peasants with whom she lived, contrary to possibility. Certainly the genius shown by an uneducated young peasant girl of seventeen in wisely directing the movements of great generals was no less extraordinary than her exaltation and personal influence over the common soldiers. It is difficult to judge of an event happening four centuries and a half ago and not exactly recorded at the time, but the hallucinations of Joan of Arc seem to me, like those of Saint Ignatius, Saint Theresa, and many others, to resemble the "miraculous appearance," a dozen years ago, which has resulted in the annual pilgrimages of thousands, for cure, to the Grotto of Lourdes in France, and to differ less from the religious ecstasy of Swedenborg and other devout believers than from insanity. Another class of hallucinations is represented by the famous case of Nicolai, the bookseller in Berlin, who had marked hallucinations of sight and hearing, commonly called visions, but recognized the unreal character of them, although an uneducated man, and paid almost no attention to them whatever. They appeared after some marked cerebral congestion, and were so far beyond his control that they came and went without the slightest power on his part to govern them; they were entirely removed by the application of leeches to the rectum.¹

We have seen, then, that neither a delusion nor a hallucination is necessarily a proof of insanity, and that neither term can be used absolutely in defining mental disease. To be characteristic of insanity the delusion must be impossible in the nature of things or under the circumstances of the case, as judged by the intellectual standard of the individual in question, or of the time in which he lived.

It is manifest that a delusion or hallucination must be estimated, so far as its seeming possibility is concerned, from the stand-point of the persons affected with the false belief. Otherwise we should be obliged to consider spiritualism and many other kindred false beliefs indications of insanity.

There is another class of cases, in which the definition of insanity is well-nigh impossible. I refer to the immense number of cases of mental weakness and of diminished power of self-control, of limited responsibility of different degrees; some alienists extend its province to cover nearly the whole criminal class, and others restrict its application very narrowly. One thing, however, can be said with certainty: that a crime, although it may be the first recognized act of an insane man, cannot alone be considered evidence of insanity. A man walking along the streets of London once seized

an axe, and violently attacked a passing hackney coach. For a long time the act was the only indication of an unsound mind, and it aroused suspicion of insanity, simply because it was so utterly without a motive and foreign to the man's usual character. Many months, indeed nearly a year, afterwards it was ascertained that the person was laboring under a delusion that he was Jesus Christ, and took that means of calling the attention of the whole world to the importance of his great mission. Another case in point is the Adventist Freeman,² who recently imitated the would-be sacrifice of Abraham under most striking and well-marked delusions; but which, unfortunately, were not detected in time to prevent his being sent to jail rather than to an insane asylum for treatment. It may be often a long time before such additional evidence is found, but some evidence more than a crime is needed to prove insanity. This would hardly fail to be discovered where the insanity is so prominent as to be a decided factor in the causation of crime, if sufficient time were allowed for investigation.

Of late years it has been more and more the custom of the courts to recognize this limited responsibility, — limited insanity, I am inclined to call it, for we certainly must include all these cases in our definition of insanity. The first case decided upon this theory of limited insanity, — if we may use the term, — so far as I can remember, was that of Kullmann, who attempted to assassinate Prince Bismarck. There was no real evidence of insanity. There was a hereditary predisposition to that disease, however, and Kullmann was shown to be of an inferior order of intellect, badly trained, and without definite and well-defined ideas of duty. He probably did not differ in these respects from a very large number of the criminal class, but the publicity of his act was the cause of his being examined by several experts, who decided that he was not fully responsible, although not technically insane, and he was therefore condemned to a moderate incarceration instead of the gallows. Two other extremely interesting cases came under my own observation quite lately: —

The first was a young girl from Ireland, left to her own resources at the age of fifteen, in domestic service in this State. She soon had a lover and an illegitimate child, — not so serious a fault in girls of her class in other countries as in the United States. She was sent to the work-house, where she remained until, at the death of her child, she was discharged some time before the expiration of her sentence for uniformly good behavior. Two years later she became pregnant again, and the evidence is, under promise of marriage. Her lover deserted her, and she worked from six o'clock in the morning till ten o'clock at night in a restaurant until the very morning of her confinement, when she was driven, at her request, to one of the lying-in charities. She remained there the usual period, was left alone twenty minutes after her discharge, and in that time smothered the infant under the bed clothes and fractured its skull with her fist. She concealed the body in her trunk, and went to her old employers, where she got work. The next day her employer came into the restaurant, as she thought, rather excited, although others in the room did not observe anything unusual in his appearance. She immediately accused herself, saying aloud, "I know what's the matter. I killed my baby, and he has found it." She was taken to jail, and remained four months to the time of the trial, when I first saw her. Her family history could not be ascertained. She was said by all who knew her at her last place of employment to be quiet, modest, and of good behavior. The physician in charge during her confinement saw nothing out of the way in her speech or deportment, and the officers of the prison made a similar statement. At the time of her being brought into court she fully appreciated the condition of things, had no delusions or hallucinations, and appeared of sound mind, except that she was of a low grade of intel-

¹ In allusion to this fact, Goethe makes Mephistopheles say: —

Und wenn Bluteleg sich an seinem Steiss ergötzen
Ist er von Geistern und von Geist curirt.

² Reported in full in the JOURNAL of March 18th.

lect, that she had no love for her child or regret for his death (as was the case from the first), and that she became very much excited beyond her control in speaking of her lover, who had abandoned her, threatening to kill him if he ever appeared again. There was a strong motive in killing the child to avoid its care or being sent again to the work-house, and there was no real evidence of insanity at the time I saw her; but there were some indications that she might have been insane, or at least not wholly responsible, when she committed the act, so that the court gave her the benefit of the doubt, on the ground of limited responsibility, as far as was thought justifiable, and she received only a short sentence. At the prison she behaved perfectly well until fully exasperated by some persons there, when she attacked them furiously; in confinement for punishment, she tore her own clothing, broke furniture, smashed windows, etc., utterly beyond any power of management, and sometimes apparently of her own self-control. She so resembled a maniac that she was sent in a strait-jacket to an insane asylum for observation, where, having nothing to disturb her, she has done perfectly well for a year and a half, except for a few breaches of the hospital discipline. She has performed very responsible work, even having the attendant's keys for many days at a time. In the year and a half there the only morbid indication has been that she once rushed purposeless to one of the attics, after chapel service, and seemed semi-conscious when overtaken by the attendant. When taken to her room, her eyes were staring, extremities cold, face very pale, and she remained in a condition resembling catalepsy for a few hours. She will probably be eventually discharged from the asylum and pardoned, as an analogous case to Kullman's.

The second was of a lad, illegitimate son of a highly educated Protestant of social position by a pretty Catholic maid. He ascertained his history when sixteen years old, until which time he had been kept in Catholic families or institutions, away from his mother. His inherited talent led him to books, from which he gained quite a considerable knowledge of good literature and a taste for it; and he also inherited a tendency to insanity, which showed itself in diminished power of control, morbid ideas of life, and utter despair at the want of employment, which would have affected a person of stable mind only uncomfortably, without driving him to desperation. He never used alcohol, tobacco, or even coffee, and was of exceptionally good habits. After vainly trying to get help from a relative, he happened to see in one of the papers a notice of the arrest of a man for sending a threatening letter. He was half fed, tired out, and ready to catch at anything suggested to his morbid mind, so that he sent to his relative a letter threatening to appear at his house and shoot him at a certain time unless help were given him to get work. No help came, and he appeared promptly by the appointed time, only to be arrested by the policeman who was waiting for him. By the very skillful presentation of his case on the part of his counsel he was set at liberty on bail without trial, as a case similar to Kullman's, and by good care has done well for more than a year, having recovered as healthy a tone of mind as is natural to him when perfectly well.

In all such cases the individual cannot be judged by any definite standard except his own condition at different times. If there is a decided change in character or action in a person, especially if the alteration is sudden and one which cannot be explained on ordinary grounds, it is always safe to be on the guard for insanity. If the change occur more than once the chance of insanity becomes almost a certainty. I am far from saying that all criminals, or even most criminals, are insane, although I must say that the more I see of both insane and criminals the harder it is to draw the line between them. If these points are kept in mind they may save you occasionally from making a mistake in obscure or at first unsuspected cases of insanity.

A very important point is always to consider every strange or unexplained action most carefully, whether deliberate or from impulse, particularly in the large class of eccentric, ill-balanced, weak-minded persons on the border line between sanity and insanity, at one time seeming to belong to the sane and at another to the insane class. Indeed, so far as responsibility for our actions is concerned, if we could measure nicely, we should be obliged to acknowledge that no two of us could be held to precisely the same degree of accountability.

I think that I have said enough on the difficulty of defining insanity, from the point of view of either the physician or the lawyer, without going further into the

consideration of uncontrollable impulse, imbecility, and other indications of special kinds of insanity, which can be more conveniently studied when we take up the individual forms of mental diseases. To proceed to definitions of insanity:—

Dr. Bucknill has defined insanity as "a disease of the brain (idiopathic or sympathetic) affecting the integrity of the mind, whether marked by intellectual or emotional disorder." He has since modified this definition by adding that the cerebro-mental disorder of insanity is such as to impair the healthy action of the will, thus making it apply to cases of simple deficiency of will or lack of self-control.

This definition covers nearly the whole ground, but there are certain cases where the abnormal action of the mind may be due simply to exaggeration of individual peculiarities, to some development of natural traits or eccentricities, properly speaking, rather than to disease.

Dr. Maudsley has perhaps surmounted this difficulty in his description of insanity, as follows:—

"Insanity is, in fact, disorder of brain, producing disorder of mind; or, to define its nature in greater detail, it is a disorder of the supreme nerve centres of the brain,—the special organs of mind,—producing derangement of thought, feeling, and action, together or separately, of such degree or kind as to incapacitate the individual for the relations of life. Mind may be defined physiologically as a general term, denoting the sum total of those functions of the brain which are known as thought, feeling, and will. By disorder of the mind is meant disorder of these functions."

You will notice another difference between the two definitions. Dr. Bucknill considers insanity a disease of the brain affecting the integrity of the mind. Dr. Maudsley wrote some years later, and indicated a step in advance when he recognized that there might be diseases of the brain affecting the integrity of the mind which cannot be called insanity, and he calls it a disorder of the mind of such a degree as to incapacitate one for the ordinary relations of life; that is to say, there may be certain deviations from the condition of sound mind, embracing very many shades of eccentricity and weak-mindedness, which do not constitute insanity.

Dr. Tuke's definition is almost equally satisfactory with Dr. Maudsley's, namely, that "insanity consists in morbid conditions of the brain, the result of defective formation or altered nutrition of its substance, induced by local or general morbid processes, and characterized especially by non-development, obliteration, impairment or perversion of one or more of its psychical functions." This is a definition which must be qualified by a reference to the general standard of belief (as in Luther's case); for instance, obliteration of compassion in a savage is not insanity.

Disorder of brain and morbid conditions of the brain are such general terms as to include all conditions, even those usually called reflex, giving rise to insanity; but the definitions also embrace too much, for they clearly include the delirium of starving, drunkenness, and of many of the acute febrile conditions, as well of the brain as of other organs. No one would be justified in calling the raving of brain fever or pneumonia or *mania a potu* insanity, but the conditions, as defined above, of irresponsibility exist.

These two definitions by Maudsley and by Tuke are the best which I have been able to find in the English

language, and yet it is easy to see their deficiencies. The fact is that insanity, instead of itself being a disease, properly speaking, is simply a symptom of diseases which, under varying manifestations, probably affect different portions of the brain,—at least they affect the brain in different ways.

Insanity, then, an anomalous action of some of the many functions of the brain, is a symptom of a whole group of diseases and disorders having their seat in the brain, or in some other organ in the body, and affecting the brain by reflex or sympathetic action.

Fifty years ago, the definition of Coleridge was largely accepted, even by physicians, that "madness is not simply a bodily disease." It is a sleep of the spirit. . . . When a man mistakes his thoughts for persons and things he is mad. A madman is so defined." Pinel, the great French reformer in the pathology and treatment of insanity, studied the metaphysicians Condillac, Montaigne, Locke, and Stewart more than the doctors and anatomists. But at the present time no one would pretend to deny that the brain is the organ of the mind, and that anomalous actions of the mind depend directly upon abnormal conditions of the brain, idiopathic, functional, or reflex.

Original Articles.

THE COMPOUND SPHYGMOGRAPH.

BY A. T. KEYT, M. D., CINCINNATI, OHIO.

THE cut below represents my improved compound sphygmograph. The mechanism consists essentially of two sphygmographs of transmission and a chronograph combined in one apparatus, and all writing on the same smoked slide—the latter being regularly propelled by clock-work.

The sphygmographs are uniform and constructed as follows: The base for receiving the movements is an oblong receptacle, closed below by an elastic membrane and opening above into a transmission tube; the latter is of convenient length, usually twenty-four inches, and made up of alternate sections of glass and flexible tubing, and communicating by its opposite end with the vertical branch of a T passage. The horizontal branches of the T communicate each with a small chamber. Over one chamber is secured a graduated glass tube, over the other a delicate elastic disk. The cavities and passages are filled with *pure water*, and to provide for the expulsion of air from the disk chamber a small passage connects its upper part with the index chamber; a stop-cock opens and closes this passage. At the junction of the T is placed a three-way stop-cock, which according to its position directs the movements to the index tube or the disk. From the centre of the disk a pin arises, the point of which is lodged in a small hollow cone depending from the writing lever, and to which it is attached by a sliding clip. The lever is light,

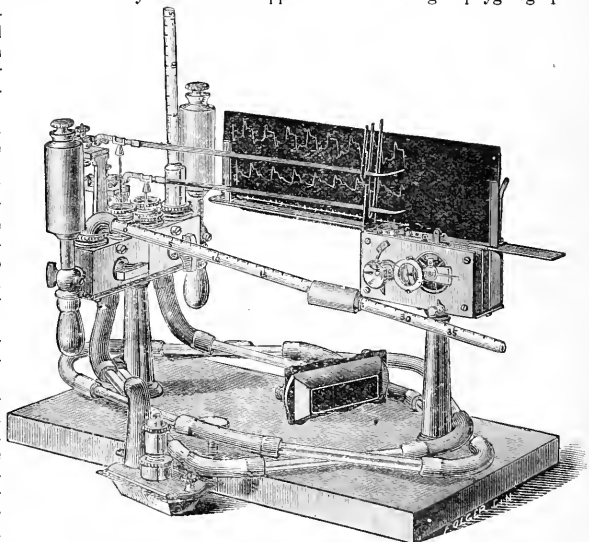
six inches long, and its axis is pivoted to an adjustable plate. The pin socket is usually placed one half inch from the centre of the axis. The lever's point just lightly touches the recording surface. A reservoir with a depending ampulla and a stop-cock conveniently regulates the supply of liquid to the apparatus. The entire apparatus, except the bases, which are freely movable in any direction, is firmly secured to suitable supports.

The basal and disk membranes are each adjusted and maintained at a standard tension by means of a proper screw device; and the standard tension for each is determined by a definite and easily applied formula. By these means uniformity in the action of the membranes is secured.

The graduated glass tube serves as a diverticulum for the liquid displaced from the base as the latter is pressed down upon the organ of which the movements are to be observed; and at the same time the liquid column displays the movements to the eye, indicating their form, and measuring with precision their amplitude and the pressure at which they are best developed. Thus, the index tube is an interesting and indispensable part of the instrument. (It is placed erect when the instrument is in use, and turned down, for convenience, when it is not in use.)

The chronograph is essentially a watch provided with a mechanism for marking the divisions of time. It is a complete instrument, very convenient, and its record of seconds and fifths is entirely reliable.

Two sphygmographs are conjoined in one instrument, because the arrangement is quite convenient, and so extends the application that a single sphygmograph in



comparison with this combination appears of very small value.

This compound instrument answers all the purposes of any sphygmograph, and in addition is adapted to a great variety of physiological and clinical uses. It traces in a perfect manner the pulsation of the heart and different arteries, of the fontanelle, of tumors, the

movements of respiration, muscular contractions, etc. By means of the index tube it exhibits these movements to the eye; by means of the chronograph it shows their exact time relations; and by means of the double arrangement it traces two movements, as of the heart and an artery, simultaneously, showing their relations to each other and securing all the advantages of such a record. It is used with great facility, and executes the work with which it is charged with extreme fidelity.

For illustrations of work done by the instrument see *JOURNAL*, April 29, 1880.

RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.¹

BY E. G. CUTLER, M. D.

FATTY EMBOLISM.

M. WIENER² describes the results of experiments which he has performed under the direction of Professor Cohnheim. He finds that fatty embolism may take place from the lymph cavities; it was produced in the lungs as well as in the course of the systemic circulation by injection of olive oil, not only into the peritoneal and pleural cavities, but also into the subcutaneous tissue. The intervention of the lymphatic glands thus does not prevent the formation of fat embolism. It was only in cases where the embolism reached a very high degree that dangerous symptoms and death, arising from general pulmonary oedema, took place; the fatty embolism was usually unattended by any symptoms. In no case (unless there were complications) was a rise of temperature observed, and inflammatory changes in the embolized organs were never met with. The fat introduced into the circulation was removed by the urine, which often contained fat several days after injection into the lymph passages. The fatty matter was found almost always in the loops of the glomeruli, and in the other capillaries of the kidney; it was also seen in the lumen of the urinary tubules, so that the glomeruli appear to be the seat of excretion, which the author believes to take place by a process of filtration.

INVESTIGATIONS CONCERNING FATTY EMBOLISM.

J. Scriba publishes³ a series of experiments performed on frogs. Fat when injected into the veins and into the lymph sacs or peritoneal cavity entered the circulation very quickly; in the stretched out tongue it was determined that the first drops of fat appeared in the lingual vessels forty-two seconds after the tibia of the frog had been broken. Fat was found regularly in the urine of the frogs, singularly enough in periods between which were times when the urine was free from fat. After ligation of the renal artery (by which it is well known that the flow of blood to the glomeruli is cut off, while the urine continues to be secreted through the medium of the vena renalis) there was no longer any secretion of fat by that kidney; the separation of fat must therefore take place in the Malpighian body.

Also in man there is an abundant and singular periodical separation of fat by the urine when it has got into the circulation. The first period of excretion of

fat lasted from two to four days after the disease or injury which caused the fat to appear in the urine (fractures, operations on bone, osteomyelitis); then it again occurred after a pause of several days, usually from ten to thirteen days; and either finally ceased, or came in intervals of from six to ten days for a third or even fourth time. The fat is rarely present in the urine in the form of free drops, only when it is secreted in very large amount; it is usually emulsified in the very finest drops. Besides the kidneys the spleen appears to be the only organ in which the fat found in the circulation escapes through the capillary wall; and here small fat drops are seen in the interior of the pulp cells.

With regard to the action of fat in the circulating blood, the author holds that it is not so unimportant as it has usually been considered. Even on agitating the blood with oil in a glass a destruction of red blood corpuscles occurs with freeing of hæmoglobin. In accordance with this, there was found in the blood serum of animals, in which large quantities of oil had been injected into the veins, dissolved hæmoglobin, and once also hæmoglobin in the urine, while at another time there was an abundance of biliary coloring matter in the urine.

This explains the presence of brown casts found by Riedel in the urine of patients who had suffered from fracture. The (partial) destruction of red blood corpuscles in fat embolism is probably to be referred chiefly to the mechanical, and perhaps also to the chemical, effect of the fat drops.

What, then, causes death in fat embolism? At all events, very great quantities of fat are required; hæmorrhagic infarctions occur in the lungs in very widespread fat embolism; meanwhile, before the pulmonary vessels are so completely stopped by the fat as to cause deficiency of breath, much fat has already gone over into the arterial system, and then severe symptoms or even death may result from extensive embolism of the vessels of the central nervous system. The temperature of the body in pure fat embolism is always a little diminished; accordingly, fat embolism does not give rise to fever.

THE SPINAL CORD IN TETANUS.

Mr. Alban Doran and Dr. Vincent Harris⁴ showed before the Pathological Society of London several microscopical specimens of a spinal cord from a fatal case of tetanus occurring after ovariectomy, in which the disease had apparently arisen from a cold draught. The tetanic symptoms were well marked, and caused death from asphyxia. The stump of the pedicle was found to be in every way healthy. After careful examination they had failed to detect disintegration of the gray cornua described by Lockhart Clarke, but they had seen one or two of the isolated transparent, unstained patches described by Dickinson, Coates, and others. These patches were also seen in another cord from a case of tetanus that they had examined. In addition, they had noted proliferation of the small neuroglia nuclei beneath the epithelium of the central canal in the lumbar region; in the cervical region a band of exudation was seen passing quite across this canal, and there were evident signs of exudation in the cervico-dorsal region. They had not found a shrinking of the stellate cells of the gray matter.

¹ Concluded from page 465.

² Archiv für experimentelle Pathologie und Pharmacologie, xi. p. 275.

³ Deutsche Zeitschrift für Chirurgie, 1879, xii. p. 118.

⁴ Lancet, April 10, 1880, page 566.

SOURCE OF ALBUMEN IN ALBUMINURIA.

Litten¹ gives the results of some interesting experiments which he performed to determine the point where albumen escapes into the urinary tubules in cases of albuminuria. He followed the methods previously adopted by Posen and Ribbert. Posen's method consisted in fixing the albumen in the place of its origin by the boiling heat; while Ribbert fixed the transuded albumen, not by means of heat, but by placing the fresh tissue in concentrated alcohol. Litten, using both of these methods, first proved that in the normal rabbit's kidney under physiological conditions there was no transudation of albumen into Bowman's capsules surrounding the Malpighian bodies. He then instituted the following experiments:—

(1.) He tied the renal vein for two hours.

(2.) He tied the renal artery for two hours.

(3.) He tied the renal artery temporarily for an hour and a half to two hours. The animals in the first two sets of experiments were killed directly. In the last they were allowed to live a quarter to half an hour after the ligature was removed. In the first series of cases there was considerable albumen found between the glomerulus and the capsule, which in favorable sections could be followed into the convoluted tubules. In most cases the glomeruli were surrounded by the transudation; in others it was only in the part of the capsule towards the convoluted tubule. The transudation was usually finely granular and colorless, though sometimes it had a reddish tint from admixture with blood. Sometimes a layer of blood appeared between the capsule and glomerulus. The Malpighian body appeared always intact, not compressed, its nuclei preserved and capable of receiving staining fluid. The nuclei of the epithelium of the tubules were everywhere perfectly retained, and readily received coloring matters.

In the second series of cases the structure of the kidneys was intact everywhere. The albuminous mass described above was found in places, though in much less extent, and frequently it was only just recognizable.

The changes in the last set were much more intense. The space between the capsule and the Malpighian body was full of the albuminous mass already described, and it could be followed to a long distance in the tubules. Though chiefly in the tubules of the cortex, it was also found in the collecting tubules of the pyramids. The epithelium of the capsules was much swollen and disquamated, and was mixed with the transudation. The nuclei of the epithelium of the convoluted tubules were for the most part perfectly preserved; sometimes the cells had become smaller and were crumbled, and in some preparations they could not be colored in places. The three observers, Posen, Ribbert, and Litten, therefore conclude that in mammals the glomeruli must be regarded as the part of the kidney from which the albumen comes. Posen found albuminuria and so forth after ligation of the ureter, and, considering all the conditions, Litten thinks that the capsule exudation and albuminuria occur under circumstances which have this in common,—a transient increase in the diameter of the renal vessels (naturally the capillaries of the glomeruli here are the ones which are especially taken into account). In cases of passive congestion (ligature of the

vein, ureter, and so forth) the dilatation of the vessels is evident. In cases of transient ligation of the artery it may be explained as follows: the irritation of the ligature causes a very considerable contraction of the vessels, and after removal of the ligature they suffer a transient dilatation; that it is transient is shown by the fact that the albuminuria is of short duration, and may disappear in twenty-four hours. Microscopic examination here shows the glomeruli are frequently separated from the capsule by a small space, in which no exudation can be found. That it has not been absorbed is evident from the fact that the masses may be found in parts of the tubules nearer the ureter. After a few days these spaces between the glomerulus and capsule are no longer to be discovered.

This assumption, that temporary dilatation of the vessels may lead to transitory albuminuria, is supported by a series of experiments made on strychninized animals. Diuresis began after remission of the vascular spasm, and it was constantly found that immediately after the cessation of the spasm urine was excreted, at first highly albuminous, but later becoming less so, and at the end of an hour being quite free from it; the blood pressure at the time of the action of the strychnine being very high, and during the albuminuria extremely low. A microscopic examination of the kidneys showed that during the stage of spasm (that is, during anuria) the Bowman capsules were empty, while after commencement of the albuminuria the transudation into the capsules was found. This fact coincides with Wittich's experience (confirmed by Stokvis) that section of the vaso-motor nerves caused albuminuria, while section of the secretory nerves did not produce it. Moreover, the albuminuria which Schiff, Claude Bernard, Longet, and others caused by injury to certain parts of the brain, especially the vaso-motor centre, belongs here; so, too, the albuminuria following *commotio cerebri*; and perhaps also that which appears temporarily during high temperatures. The single principle which seems to underlie these apparently so different cases of albuminuria is a disturbance in the circulation of the kidney, which allows a dilatation of the vessels and a consequent retardation of the stream of blood. Litten considers that his experiments have shown that the passage of albumen into the tubules, and hence into the urine, is less dependent on blood pressure than has been previously believed. Albumen is seen to occur in increased pressure (ligature of the renal vein or ureter); in *unaltered*, or at least in relation to the normal *certainly not increased, blood pressure* (after removal of the temporary ligature of the artery); and lastly in diminished pressure (section of the renal nerves and strychnine poisoning in the stage after termination of the vascular spasm).

— The *British Medical Journal* says that the Belgium Royal Society of Public Medicine is organizing a general congress of public hygiene and medicine, to be held in Brussels next August. Of the questions to be discussed the most important ones are on the adulterations of food, contagious diseases, the causes of insubility, and the hygiene of primary schools.

— Dr. Chisholm, in the *Ohio Medical Recorder*, advocates the substitution of the bromide of potassium for the sulphate in Dover's powder, and states that the efficiency of the powder is greatly increased by the substitution. — *Chicago Medical Gazette*.

¹ Centralblatt für die medicinischen Wissenschaften, February 25 1880, No. 9, p. 161.

Hospital Practice and Clinical Memoranda.

BOSTON LYING-IN HOSPITAL.

SERVICE OF DR. W. L. RICHARDSON.

[REPORTED BY C. P. STRONG, HOUSE PHYSICIAN.]

PUERPERAL SEPTICÆMIA.

CASE I. A. W., primipara, aged thirty-nine, entered the hospital November 22, 1878, stating that the waters had escaped during the previous night. She had had no pains nor flowing until two hours before her entrance, when quite a brisk hæmorrhage began, which continued for some little time after she was put to bed. She had been drinking, and was very nervous. Palpation showed the breech behind the pubes. The fetal heart was heard. By vaginal examination the cord was felt hanging out through the vulva, cold and pulseless. The os was dilated to the size of a twenty-cent piece, thin and soft. Ether was given, and the os manually dilated until the hand could be passed into the uterus and podalic version performed, with forceps to the after-coming head. The uterus contracted firmly with very slight hæmorrhage, and the patient rallied well from the ether. The child had evidently been dead some time, as the skin was desquamating, and the odor was very offensive. The placenta was also partially putrid. Ergot and strong carbolic douches were ordered.

The urine just before delivery contained one fourth per cent. of albumen.

November 23d, first day. At the morning visit the patient was very nervous, and chloral and bromide potassium were ordered. The lochia were offensive. Pulse 76; temperature 99.2° F. Evening visit: Pulse 90; temperature 101.6° F. There was no albumen in the urine. November 24th, second day. Morning visit: Abdomen a little tender. Pulse 76; temperature 98.6° F. Evening visit: Pulse 66; temperature 102° F. Quinine was given, two grains every four hours. November 25th, third day. Morning visit: Lochia not offensive. Pulse 84; temperature 100.2° F. Evening visit: Pulse 76; temperature 100° F. November 26th, fourth day. Morning visit: Pulse 72; temperature 99.2° F. Evening visit: Pulse 72; temperature 99° F. Quinine stopped. November 27th, fifth day. There was no abdominal pain or tenderness, and both pulse and temperature were normal.

From this date, although the pulse averaged about 96, the temperature never reached 100° F. until the evening of the ninth day, December 1st, when it was 100.5° F. The patient always said she felt nicely, and, except her nervous manner, appeared all right. During the night of the ninth day she got out of bed, and wandered about the ward, but at the morning visit of the tenth day she had no recollection of the fact, but said that she had passed one of the best nights since her confinement.

December 2d, tenth day. Morning visit: Pulse 104; temperature 99.4° F. Evening visit: Pulse 120; temperature 100.2° F. December 3d, eleventh day. Morning visit: Pulse 106; temperature 102.4° F. Evening visit: Respirations 56; pulse 140; temperature 104.8° F. She continually muttered to herself, and was wandering and stupid. She would, however, answer if spoken to loudly. There was considerable thick mucus in the mouth, and the teeth were covered

with sordes. She passed her urine in the bed. A slight cough was noticed, with dullness over the lower right back and fine râles. Coarse râles were heard over both backs.

December 4th, twelfth day. Morning visit: Respirations 45; pulse 144; temperature 103° F. Evening visit: Respirations 45; pulse 140; temperature 103° F. Her condition was about the same; still she took her food well. The catheter was required. December 5th, thirteenth day. Morning visit: Respirations 12; pulse 135; temperature 102.8° F. (axilla). Evening visit: Respirations 56; pulse 120; temperature 104.6° F. (vagina). At eight p. m.: Pulse 200; respirations 60. She slept some during the first part of the preceding night, but was very restless during the latter part. She became decidedly weaker during the afternoon, taking food with difficulty, and in the evening came a marked change for the worse. Nourishment was taken only by the teaspoonful, and the patient could not be roused from her stupor.

December 6th, fourteenth day. Morning visit: Respirations 61; pulse 175; temperature 105.7° F. (vagina). She was now rapidly sinking. The lochia were offensive for the first time since the third day. She was unable to swallow, and died at one p. m.

Autopsy by Dr. R. H. Fitz. *Pia mater* thickened, opaque, and œdematous. Cerebral substance unusually injected. *Lungs*. Old adhesions to thoracic walls. Lower surface of lower lobe of right lung covered with recent false membrane. Lower lobes of both lungs moderately infiltrated with dark-red matter. On pressure, opaque grayish-red fluid escaped. Occasional patches of purulent infiltration. At apex of lower lobe was a dilated bronchus leading to a cheesy nodule, the size of an almond. *Spleen* about twice the normal length; soft. Pulp grumous. *Kidneys*. Cloudy swelling. *Liver* normal save for several dense yellow nodules, large as grape-seeds, inclosed in a capsule. *Uterus* slightly larger than closed fist. Left Fallopian tube, ovary, and broad ligament adherent. Recent ecchymosis in Douglas's fossa on the left. On posterior wall of bladder, on left also, by uterus, was a nodule of blood clot, as large as a raisin. Recent ecchymoses on mucous membrane of left posterior wall of bladder. *Vagina* and *interior of uterus* smeared with an opaque, reddish-gray fluid, of creamy consistency. Placental insertion on the left corner of uterus. On posterior wall of uterus, near fundus, also near internal os, the surface was shreddy. On left of external os was extensive laceration extending into vagina, triangular, base looking towards vagina. Base one inch long by three fourths inch wide. Veins contained recent clots or were empty. No evidence of œdema of pelvic connective tissue.

Diagnosis. Thickening of arachnoid and œdema of pia mater and brain substance. Acute broncho-pneumonia and œdema of lung. Acute pleurisy. Bronchiectasis. Chronic broncho-pneumonia. Acute hyperplasia of spleen. Cloudy swelling of kidneys and liver. Acute endometritis. Laceration of cervix.

PUERPERAL MANIA.

CASE II. M. D., primipara, aged fifteen years. The day after a journey of several hundred miles in the cars, the patient was brought into the hospital October 12, 1878, with the history of pains for twelve hours, and escape of the waters. Examination showed that the os was fully dilated, and the head almost on the

perineum. In an hour after entrance the labor was terminated normally.

Previous to the delivery the patient's actions were so strange as to attract attention. She tossed from one side of the bed to the other, rapidly shaking her head from side to side, executing every movement with sudden violence, and this in the intervals between the pains; during a pain she screamed incessantly. Her answers to questions came reluctantly, and only after persistent repetition. Her pupils were widely dilated. The urine was normal, containing no albumen. During the first three days of her lying in these symptoms continued the same, with pulse and temperature about normal, but on the morning of the fourth day the pulse was 132, temperature 104.6° F., and patient very nervous and sullen, absolutely refusing to speak to any one. She had cried all the previous night, without any assignable cause. During the afternoon her temperature rose to 106° F., accompanied by very dry skin and great restlessness, but diaphoretics and cathartics reduced this to 101.8° F. the following morning. Up to this time, although she manifested no particular affection for her child, she had always treated it kindly, but now she commenced to abuse it by pinching, sticking in pins, etc., and it was necessary to remove it from her bed, allowing her, however, to nurse it at intervals to relieve her breasts, which were very full. Her evening pulse and temperature were the same as the morning. During the night she was discovered by the nurse turning somersaults in the bed and walking about the ward, but in the morning she refused to give any explanation of her actions or to answer any questions whatever, exchanging her nervous manner for sullen obstinacy. At the visit her pulse was 114; temperature 104.6° F. Isolation and the constant presence of a nurse prevented any further violent actions upon the patient's part; sleeplessness was overcome by hypnotics, and from this time there was progressive improvement, noticeable from day to day, in the patient's manner, so rapid that in five days she was perfectly sane, wished to have her child with her, and ate and slept well. There was no return to her previous condition, and three weeks after leaving the hospital she was perfectly well and attending school.

At no time during her lying in were the lochia offensive, nor was there any abdominal tenderness.

POST-HEMIPLEGIC MOBILE SPASM.

CASE III. A. F., primipara, aged twenty-six. Entered the hospital November 3, 1878, and was delivered after a perfectly normal labor. At the time it was noticed that her right arm was smaller than the left, and kept constantly flexed, and that the right leg was also flexed, with the foot turned in, somewhat like talipes varus. The first ten days of her convalescence were passed normally, except that both pulse and temperature ran somewhat higher than usual without any apparent cause. Upon the eleventh day she complained of inability to sleep the preceding night on account of the violent twitching of the right arm and the consequent pain. She was lying on her right side, with the right arm beneath her, and the wrist held firmly by the left hand to control the movements. She was groaning and tossing about, evidently quite hysterical. Chloral and bromide given in large doses produced but temporary relief. The next day the twitchings were much worse; it was impossible to hold the right arm ex-

tended. Pain was so severe in the affected shoulder and arm that large doses of morphia were required, under which she slept most of the night, but moaned incessantly, although the movements were much less marked while she was asleep. Her temperature rose to 104.6° F. On this day she was seen by Dr. James J. Putnam in consultation, who reported:—

"The condition has existed since infancy, when the right side was injured by a fall, but more markedly since confinement. All the muscles of the right shoulder, arm, leg, and face are the seat of constantly recurring mobile spasm. Face: the zygomatics are principally involved. Arm: all the muscles involved, but the habitual position is flexion at the elbow and wrist. Fingers: bird-claw position, except the index finger, which is frequently extended. Thumb: all the muscles at the base are strongly contracted, but the last phalanx is extended. Foot: in the position of counter-flexion. Toes: bird-claw position.

"All the movements are greatly intensified with voluntary effort. The right arm is warmer than the left, smaller, and three fourths of an inch shorter from olecranon to inferior condyle. No movements of trunk muscles are seen, perhaps because the patient is lying in bed. On the right side of the trunk there is an eruption, but none on the extremities."

Her condition was the same on the succeeding day, and morphia was required for sleep, but there was considerable improvement during the next two days. The day after, however, the movements returned, and were as severe as at any previous time, her temperature rising to 105° F. This was the last marked attack, yet she always held the right wrist in the left hand to keep the arm quiet.

When she left the hospital she could not use the right arm, but could control, to a considerable extent, the involuntary movements. She walked in a sidling manner, trailing the affected leg after her, never putting it in advance of the other.

GANGRENOUS VAGINITIS.

CASE IV. M. C., aged twenty-three, last catamenia in July, was sent to the hospital April 16th, three p. m. Reported as being in labor three days. Palpation. Tumor presented the long diameter transverse. No fetal heart could be heard. Per vaginam the head was on the perineum, presenting O. L. P. There was a putrid, extremely offensive discharge from the vagina of greenish-yellow matter. Two quarts of urine were drawn. At 4.30 p. m., Dr. Richardson delivered with forceps a child weighing eight and a quarter pounds, face to pubes. The child gasped several times, but respiration could not be established. The placenta was removed manually, and found to be fatty degenerated, decomposed, and putrid. Uterus remained flabby and soft. Ether subcutaneously and a cold intra-uterine douche effected firm contraction. Pulse 120. Perineum intact.

April 17th. Pulse 90; temperature 98.4° F.; passed a comfortable night. The lochia were offensive, and there was some tenderness over the uterus. The whole surface of the vulva on the inside, extending up the vagina, was covered with green gangrenous ulcerative patches with well-defined borders. Strong douches of carbolic acid were applied every two hours, and tampons saturated in carbolic oil; uterine douches were given three times daily. Pulse 90; temperature 99.6° F.

April 18th. Pulse 94; temperature 100.4° F. From this date to the 26th the patient gradually convalesced. The ulceration about the vulva improved steadily, so that on the 25th, examination through a speculum showed only a few small spots which had not healed. Tampons saturated with tincture of myrrh were applied to these. Vaginal douches were continued every four hours, the lochia being still somewhat offensive.

April 27th. Pulse 92; temperature 104.2° F. Was interviewed by state agent, and felt worried about their questions. Temperature 102° F.; pulse 96. April 28th. Pulse 96; temperature 100.8° F. Evening: pulse 90; temperature 100.4° F. Has felt perfectly well all day; lochia not offensive. April 29th. Pulse 104; temperature 104.2° F. Slept well all night; crying all the forenoon because she can't sit up; no appetite; tongue furred; lochia suppressed; hot douches given frequently, and poultice applied to abdomen. Pulse 98; temperature 102.4° F. April 30th. Pulse 90; temperature 101.8° F. Lochia are normal in amount, but still some offensive; ulcerations have entirely disappeared. Patient has been ugly and notional throughout her sickness, and is continually worrying. May 2d. Patient sat up; still considerable lochial discharge. May 5th. Uterus measured four and one half inches; there was a profuse catarrhal discharge slightly tinged with blood; position of uterus normal; no ulceration visible. May 6th. Discharged well.

INSANITY; SUPPOSED PREGNANCY.

CASE V. H. S., widow, aged fifty-seven. At the age of twenty the patient gave birth to an illegitimate child, and from this time until she was twenty-three was insane, becoming at one time so violent that it was found necessary to transfer her to an asylum, where she remained six months, and was then discharged. When twenty-six she married, and her mental condition was apparently good until six years later, when she was again put in an asylum, this time remaining six or seven years. She has no recollection of about two years of this period, but for the remainder of the time considered that she was a military prisoner. It was during these years that she imagined herself pregnant, and so informed her nurse, cherishing the delusion fourteen months. After her discharge from the asylum she lived away from her friends, conducting herself well until a few weeks before she entered the hospital, when she went to her sister's, and informed her that she was seven months advanced in pregnancy, and was confirmed in her statement by the family physician, by whose advice she was sent to the Lying-In Hospital, November 22, 1878. The day after she entered the hospital she was examined, and found not pregnant. The evening of the second day she was in the hospital she told the nurse she should be confined before morning, and requested her to get the baby's clothes all ready. She slept quietly all night, and the next morning declared she had been delivered and the baby secreted; and so began a search through all the wards, which resulted in her claiming as her own a child two weeks old, basing her claims on the fact that the child's wrists were a little reddened, and looked as her own did when she had them in hot water. So she dressed the baby in her own baby clothes, and tended it all day, reluctantly giving it to its mother at night. The next morning she had apparently forgotten all about the child, as she busied herself knitting some socks for her expected baby; nor did she, during the remainder of

her stay, make any allusion to it. When she left the hospital for an asylum she said nothing about her own pregnancy, but seemed also to have forgotten that.

This case in so many respects resembled a well-marked case of so-called "spurious pregnancy" that it was not to be wondered at that the physician by whose advice she was sent to the hospital had been deceived, although he had made a "somewhat hasty vaginal examination."

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. ROTCH, M. D., SECRETARY.

MAY 10, 1880. DR. JAMES C. WHITE, permanent chairman, presided.

HYDROPHOBIA.

DR. ABBOT read a report on a well-marked case of hydrophobia, occurring in a young man who had been severely bitten some months before by a flying squirrel, which he had captured at Forest Hill, near Boston, and which he had taken from its young. No information of any other animal bite could be obtained. The case was fatal.

DR. FITZ made a statement of the anatomical changes found at the post-mortem examination of Dr. Abbot's patient. Hemorrhages were present in the lungs, and extensive alterations in the medulla. The latter corresponded with those previously observed by the reporter, by Dr. Gowers, and by certain other writers who had recently investigated the lesions found in this disease. He showed several sections of the medulla in which were hemorrhages, both parenchymatous and within the perivascular spaces; also miliary abscesses and the accumulation of indifferent cells within the adventitia of the smaller veins and arteries.

DR. BEACH said that in this case the evidence of inoculation by a rabid animal was insufficient, but that fact would not invalidate Dr. Abbot's diagnosis of hydrophobia. The boy was fond of animals, and the possibility of an inoculation of abrasions independent of his knowledge must be admitted. Dr. Fitz has again corroborated the microscopical observations of Gowers, defining changes which resembled those described by Benedikt, Coats, Clifford Allbutt, and Hammond. More recently, Ross¹ has made a report on four cases of tetanus and six of hydrophobia. His observations are confirmatory of those already mentioned, excepting Gowers's description of the clot within the blood-vessels.

Upon comparing sections from the cases of tetanus and hydrophobia, he found similarities which warranted him in stating that the groups of cells which are shrunken and altered in hydrophobia are also affected in tetanus,—the description of one applies to the other; but the vessels in tetanus are *not* surrounded by cells, as they are in hydrophobia. Gowers holds that the distribution of the lesions, their intensity in the lower part of the medulla and the neighborhood of certain nuclei, constitutes a distinguishing character by which three out of four cases of the disease may be recognized.

¹ Transactions of the London Pathological Society, 1879, page 215.

The relation of the pathological changes to the symptoms is yet an open question; in fact, the lesions in the cord may have been simply coincident with the symptoms, or possibly due to the mode of death, though in Dr. Curtis's interesting paper¹ we have most important evidence connecting the symptoms with the respiratory centre of the medulla.

Should the pathological changes in the medulla, observed during the careful investigations of Dr. Fitz and others, be linked so firmly as to leave no doubt of their connection, the treatment of the wound will be the same as now, until it can be proved that efficient cauterization of the wound is ineffectual. The wounds made by a rabid animal demand the most active treatment on the part of the surgeon. While any uncertainty exists as to the rapidity with which the virus is absorbed, the patient is entitled to the benefit of the doubt. As yet no unquestionable case of hydrophobia has been cured; therefore the risks involved by the cauterization of extensive lacerations are justifiable. A cicatrix resulting from a wound made by a rabid animal should be excised and cauterized. The wound made by a rabid animal and that from a dissecting instrument can hardly be compared for the purposes of treatment. It is true that a bad wound from a subject dying from puerperal fever or peritonitis may give rise to little or no disturbance, even if *not* cauterized; but should the dissecting wound produce the *worst* symptoms,—for instance, a lymphangitis extending to the shoulder, with suppuration of the axillary glands and pleurisy,—under appropriate treatment the patient may recover. It follows that a dissecting wound need not be cauterized to save life. Can we say the same of a bite from a rabid animal? The most reliable statistics that can be obtained show that thirty-three per cent. of those bitten by rabid animals, including mild and severe cases, and cauterized more or less efficiently, fall victims to hydrophobia; but in cases where cauterization has *not* been practiced exactly eighty-three per cent. of those bitten die. Another argument in favor of cauterization of wounds is that it allays the fears of nervous and hysterical patients. Virchow states "that the physician should impress upon the mind of the patient a conviction of the efficacy of treatment."

The sucking of wounds to withdraw virus is unnecessary if an efficient cauterization is practiced. It exposes a second person to the danger of inoculation through the slight cracks or abrasions of the mucous membrane of the mouth, which any one may have and not be aware of the fact.

The actual cautery or the most careful application of the strongest mineral acids to the wounds should be the treatment. Excision of the wound has no advantages over cauterization, but exposes the subject to fresh chances of inoculation. The cautery discolors the surface of the wound in such a way as to leave no doubt in the mind of the one who uses it as to its application to every part of the uninoculated tissue. It is always available, and could be used by those who would hesitate to excise through fear of hemorrhage. Lunar caustic is too weak an agent where life depends on the *certain* destruction of the virus. As a palliative measure, tracheotomy to relieve asphyxia has been proposed by high authorities, but so far as I know with no relief to the symptoms. Chloroform, opium, and possibly the bromide of ethyl offer the

most relief. The latter, from its unirritating action upon the respiratory tract, may prove of service where ether and chloroform do not act well.

Dr. FITZ remarked that in the early treatment of the bite from a rabid animal he was unable to appreciate the advantages of thorough cauterization, unless it could be performed immediately after the biting had taken place. He thought the absorption of virus was likely to take place with a rapidity corresponding to the rate of flow of the blood and lymph currents. A long period of incubation did not seem to him indicative of slow absorption, as it is well known that the effects of an inoculated poison may not be manifested till long after its introduction. The reports of immunity from symptoms when cauterization had taken place some time after the bite of the animal might well be attributed to the fact that different individuals present a widely differing susceptibility to the action of the virus. When a number of persons are bitten by one or by many dogs, the percentage of those becoming hydrophobic has been repeatedly shown to be very small. Whatever remedies, therefore, might be early applied would apparently prove beneficial in a large number of cases; but he doubted if the proportion of recoveries would be any greater than that to be determined by observing what might be called the natural history of bites from mad dogs when not interfered with by any so-called abortive treatment.

Dr. FOLSOM remarked that statistics of the results of treatment of bites of rabid animals had been kept in France for some years, and that it had been shown that where the wound had been cauterized with the hot iron no deaths from hydrophobia had occurred; while where only nitrate of silver had been used hydrophobia followed in almost every case.

Dr. T. B. CURTIS thought that the favorable results attributed to the energetic treatment of dog bites by cauterization or excision were likely to be more apparent than real, and that the immunity from hydrophobia enjoyed by a large proportion of those so treated was more plausibly explained by the recognized infrequency of positive inoculation in cases of rabid-dog bites than by any prophylactic or remedial influence exerted by such treatment. With regard to the statistics which are supposed to demonstrate that, in cases of rabid-dog bites, a larger proportion of patients treated by cauterization escape the disease than of those left untreated, there is an element of fallacy, inasmuch as cases of successful expectant treatment, in which nothing is done and disease is escaped, are much less likely to be followed up and recorded than cases in which an energetic treatment of the injury has apparently served to prevent the development of the dreaded disease. Reasoning from the analogy of hydrophobia with some of the other virulent inoculable diseases which are better known, there is little evidence to encourage hopes of our being able to prevent the development of hydrophobia when once the insertion of the virus has been effected. Experiments with vaccine virus, with the virus of glanders and of charbon, show that absorption takes place almost instantaneously. With regard to the utility of exciting the scar of a healed rabid-dog bite, there would seem to be still less reason to expect any beneficial result. Syphilis is a disease which somewhat resembles hydrophobia by the long duration of its period of incubation; but it has not been found possible to modify the development of constitutional syphilis by surgical means.

¹ Boston Medical and Surgical Journal, November 7, 1878.

ures directed against the lesion through which infection has taken place.

DR. WEBBER asked whether the changes in the medulla were to be considered primary or secondary.

DR. FITZ said that they must be primary, and that they were independent of the blood-vessels.

DR. WEBBER said: There is in some cases more or less inflammation of the nerves in the neck relating to deglutition, as the recurrent and superior laryngeal and pneumogastric. As the symptoms in this case had existed for several days, it might be possible for the cord to have become affected secondarily. The changes in the blood-vessels are seen in other diseases, as in certain cases of myelitis, in general paralysis and other forms of insanity, and in cerebral hemorrhage.

One of the most marked cases which Dr. Webber had ever seen was in a case of meningeal hemorrhage in a syphilitic patient. Charcot describes such periarteritis in cerebral hemorrhage. But in all these cases the change is much more generally diffused than in the present case. The limitation of the change might lead to a suspicion that it was secondary. The so-called military abscesses are apparently of a different nature, yet may they not also be secondary and dependent upon the change in the blood-vessels?

DR. DENNY spoke as follows: Through the kindness of Professor Gudden, of the University of Munich, I had the opportunity of examining a series of four hundred and fifty micro-copic sections through the brain and medulla of two dogs, two horses, one ox, and a man, that had all died with undoubted symptoms of hydrophobia. These were partly colored by carmine and partly by fuchsin, which showed the smallest trace of increase of lymph cells or of pus. This was in 1876, when Professor Benedict's theory in respect to the pathological anatomy of hydrophobia had been but recently published, and attention was directed especially to the search for military abscesses, which he regarded as both constant and as secondary changes in hydrophobia resulting from thromboses and coagula in the veins.

The changes found were, in brief, besides the engorgement of capillaries and veins, already mentioned, collections of white blood corpuscles within the vascular membranes, and nothing more that was abnormal.

In the white substance of the brain of the ox there were star-shaped connective tissue cells, resembling increased and hypertrophied connective tissue cells of the neuroglia. These sections were made by Dr. Forel, lecturer on psychiatry, and tend to the conclusion that military abscesses are not pathognomonic of hydrophobia and are not primary.

DR. A. H. NICHOLS remarked that the notion, originating with Dr. Hammond, that hydrophobia could be developed spontaneously in a female dog in heat, or that such an animal was particularly predisposed to the disease, was based on the unsatisfactory evidence of two imperfectly observed cases, and was contradicted by the concurrent testimony of those familiar with dogs. This hypothesis, which, though seemingly harmless, might be conducive to great injury to dog owners, is disproved by the fact that there has never been recorded a single well-authenticated instance in which hydrophobia in a dog has been traced to the bite of a non-rabid bitch in heat; and were this mode of origin possible each female dog would then constitute periodically an unmistakable focus of infection, being apt when in this condition to snap at and bite the greater number of male dogs which approach her.

DR. WILLIAMS remarked that the cases of hydrophobia cited by Dr. Hammond as having been produced by a bitch in heat did not seem to him to be authentic.

DR. J. J. PUTNAM referred to the theories of the hydrophobic paroxysm advanced by Dr. Curtis and by himself two years ago, and said that he had become still more convinced than ever that these paroxysms were essentially psychoses, though centring on the condition of respiratory distress. They are analogous to the struggles of a drowning person, or of one being suddenly strangled, and, again as Dr. Gowers has pointed out, to attacks of hystero-epilepsy.

The inhibition of the inspiratory centre, according to this view, is not the central feature of the paroxysm, and need only be present sufficiently to excite, — or so that the fear of it should excite — the emotional outbreak, which then still further throws the respiratory mechanism, already permanently impaired, out of gear.

RAPID DEATH IN THE EARLY STAGE OF DIPHTHERIA.

DR. A. H. NICHOLS reported a case of diphtheria in which toxic symptoms were developed with unusual rapidity at the outset of the illness. The patient, a plump, healthy girl, three and one half years old, was first seen in the middle of the afternoon on the 30th ult. She had been playing about the house during the forenoon, and apparently in usual health; but after dinner a slight croupy breathing was noticed by the mother, which occasioned no anxiety, however, inasmuch as the child had been subject to trifling derangements of the air-passages. Upon inspecting the throat, which was displayed readily and without aid, the pharynx was found to present an extensive, thin, grayish-white exudation. The submaxillary and cervical glands were slightly enlarged; the pulse about 100. There was no difficulty in swallowing. At a later visit (ten. p. M.) the symptoms had become alarming, the child thrashing about, apparently in considerable distress, respiration being uniformly labored and loud and the voice hoarse and metallic. There were no suffocative spasms, however, nor was the forced retraction of the throat muscles so conspicuous as is often seen. Although it was evident that the child was rapidly sinking, it did not appear that the actual mechanical obstruction to respiration was sufficient to produce asphyxia. Yet, to give the patient the benefit of any doubt on this score, tracheotomy was performed (without an anæsthetic), though without appreciable benefit, death resulting shortly after midnight. No post mortem was obtained, but so far as could be ascertained from an examination of the interior of the larynx with a blunt probe there had not been much advance of the membrane into this organ. Death in this case, though rapid, differed from those more familiar sudden terminations occurring during convalescence, and commonly referred to syncope, and seemed due to the constitutional effects of blood-poisoning, aggravated, perhaps, by the disturbance of the respiratory apparatus.

DR. C. P. PUTNAM thought the manner of death did not well correspond with the sudden death which is characteristic of diphtheria. In such cases there is a sudden shock of some kind, which occurs at a time when the patient is otherwise apparently doing well. The onset of the attack is usually so well marked that some sudden occurrence has been sought for to account

for it, such as the formation of a clot in the heart. In this case the patient appeared to have sunk away gradually, as if from dyspnea.

Dr. FITZ stated that in a case of sudden death during convalescence from diphtheria he had found an extensive fatty degeneration of the heart. The child had so far recovered from the immediate effects of the disease that the nurse had taken the infant out-of-doors, and on her return the child died immediately after being removed from the carriage. He thought that Dr. Nichols's case was rather one of death during the progress of the disease than early in the course of the same, as the pharynx was seen to be coated with an extensive false membrane, which was likely to have required at least a period of days for its formation.

Dr. J. J. PUTNAM spoke of a case of epilepsy in a child, with very numerous fits, in which a moderate dose of bromide of potassium combined with chloral hydrate had proved eminently successful, after large doses of the bromide alone had failed to help. This combination will not suit all cases, but is sometimes very useful.

Dr. BRADFORD mentioned an unsuccessful excision of the hip-joint, where the patient died from shock. The operation presented no difficulty, and though the patient, a girl of ten, was in poor condition, she was not more so than is often seen before successful excision. After the operation the temperature, which had been over 100° F., fell to 96°, and just before death to 95°. The child rallied somewhat, but was unable to retain anything on her stomach, and died three days after the joint was excised.

Dr. FOLSOM reported a case of general paralysis of the insane. The man was brought before the court for polygamy, and sentenced for a number of years. He was a man of good position and education, and quite fond of his wife. At the state-prison he could not work, because he could not concentrate his attention on any special work. Last week Dr. Folsom examined him, and found that he had all the symptoms, extravagant delusion and motor perturbations, of general paralysis of the insane. Dr. Folsom had no doubt that his second and third marriages were the result of the disease in its beginning. Dr. Folsom had found four other men, who had also been imprisoned and were in the state-prison, who were probably insane at the time of imprisonment.

Dr. ROTCH reported the result of an experiment made by him on the cadaver of an infant, where an artificial pericardial effusion having been produced an aspirator needle was introduced in the fifth right intercostal space, one and a half cm. from the border of the sternum, and the fluid came out freely through the needle.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

T. M. ROTCH, M. D., SECRETARY.

FEBRUARY 28, 1880. DR. CALVIN ELLIS presided.

THE RADICAL CURE OF HERNIA.

Dr. J. H. WARREN presented a report of cases of hernia operated upon for radical cure by injecting the hernial rings, which he had read before the Otsego County Medical Society, New York.

He thanked the profession for the encouragement he had received while endeavoring to perfect and pre-

sent to them his operation as improved by a new instrument and mixture for injecting the hernial rings. He spoke of Velpeau, Pancoast, and J. M. Warren having injected the hernial rings through a canula, or by first cutting down upon them and then injecting. Dr. George Heaton was the first to inject hypodermically with any satisfactory result.

Dr. Warren gave the result of an operation made July 10, 1879. A perfect occlusion of the rings followed the injection with Dr. Heaton's old instrument and mixture. The ruptures were large and inguinal; one side had existed for over two years, the other one year and a half. This patient re-ruptured himself on one side at the expiration of twelve or fifteen days, by coughing and forcing down. His third, fourth, and fifth operations were on enormous double congenital hernia; patient aged between forty-five and fifty. One side was successfully closed; upon the other, after a second injection, an abscess formed, which Dr. Warren thought was caused by the patient's resuming the upright position too soon after operation, and also that the abscess caused an absorption of lymph effused which allowed of some omental protrusion. Although one side is perfectly cured, the other is only partially occluded, but still retains the intestines fully within the rings. Operations six and seven were upon oblique inguinal hernia. July 30th, patient, aged sixty-two years, had been ruptured over forty years. At the expiration of twelve days after the operation the ring was found successfully closed, and continued so for two months. The patient then relaxing in his efforts to keep the bandage properly adjusted, the hernia partially returned. With the new and more stimulating mixture he reinjected him October 6th. The result of this operation was to more fully close the ring and control it, and successfully retain the intestines within the abdominal cavity.

In addition to these, he gave the history of two inguinal, two femoral, and one umbilical hernia. With these latter he operated with his new instrument and mixture, of which he has sent the following formulas and a short description:—

For infants and children to the age of five, for accidental or congenital hernia, use the aqueous extract of oak bark of Dr. Heaton's formula; for children five to fifteen years of age, extract of oak bark distilled to the consistency of glycerine, with ten drops to the drachm of sulphuric ether; for old and long-standing hernia, the latter extract of oak bark with one drachm of absolute alcohol to four of the extract, and one drachm of sulphuric ether with one or two grains of sulphate of morphia.

Dr. Warren's instrument consists of a barrel holding a drachm or two, and through a fenestrated opening the graduations can be read. It has a valve attachment, which will allow one to sixty drops to pass from the barrel through the spirally twisted needle which is joined to the lower end of the barrel by a metal cap. This cap allows the needle fitting accurately to revolve upon a ruby or diamond pierced with an orifice for the exit of the fluid. The piston is forced down upon the fluid by means of a spiral spring, which has sufficient force to eject the fluid upon the parts at right angles.

It will be seen that I have given the history of twelve operations on genuine ruptures of various kinds. This does not include all that I have operated upon, but only a few very interesting cases.

Of twelve cases reported, the first two were partial failures, and one later. Two of these are soon to be

reoperated upon. Dr. Warren had some doubts as to the possibility of retaining the large congenital hernia, but as the patient was very anxious for another operation he proposed to perform it. These included all of the unfavorable cases that he had met with thus far.

Upon infants he had never operated. The youngest patient was four years old. Mechanical appliances, such as a good truss or elastic bandage, he had found productive of good results. He preferred a bullet partially flattened and fastened to a linen bandage, because the compression of the abdominal muscles by the elastic bandage prevents their development, and consequently the closure of the rings, and also because these muscles are liable to be thinned by the constant pressure, and forever weakened.

COLOR-BLINDNESS.

APRIL 10, 1880. DR. B. JOY JEFFRIES gave a detailed statistical account of his more than thirty thousand examinations for color-blindness among males and females. These investigations were commenced for the scientific purpose of deciding the percentage of this chromatic defect among males and females. They have, however, led to very practical results by the control of color-blindness and visual defects in the United States army, navy, and marine hospital service, where already the method of Professor Holmgren has been adopted, and Dr. Jeffries's volume supplied as the standard to medical officers. The value and importance of physical examinations in the merchant marine was explained, and why he urged it and an international commission before the naval committee of Congress. The examinations of railroad employees by officials as hitherto carried out were shown to be useless and dangerous. The State of Connecticut has the honor of being the first to enact judicious laws for the control of color-blindness and visual defects amongst railroad employees, the tests for which are to be carried out only by medical experts as they are in Europe.

DR. WADSWORTH said that he did not think that the matter could be put so strongly in regard to railroads as it had been lately. Many more color-blind persons are now found than before, and there is no doubt that men are employed on railroads who cannot distinguish red and green lights. Men who are not physicians, but who have some knowledge of physics, some education, and some common sense can learn to test for color-blindness. As to visual defects, they are often such as to impair a man's usefulness as an engineer while he is young, but which ought to be remedied by glasses, if possible, as he gets older. It should be understood that the wearing of glasses does not necessarily show that a man does not see well, for with glasses they often can see as well as any one. Men often do not wear glasses when they ought, for fear of losing their work.

DR. HUNT criticised Dr. Jeffries's remarks and previous writings on the subject of color-blindness.

DR. C. E. WING read a paper on The Modern Abuse of Gynecology, which has been published.

DR. L. FOSTER read a paper on the False and the True in Therapeutics.

PROFESSOR BUTTERFIELD made some interesting remarks on visible speech, and explained the method of using it.

DETERMINATION OF UREA.

APRIL 24, 1880. DR. F. H. WILLIAMS read a paper entitled A Simple Method for determining the

amount of Urea in the Urine, and exhibited an apparatus adapted for this purpose.

PUERPERAL TETANUS.

DR. C. M. GREEN read a paper on Puerperal Tetanus, of which the following is an abstract:—

On the 7th of January, 1880, a nervous married woman, thirty-six years of age, three months advanced in her seventh pregnancy, suffered her third abortion. Her medical attendant subsequently informed me that the placenta was extracted manually and the copious hæmorrhage checked with a tampon. The woman was much reduced in strength, but at the end of a week was about her usual work.

Thirteen days after the abortion I was called to see the woman, and found her suffering severe pain in the head and both sides of the neck. Two days later there was great pain in the small of the back; partial trismus ensued, and there was a sense of constriction in the throat, but liquid nourishment was taken without difficulty. The woman lay propped up in bed, with the head thrown backward; when she was raised rigidity of the back was noticed. There was no abdominal pain or tenderness, and there was no vaginal discharge. For two days the same condition obtained, the temperature being normal and the pulse 130, regular, but weak. The next day there was rigidity of the legs, and the woman began to have tonic convulsions; the head was thrown violently backward, the arms and legs were rigidly extended. These convulsions continued at variable intervals for three days, the temperature meanwhile rising to 101.9° F.; but toward the close of the third day the convulsions recurred about every half hour and became more violent, until death ensued, apparently from apnoea. The intellect was clear throughout.

The attendance on the patient was such that several important matters were not made known to me before her death; I witnessed none of the convulsions. The case as I observed it seemed one of hysteria, with which the patient had suffered before. But after death had occurred, and it was evident that an error had been made in diagnosis, careful inquiry among the patient's friends elicited evidence which left no doubt that the case was one of tetanus. A post-mortem examination was not allowed.

Puerperal tetanus has a very scanty literature, and the cause of its origin is still undetermined. Sir James Simpson¹ believed that tetanus was more likely to supervene when the uterine surface was in such a state of lesion as to lead to protracted hæmorrhage, or when the maternal canals had been irritated by the tampon; and he admitted that possibly some special blood poison in the placental area or elsewhere might give rise to tetanus.

Schroeder² believes it to be probable in the highest degree that tetanus arises from infection, or "at least by some peculiar irritation of a puerperal wound;" and that it most frequently ensues after considerable hæmorrhages, especially when the tampon has been used.

Dr. Angus McDonald³ has reported a case of tetanus occurring on the eleventh day after a natural labor. The autopsy revealed in each corpus striatum a vast number of small extravasations, and in the vena cava and straight sinus a large, dense, firm, and adherent

¹ Selected Obstetrical Works, page 569.

² Lehrbuch der Geburtshülfe, 7te Auflage, s. 770.

³ British Obstetrical Journal, November, 1875, page 516.

thrombus. Referring to the opinion of many physiologists that the corpora striata and quadrigemina are the great motor centres of the whole body, irritations of which will produce tetanic convulsions, McDonald points out that as soon as the straight sinus became impermeable these motor centres, whose veins ultimately discharge into this sinus, must have been thrown into such a state of congestion as to cause the irritation necessary to produce muscular spasms. He therefore believes it most plausible that congestion of and extravasations into the cranial motor centres, resulting from venous thrombosis, are the proximate and the peculiar (perhaps septic) condition of the blood which exists in the puerperal period, the predisposing cause of puerperal tetanus. On the other hand, Surgeon Major Ratton¹ says that "the group of symptoms known as tetanus is produced by peripheral nerve irritation," and that so-called idiopathic tetanus is due to intestinal irritation from worms, or to puerperal or menstrual troubles in which peripheral nerves are irritated. Lattey² reports the case of a woman suffering with obstructive dysmenorrhœa, who was seized with convulsions characterized by complete opisthotonos and visus sardonius. The convulsions occurred at three successive menstrual periods, and drugs had no effect in relieving them; but after incision of the cervix, which relieved the dysmenorrhœa, the spasms ceased.

My own case of tetanus, devoid as it is of post-mortem evidence, unfortunately gives no clew to its origin, but it seems most probable that some vessel in or near the motor centres became occluded by a thrombus, which gradually led to such congestions and extravasations as to irritate these centres, but which did not result in sufficient effusions or hæmorrhages to impair consciousness. Or possibly the spinal motor ganglia were in such a condition of irritability that some slight irritation of peripheral nerves in the placental area was sufficient to induce the convulsions.

Pending further investigation of the causes of tetanus, it seems to me that the present understanding of the subject may be stated as follows:—

(a.) That the peculiar condition of the blood of a puerperal woman is a predisposing cause of tetanus.

(b.) That profuse hæmorrhage in abortion or labor at full term intensifies this cause.

(c.) That this cause becomes effective either through irritation of the motor centres or spinal motor ganglia, by phlebotic thrombi and consequent congestions and extravasations, or by leading to structural changes through mal-nutrition.

(d.) That if the blood is specially septic it may become an efficient cause of tetanus by directly irritating either the motor centres or the spinal motor ganglia.

(e.) That if through structural changes the spinal motor ganglia are in a state of abnormal irritability, peripheral irritation of the uterine or vaginal nerves may be a sufficient proximate cause of tetanus.

DR. CHEEVER remarked that he had lately had two cases of tetanus at the City Hospital, and that both had ended fatally. The first was a man who had his finger crushed, and was exposed to cold, who entered the hospital in a state of violent tetanic convulsions, and died in three days.

The second case upheld the theory brought forward by Dr. Green in his paper, namely, that tetanus was caused by peripheral irritation, and not by a central lesion of the brain or cord.

A man had been operated on for hæmorrhoids by ligatures, and remained in the hospital for two weeks. The rectum at that time had not quite healed, though the motions from the bowels were easy. He chose to leave the hospital, and in three days he returned with marked tetanus. There was no disturbance with the bladder or rectum. The tetanic condition lasted for sixteen days, when he finally died in a convulsion.

The gross appearances of the brain and cord presented nothing abnormal, and gave no evidence of softening or thrombus. Pus was found between the rectum and bladder, and in fact a diffused pelvic cellulitis, emanating apparently from an unhealed ulcer in the rectum.

DR. WEEKS had met with a case of tetanus in a man whose finger was crushed while at sea, and who finished the amputation with a hatchet, and was then exposed to cold and wet for ten days. Dr. Weeks was then called in, and gave chloral in large doses without manifest influence on the brain. He also treated the case freely with stimulants.

DR. A. N. BLODGETT remarked that he had met with cases of somnambulism following the use of chloral.

PATHOLOGICAL SPECIMENS.

DR. W. F. WHITNEY presented specimens of Carbolic Acid Poisoning, Pseudo-Hypertrophic Muscular Paralysis, and Cyclops, and made the following remarks:—

CARBOLIC ACID POISONING.

The first specimen consists of the stomach and œsophagus from a case of poisoning by carbolic acid. The specimen was presented to the Warren Anatomical Museum by Dr. F. A. HARRIS, who gave the following history of the case:—

This stomach is from the body of a sailor, who had taken a large drink from a jug which he supposed contained whisky. He told the steward of the steamer that he had taken something from that jug, and the steward, knowing that it was poison, ran for some oil, but before he returned (after an absence not exceeding three minutes) the sailor was entirely unconscious, and remained so till he died. There was no spasm and no noticeable symptom aside from the feeble and fluttering pulse and a slight frothing at the mouth.

Attention is called to this case chiefly that proper caution may be observed in the use of carbolic acid. It is so generally and so freely employed as an antiseptic, and is so often left about in saucers and bottles without proper labels, that similar accidents are constantly liable to occur. The resemblance in odor to Scotch whisky makes it easily liable to be mistaken for that article. The results observed in the recorded cases show that its action is remarkably rapid, and almost always fatal. The dose required to produce a fatal effect is quite small, ten drops being probably sufficient to kill an adult, though the amount usually taken in cases observed has been much in excess of that amount. The average duration of a case is from half an hour to four hours, the shortest case being ten minutes, and the longest sixty hours.

The specimen presents the appearances characteristic of the ingestion of the acid. The lining of the œsophagus is contracted, and shows well-marked longitudinal folds. The surface is smooth, and has a peculiar bright, slightly yellowish-white color, closely approaching that of fresh-pulled molasses candy.

¹ The Brain, January, 1880. Paper on the Cause of Tetanus.

² The Lancet, January 17, 1880.

The stomach was also strongly contracted, and the summits of the rugæ were marked by white lines, while in the interstices was found a dirty reddish granular detritus. The difference in the appearance of the stomach and œsophagus is easily explained by the longer time the former organ was subjected to the caustic action of the acid.

PSEUDO-HYPERTROPHIC MUSCULAR PARALYSIS.

The second specimen is a leg and foot from a boy affected with pseudo-hypertrophic muscular paralysis. The specimen came from a dissecting-room subject, and no history could be obtained. The subject was a colored boy, apparently from twelve to fourteen years of age. The muscles of the calf of the leg had preserved their outline, and were a little larger than normal, but their color was changed throughout to a yellowish-white, and their cut surface had all the appearances of fat. Microscopic examination showed the tissue to be composed of fat cells, among which were seen narrow bands of connective tissue. Muscular fibres were not to be recognized, even in muscle from the back, where the changes were not so far advanced. This failure to find the fibres may be due to the post-mortem changes which they had undergone.

CYCLOPS.

The third specimen is a cyclops, with anterior hydrecephalocoele. The case occurred in the practice of Dr. ISAAC F. GALLOUPE, of LYNN, who presented the specimen to the museum, and gave the following history: The mother of the fetus was an American, aged thirty years. "She had had one well-formed child at full term that lived but one week; she afterwards miscarried at seven months with twins, also well formed. No other case of deformity has been known in the family, except one of hare-lip. The labor was not of long duration, and was aided by passing the finger into the rectum until the chin was reached (the occiput being towards the pubes), and pressing out the head in an interval between the pains. The mother expected to be confined about six weeks later."

The fetus measured thirty-eight cm. in length, and weighed about 1125 grammes. The trunk and limbs were well formed. From the anterior portion of the head projected a fluctuating tumor, twenty-three cm. in diameter, involving the forehead and all of the face from 0.5 cm. above the mouth. The tumor was covered with skin continuous with that covering the rest of the head, except at a point in the lower anterior third, where was a slightly lozenge-shaped space, covered by a transparent membrane, and surrounded on its upper and lower borders by a slightly thickened portion having faintly marked radial striations on it (edges of the eyelid).

Upon dissection, the interior of the tumor was found to be directly continuous with the cavity of the skull; contained a watery fluid, and on its inferior surface a layer of brain substance. Corresponding with the transparent portion above mentioned was found a small flattened sac lined with a coat of black pigment.

The opening into the skull was bounded on the upper portion and sides by the frontal bone, the edges of which were markedly everted. The lower edge of the opening was formed by the malar bones and the lowest part by the orbital portion of the superior maxillary, between the anterior portions of which were two small triangular bones, probably representing the lac-

rymal bones. The roof of the mouth was very narrow, and there was a well-marked central ridge running the entire length. Situated between the pterygoid processes and filling the space between them was a triangular piece of bone, formed apparently from two lateral pieces, and joined to the central ridge of the roof of the mouth by a short and flattened spine. This plate, which is characteristic of the cyclopean skull, was formed by a coalescence of the palatine bones with the vomer. The nasal cavity was entirely obliterated, but the germs of the ethmoid and turbinated bones were to be seen in a little cancellated bone structure in the roof of the mouth.

Dr. WEBBER remarked that he had seen five cases of pseudo-hypertrophic muscular paralysis and that in four of these cases the enlargement of the calves was quite evident; in the fifth there was no enlargement. There were two adults, and one case was sixteen years old. Two out of the five cases were girls. Three of the cases not only had enlarged calves but also atrophied upper extremities; this latter symptom almost always comes on late. There are some facts in regard to this disease which point to its being of nervous origin, though this is not proved. — Dr. CUSHING remarked that a rather curious parallel might be drawn between this disease and color-blindness in respect to its occurring mostly in boys and being hereditary on the mother's side. — Dr. WEBBER said that the two girls referred to in his cases were sisters.

IODIDE OF ETHYL FOR DYSPNEA.

Dr. R. M. LAWRENCE read a paper on ethyl iodide, which appeared in the JOURNAL for April 29, 1880.

Recent Literature.

A New Study of Cerebral Cortical Localization. The Effect of Willed Muscular Movements on the Temperature of the Head. By R. W. AMIDON, A. M., M. D.

The Archives of Medicine for April, 1880, contains a valuable contribution to cerebral physiology in the form of the above paper, an elaborate prize essay, evidently the result of prolonged and careful study.

Following out the hint given by the statements of several observers, that localized inflammatory diseases of the brain are revealed by local elevation of the temperature of the scalp, and that similar though usually slighter effects follow mental effort, Dr. Amidon has investigated the question whether the same might not be true of muscular effort, inasmuch as it is now well established that the cortex of the brain in the parietal region contains "centres" which correspond to definite groups of muscles on the opposite side of the body.

The method of research was to distribute a number of thermometers over the side of the head, then to let a muscle—the biceps, for example—be strongly energized for five or ten minutes, and five minutes later to record the temperatures. If the mercury in one of the thermometers was found to have risen, the rest were concentrated round that one, and the experiment repeated, till the localization had been made as exact as possible.

In this way he claims to have been able to map out the various "centres" with an exactness approaching that obtained through the electrical excitation of the

cortex by Hitzig, Ferris, and others, and to have found distribution analogous to theirs.

The thermometers used were flat-bulb mercury instruments, and the rise varied from a few tenths of a degree F. to more than two degrees.

We shall look with interest for the results of the repetition of his experiments by others. J. J. P.

Lectures on the Diseases of Women. By CHARLES WEST, M. D., F. R. C. P., etc. Fourth edition, revised, and in part rewritten, by the Author, with numerous additions by J. MATTHEWS DUNCAN, M. D., LL. D., etc. London: J. and A. Churchill. 1879. Pp. 676.

It is with considerable interest that we have turned to this fourth edition of Dr. West's book, which for a long time deservedly held so high a place in gynecological literature, — an interest which has been increased by the association of Dr. Duncan's name with that of the author in this revised edition. The book must keep its place in our library, even though so many new and popular volumes in this department have lately appeared, not because it is up to our present standard of gynecological knowledge, — for so we do not recognize it, — but because it presents the conservative views of the author in a style so clear and beautiful that its importance must always be felt by those who desire to deal fairly and cautiously with their patients, and its influence must go far to prevent the department of which it treats from falling into the hands of specialists, bigoted in their ideas, who do but disgrace the profession.

The publishers, unfortunately, send out the book in a somewhat unfinished state. The active practitioner of to-day is loth to take time to cut the leaves of a volume of nearly seven hundred pages.

It is very pleasant to see expressed throughout the book the author's great consideration for, and his feeling of delicacy and tenderness toward, the patient; and we are sure that the physician would, in many cases, find his ability to benefit his patient much increased by a strict adherence to the advice so acceptably given here.

Dr. West does not consider the operative part of gynecology, and where, in a limited number of instances, reference is made to such treatment it is usually in derogatory terms. No work on the diseases of women can be considered complete in these days which so scrupulously avoids all description of the necessary operations. The almost heroic extent to which the author advises the use of leeches, blisters, and medicines, and the strict avoidance of even the minor operations upon the uterus, show his firm belief in medicinal measures in gynecology; but, judging from the length of time before relief is given the patient in some instances, and the guarded prognosis expressed in many other cases which should apparently yield to operative measures, with perhaps less danger and certainly less suffering to the patient, we must believe the course recommended much more unsatisfactory and ineffectual than that usually followed by the gynecologists of to-day, at any rate by those of this country. We can hardly believe that one of them would express himself as does the author on page 213, where, referring to the treatment of uterine misplacements, he says, "The principle upon which I usually act in the management of these cases amounts pretty much

to this: that, to the best of my power, I take care of the general symptoms, and leave the misplacement to take care of itself."

From the association of Dr. Duncan's name with that of the author in this edition, we had expected to find the diagnosis, pathology, and treatment of the diseases of women brought up, in some measure, to the level of the latest thought and knowledge of these subjects; but in this we are greatly disappointed. After searching diligently for the additions made by Dr. Duncan, which, when found at all, are carefully inclosed in brackets, we conclude that he has given little to the book except his name, which appears in large letters on the back together with that of the author. We can but feel that under the new partnership we have lost something of our old friend, and gained but very little from our new one. And this is not from lack of opportunity for improvement, especially in respect to diagnosis, pathology, and treatment; for these are sadly behind the times. Highly as we respect the author, to whom we have long looked up as one of the leading gynecologists of the older school, we must remember that the department of the diseases of women has taken rapid strides in the past few years, notably in the very directions in which, as we have already stated, the book seems most lacking. Dr. Duncan has lost the golden opportunity of making it a thorough treatise upon modern gynecology, invaluable to us as an exposition of what is at present known in this department, as it was so long in the past in reference to the knowledge and procedures of the old school. Now, it must remain as our old and respected friend, whose strength lies in its great conservatism.

The Essentials of Anatomy. By WILLIAM DARLING, M. D., F. R. C. S., and AMBROSE L. RANNEY, M. P. New York: G. P. Putnam's Sons. 1880.

It is not easy to do justice to a book without considering the circumstances under which it has been written and the purpose it is meant to fulfill. The authors state in the preface that "this work is not intended to supplant, but rather to accompany, more exhaustive treatises." They have tried to make it contain the essentials of human anatomy, and have made much use of tables and what we may call tabular diagrams in presenting it to the student. The authors must not be surprised if these methods do not appear as satisfactory to critics as to themselves. A diagram drawn before the class, and explained as it grows by the skillful lecturer, who knows precisely what it is to show, and who emphasizes the important points, is a very different thing from its counterfeit presentment in a book. This work gives us a high opinion of the lectures delivered by the gentlemen who wrote it; yet as a work on anatomy, taken by itself, it strikes us, we must confess, as unsatisfactory. There is a want of description and an excess of mechanical assistance to the memory. A student who trusted to this book alone might pass a wonderful examination and be utterly ignorant of anatomy. There are many things in it which we like very much; as an instance, the table on page 85, comparing the corresponding parts of the vertebrae in the three regions; but the book will not do as the chief text-book of the student. It is more to be recommended to one who has learned and forgotten anatomy than to one who has yet to acquire it.

T. D.

Medical and Surgical Journal.

THURSDAY, MAY 20, 1880.

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THE STATE BOARD OF HEALTH, LUNACY, AND CHARITY TUB AND THE WHALES.

THE daily papers have of late devoted so much of their space to the State Board of Health, Lunacy, and Charity, and to the two members whose terms of service expire next month, that it seems desirable for us to recall to the minds of our readers a few of the facts in the case. It will be remembered that the board was created by ex-Governor Talbot, against the judgment of the two boards abolished, namely, the State Board of Health and the Board of State Charities, under the persistent efforts of Mr. F. B. Sanborn, who was then abusing various features of the dominant party administration in the *Springfield Republican*, of which he was the Boston correspondent, and of Mr. H. B. Wheelwright, whose character, we hope, is not faithfully reflected in his reputation. Mr. Wheelwright's career offers to the observing and reflecting journalist many fruitful topics of discussion, which we will reserve for future use. The "Machine" has gained something by Mr. Sanborn's giving up his position on the *Springfield Republican*, when he became a state official. The law provided that the chief subordinates of the board should be chosen with the consent of the governor (not the governor and council, as is customary), so that Mr. Talbot appointed his board, and virtually dictated to it who the executive officers should be.

The chairman of the board is Mr. Moses Kimball, who recently gave a statue to the city of Boston. The other members are Messrs. Davis, Hoadley, and Webster, of the State Board of Health, Messrs. Allen and Donnelly, of the Board of State Charities, and Drs. Hitchcock, of Amherst, Parmenter, of East Cambridge, and Wood, of Worcester; not a strong board, certainly, although there are strong men in it. The retiring members this year are Dr. Albert Wood, of Worcester, an able and efficient man, and Dr. Nathan Allen, of Lowell, who has been appointed and reappointed to office for many years, the State honoring him greatly. It is urged, and we think with propriety, that a woman (better two women) should be appointed on the board; for none of the present members, with the multiplicity of their duties, have had time to know personally much about the public institutions under their charge, while Mrs. Lowell, Miss Schuyler, Miss Cary, Mrs. Atkinson, Mrs. Ware, Miss Putnam, Mrs. Johnson, Mrs. Hammond, Mrs. Leonard, and Mrs. Richardson in this country, and a dozen ladies in England and Germany, have shown what valuable work may be done by women in the admin-

istration of public charities. The two retiring members of the board belong to its lunacy committee, which has been so much complained of by the "lunacy reformers," headed by a young woman who has been four times committed to three different insane asylums, having been discharged from one of them because she could not be longer tolerated even in a lunatic hospital. We, too, are dissatisfied with the lunacy department (Messrs. Allen, Hitchcock, Wood, and Mr. F. B. Sanborn, executive officer), but for a different reason from that given by the "reformers," and because, whatever their other qualifications may be, there is no one of that department who has any real knowledge of insanity or its treatment. In our opinion, to place such a commission as in any sense supervisors of our asylum superintendents and trustees is so extremely grotesque that, in that view of the case, we almost lose sight of its manifest injustice and the great injury caused thereby to the best interests of the asylums and the insane.

No new cases of Butler-phobia have been reported, and the epidemic seems to be over. But, soberly, is it not rather solemn trifling with a serious subject to divert from its great and legitimate field of usefulness into the ruts of the Machine a board dealing with such vast interests, and having only some sixty thousand dollars a year to expend?

Governor Long occupies a position which has been graced by Hancock, Adams, Everett, and Andrew, in a commonwealth which is honored wherever its name is known. He has an opportunity to gain the confidence and respect of those people who believe in an upright and efficient civil service.

THE PHYSIOLOGICAL LABORATORY AT HARVARD.

It is a matter for congratulation that the zeal of would-be reformers has thus far in no way interfered with the work of physiological experimenters in this country, and that the progress of science has not been so seriously obstructed as is the case to-day in England. What this department of scientific investigation has done for medicine has been ably shown in recent articles in the *British Medical Journal*. Not only have the most important problems of physiology been solved by this means, but questions of the greatest value to practical surgery have been settled. Our knowledge of the action of drugs has also increased immensely, and the value of certain articles as food for the sick has been determined by experiments on animals.

Work of this character has hitherto been carried on in the United States by individuals only, and to a very limited degree. One of the earliest attempts to organize a laboratory on a scale befitting the present needs of science, and to use it for purposes of systematic instruction as well as for original experiment, was made by Professor Henry P. Bowditch. It has now been in operation eight years or more, and may be said to serve as a model for the purpose for which it was designed. We have before us a

little book containing a collection of a number of papers describing some of the investigations which have been made by different observers in the laboratory during this time. The character of Dr. Bowditch's own work shows that he has devoted himself to the organization of his department and to the perfection of his apparatus, a number of original forms having been devised by himself. He has, however, found time to publish several valuable articles on other subjects. The most noticeable recent work which has emanated from the laboratory embraces the investigations both of Dr. Garland and of Dr. Rotch on effusions in the chest, as being instances of the value of scientific research in settling questions of a practical character. Mr. C. S. Minot and Dr. J. J. Putnam are also among the contributors to the volume. As one of the pioneers in this department, Dr. Bowditch should have the sympathy and encouragement of those who believe that it is through these channels that we may hope to shed further light on medical science. Hitherto American physicians have devoted themselves chiefly to the practical side of the healing art. That our native ingenuity and skill will enable us to shine also in scientific work, and that this department is receiving daily more respectful recognition, is becoming apparent in the increased numbers of students who frequent our laboratories and interest themselves in original investigations. To those of our readers to whom the term vivisection is synonymous with cruelty we would add that the horrors of the laboratory have passed away with the crude experimentation of earlier times, under the benign influences of anaesthesia and the enforcement of a discipline more in accord with the serious character and high aim of the objects to be attained.

MEDICAL NOTES.

— At the recent quarterly meeting of the National Board of Health, in Washington, the officers of the preceding year were re-elected. The conference with state and municipal boards of health on the subject of vital statistics was well attended, and the National Board of Health deserves the thanks of the country for bringing the matter to the attention of those men who now have it in their power to inaugurate a uniform system of registration. The various weekly mortality reports were compared, discussed, criticised, and finally left in the Washington office for the preparation of one model blank to be used in all places; nearly all of the gentlemen present finally admitting the real defects in their own methods and cordially agreeing to co-operate in rectifying them. A committee of five was appointed to confer with European statisticians, and to prepare a nomenclature of diseases for general use. The regulations with regard to quarantine were somewhat modified, as suggested by the experience of last year.

— Touching the recent petition of Boston homœopaths, the *New York Medical Record* says: "If, however, a pure homœopathic practice could be introduced into the Boston City Hospital, and its results

placed in comparison with those obtained by regular physicians, nothing more disastrous could happen to the so-called new school.

"Such experiment is not new, however, and it is hardly worth while to try it again. At Vienna and at Ann Arbor homœopathic education has been attempted side by side with instruction in scientific medicine, and it has failed. Homœopathic treatment has been tried in the wards of hospitals at St. Petersburg, Vienna, Paris, and other cities, and it has been given up as ineffective. In the present instance the homœopaths express themselves as being quite willing to have a separate building, and if anything is done in the matter it will probably be the securing another hospital. To this there can be no especial objection, if the taxpayers desire it. The New York City Homœopathic Hospital has turned out to be a harmless institution. Treating, as it does, chiefly chronic and incurable cases, it probably furnishes interesting opportunities to study the natural course of disease. Similar opportunities need not be denied Boston if she wishes them.

"Those laymen, however, who interest themselves in clamoring for the rights and proportionate representation of special medical schools ought to remember, in the first place, that homœopathy in its pristine simplicity is no longer practiced by intelligent men. There ought to be care taken, therefore, in appointing men to responsible positions simply because they claim to practice by an exclusive dogma, and on such account feel themselves entitled to a representation."

— The annual meeting of the Association of American Medical Editors will be held on Monday evening, May 31st, in the parlors of the Fifth Avenue Hotel, New York. The annual address will be delivered by the president, S. T. Powell, M. D., of Atlanta, Ga. The question of the advisability of the general adoption of the metric system by the American medical press will be brought forward for discussion.

— The fifth annual session of the Association of Medical Officers of American Institutions for Idiotic and Feeble-Minded Persons will be held at the Institution for Feeble-Minded Youth (Dr. George Brown's), Barre, Mass., commencing Tuesday, June 8, 1880, at three o'clock, p. m. The following papers will be presented and discussed: On Epilepsy, Dr. George Brown, Barre, Mass. On the Psycho-Physiological Education of an Idiotic Eye, Dr. E. Seguin, New York. Some False Impressions that prevail as to the Nature of Idiocy, Dr. H. B. Wilbur, Syracuse, N. Y.

— Bordinet treats paraphimosis as follows: He takes a hair-pin, presses the points together somewhat, and inserts the curved end under the strangulation back of the gland. He next applies a second and a third at intervals around the gland; then, drawing the prepuce forwards, reduces it with great facility, the skin gliding over the three bridges without obstruction.

— Nitro-glycerine attracts increasing interest as a remedy in neuralgic affections, but especially in the treatment of angina pectoris, in which, apparently, it is most useful.

—According to the *Medical Times and Gazette*, Dr. Curschmann, of Hamburg, has discovered that a substance called *methyl-green*, which has been lately introduced into practical histology as a staining medium, has a peculiar affinity for amyloid substance, and colors it an intense violet (*Virchow's Archiv*, vol. lxxix., Part 3, page 556). The surrounding tissues, that have not undergone degeneration, are stained green or bluish-green, and the contrast is therefore very striking, whilst the smallest spot of amyloid disease can be readily discovered. Hardly less important than this discovery is the observation that methyl-green colors so-called hyaline cysts (*in situ*) ultramarine blue, so that these also can be readily distinguished in sections of the kidney from the green-colored tissues around, as well as from the violet amyloid spots in which they may lie. Methyl-green, which can be purchased of any chemist, is used for staining in the form of a one per cent. aqueous solution. A few minutes' immersion of a microscopical section in this solution is sufficient; but sharper and more uniform coloration is produced by using a more dilute medium for a longer time. Preparations so made may be mounted in dilute glycerine, but not in Canada balsam, inasmuch as alcohol, turpentine, and oil of cloves quickly discharge the color.

—The *Louisville Medical News*, under the heading "In Mediis Tutissimus," says: "The *Ohio Medical Recorder* announces that hereafter it will not allow contributors to part their names on the side. J. Higginbotham Smythe is to have the Higginbotham knocked out of him, or come to the front with 'Jones.' We commend the taste and courage of our charming contemporary, but warn it in time that its pages will hereafter lack gynæcological communications."

—Drs. Rock and Waschmuth, of Altona, report a curious fact discovered at the hospital of that town. A typhoid-fever patient was perussed over the splenic region, and no dullness was elicited. The patient subsequently died, and at the autopsy no trace of a spleen could be found. The splenic artery was likewise absent. The other abdominal organs were normal.

—We regret to notice that so dignified a publication as the *London Medical Record* has adopted that irritating form of advertising, — colored interleaves.

—Dr. William Sharpey, the well-known anatomist and physiologist and one of the authors of Sharpey and Quain's work on Anatomy, is dead.

—Professor Schiff, the experimental physiologist, and formerly located in Florence, is now an active professor in the Medical College of Geneva, Switzerland.

NEW YORK.

—The second annual meeting of the American Laryngological Association will be held at Delmonico's, parlor No. 10, on May 31st, June 1st and 2d. The profession is cordially invited to attend the meetings. The following titles of papers have been received up to date: Dr. Bosworth, on Nasal Stenosis. Dr. Cohen, on Primary Tuberculosis of the Larynx, with specimen and microscopic sections. Dr. Cutter, on Throat Syphilis and Tubercle according to Salis-

bury, with lantern illustrations. Dr. Lefferts, on Some Practical Suggestions in Connection with the Use of the Laryngoscope in Children. Dr. Porter, on Erysipelas of the Larynx. Dr. Robinson, on Suggestions as to the Therapeutical Value of Rest in the Treatment of Laryngeal Diseases. Dr. Roe, on Fracture of the Larynx, with specimen. Dr. Rumbold, on Removal of Polypoid Growths from the Superior Portion of the Respiratory Tract, with Cases. Dr. Seiler, on A Case of Intra-Laryngeal Growth. Exhibition of modified Stoerks guillotine and tube forceps. Dr. Shurley, on The Treatment of Pharyngitis Sicca.

The nominees for active fellowship made by the council will present the following papers: Dr. W. Gleitsmann, of Asheville, N. C., on A Rare Case of Tracheal Stenosis. Dr. S. W. Langmaid, of Boston, on The Treatment of Certain Forms of Vocal Disability by the Application of the Principles of Voice Culture. Dr. E. W. Cushing, of Boston, on Membranous Laryngitis complicating a Case of Typhoid Fever. Dr. Harrison Allen, of Philadelphia, on A New Method of treating Chronic Nasal Catarrh. Dr. C. E. Bean, of Louisville, on Tuberculous Laryngitis in its Relation to Phthisis Pulmonalis. Dr. C. E. Sajous, of Philadelphia, on The Differential Diagnosis between Tuberculous and Syphilitic Laryngitis. Dr. William H. Daly, Pittsburgh, Pa., on Nasal Polyps. Dr. Wm. C. Jarvis, New York, on Hypertrophy of the Nasal Mucous Membrane. Nominations for honorary fellowship, as follows: Dr. J. W. Richards, of New York, Manuel Garcia, of London. Nomination for corresponding fellowship, as follows: Dr. Carlo Labus, of Milan.

—It is certainly a melancholy spectacle to see a man of the scientific attainments of Mr. Edison, whose inventive genius has already accomplished such brilliant results, and of which so much more has been expected in the future, turning his attention to the concoction of quack medicines; but the numerous advertisements of "Edison's Polyform," which have recently made their appearance in the newspapers, unfortunately leave no room for doubt in regard to the matter. In these remarkable notices we are informed that "suffering from the excruciating pain of neuralgia, incident upon intense application of mind upon his other wonderful inventions, and receiving no benefit from the many prescriptions brought to his attention, he, with that practical method of doing things which is bound up with him, made experiments upon himself until he perfected a combination of essential medicinal extracts, which, to his intense gratification, immediately relieved him from all his pain. Thinking, however, that what cured him might possibly not be adapted to all, by further experiments upon others he was at length convinced that his new discovery was a veritable pain-destroyer in all cases of neuralgia, nervous pains, headache, etc. . . . After much solicitation from eminent men and those of his friends to whom his discovery has been of wonderful service," the touching narrative continues, "he was persuaded to allow the preparation to be put up and sold for the benefit of the thousands of those who suffer months and years of pain without obtaining the relief sought.

Professor Edison's name will shine with even brighter lustre (if such a thing were possible) for giving to the innumerable army of sufferers a medicine which can be relied upon with certainty to cure their nervous pains." The professor's extreme modesty is shown by the fact that "in no sense does he claim that *polyform* is a 'cure-all;'" but at the same time it is only just to him to mention that "for the racking pains of neuralgia, no matter where situated, it is the evidence of all who have tried the remedy that Edison's polyform is the most wonderful reliever of pain ever compounded." This inestimable boon to the "innumerable army of sufferers," we are considerably informed in conclusion, is prepared by the Menlo Park Manufacturing Company, of New York, but is for sale by all the principal druggists and apothecaries.

— On the first of May Dr. Barker took possession of the very elegant residence on Thirty-Eighth Street, built not long since by the late Dr. Bumstead, which he has leased for five years. His partner, Dr. A. A. Smith, who has now been made full professor of Therapeutics and *Materia Medica* (instead of lecturer) at the Bellevue School, will occupy his former house on Madison Avenue.

PHILADELPHIA.

— At the last meeting of the Pathological Society Professor Da Costa read a paper upon the authenticity of tubercle, and defined its relationship to caseous pneumonia. The term phthisis he definitely restricts to pulmonary tuberculosis. An abstract of this paper will appear shortly in the department of the JOURNAL devoted to the progress of practical medicine.

— The April meetings of the County Medical Society were enlivened by the consideration of a report from the standing committee on hygiene and the relations of the profession to the public, upon cases of disease resulting from defective drainage and sewerage in the city of Philadelphia, and the propriety of legislation to prevent their recurrence. Dr. Henry H. Smith, by request, also presented a short paper on the operation of the Mutual Aid Association of the County Medical Society. Dr. Henry Leffmann read an interesting paper on the Alcoholic Liquors of Philadelphia, and exhibited the methods in use of compounding liquors. Materials for a very instructive and impressive temperance lecture could be obtained from this paper and the discussion which it elicited.

— On May 5th the regular meeting of the College of Physicians was held, at which Dr. William S. Forbes read a paper upon the action of the diaphragm in favorably influencing respiration and circulation. At the same meeting Dr. Robert S. Harris read a further communication upon the subject of Foot-Binding in China; which does not commence in infancy, as is commonly believed, but generally begins when the girl reaches about the age of five years. It has no religious significance, but is merely a custom.

— Quite a number of our prominent physicians were in attendance upon the session of the National Pharmacopœial Convention in Washington. Professor Bartholow represented Jefferson College; Drs. Henry H.

Smith, J. Howard Taylor, and R. J. Dunglison were delegates from the County Medical Society.

CHICAGO.

— The practitioners' course of lectures at the Chicago Medical College has just closed, with a class of forty. They all express themselves as well satisfied with the course.

— Considerable indignation has been aroused among certain sufferers by the present slight epidemic of small-pox in Chicago, because all patients are forced to go to the pest-house. Undoubtedly some cases are made worse by being transported in an ambulance several miles, however careful the health officers are in doing it, and possibly some deaths may be directly chargeable to this exposure. But the indignation is wrongly visited upon the health department, for it is by virtue of a city law, mandatory in its character, and not the judgment of the officials, that these removals are made.

It is a serious question whether it would not be better for the community to allow more patients with variola to remain at their homes. By such a course people would be moved more generally to get vaccinated and revaccinated at proper intervals. Taking all the cases as they occur out of the community seems to have the effect to lull the people into a sense of security that proves often exceedingly disappointing.

— Only a few weeks ago a case of death from chloroform occurred at the Eclectic Medical College. In this case the patient was a young man who had necrosis of some of the long bones, and who was debilitated to a considerable extent. Here death took place after a very small portion of chloroform had been inhaled, and there was no evidence whatever of its having been given carelessly. The autopsy did not reveal any disease of the heart, but it was thought that the brain was softer than normal. There were no symptoms before death pointing to cerebral disease. Verily, it takes a long time for the profession to learn some things.

— Chicago is in disgrace again. A poor woman, with a baby in her arms, is turned out upon the street because she has measles, supposed by the brutal people with whom she is stopping to be small-pox. She seeks admission to every hospital in the city, and is refused. Then the commissioner of health provides quarters for her in his office at the city hall, and feeds her at his own expense. Two days later a man is reported dying under a sidewalk, having been ejected from his boarding-house because he was sick. His disease is found to be measles, and to keep him off from the street and from death by starvation he is provided quarters in the commissioner's office, and at the expense of that official's private purse. There is no hospital, public or private, that will accept such cases, and the city has provided no means for taking care of them in any way. Is it any wonder that a certain official of the health department characterized this as a disgrace to the city in terms too strong for the papers to print without the use of dashes?

— Another case of death from chloroform, used as an anæsthetic, has occurred in this city. The doctor who was making the operation (a minor amputation for a crushing injury) and the lay friend who was giving the chloroform were exonerated from all blame by the coroner's jury, because it was found that the patient had valvular disease of the heart and fatty degeneration of the muscular substance of the heart, although he was a man less than thirty-five years old. It was in evidence that ether had first been used, and that the reason of the substitution of chloroform was the fact that anæsthesia could not be (or was not) induced by the ether. But very little ether was administered, and for a very brief period. The testimony was strong that only a very small portion of chloroform was used, and that it had been used cautiously.

MEDICO-LEGAL.

— Supreme Court of Illinois. (1.) A voluntary conveyance made by one actually competent to execute it will not be set aside by a court of equity, there being no fraud, mistake, or undue influence shown. (2.) Neither permanent nor transient mental infirmity, not amounting to an inability to understand the nature of a transaction, is sufficient to vacate such a conveyance, where there is no undue influence connected therewith.

Supreme Court of Pennsylvania. (1.) If parents suffer a child of tender years to run at large without a protector in a city traversed constantly by cars and other vehicles, they are guilty of such negligence as will preclude them from any recovery for any injury to the child resulting therefrom. (2.) A child seven years of age was permitted and encouraged by his surviving parent, his mother, to supply persons on passenger cars with water for reward, and thereby met with an accident by which he was killed. *Held*, the parent could not recover.

Miscellany.

THE ADMISSION OF WOMEN TO THE MASSACHUSETTS MEDICAL SOCIETY.

MR. EDITOR,— Now that the annual meeting of the Massachusetts Medical Society is approaching it is time to ask the attention of members to a most important subject, on which, no doubt, they will be called upon to vote,— the admission of women. I say that they no doubt will be called upon to vote, because under the present grave doubt of the legality of the action of the council in attempting to settle the matter, we cannot believe that any feeling of pique will deter that body from the course which is clearly its duty, namely, asking for the concurrent vote of the society at large.

There is nothing to be said to the rabid woman sympathizers; they are past argument. The class that is addressed is a large and influential one, for it holds the balance of power. It consists of those who have not very fixed ideas on the matter. This class is always in danger of being influenced by the more radical, and consequently noisy, party, and therefore advantage is taken of the lull before the storm to suggest a few points for serious consideration.

First of all, I would beg these gentlemen to remember that their action will be most important. They do not meet the question fairly if they say, "We don't believe in this, but the controversy is getting really too tiresome; let the experiment be tried, and give us peace." Those who speak in this way must be very careless of the interests and honor of the society. If the experiment fails, what then? How is the harm once done to be undone? The very fact that the proposed step is an experiment should make it unworthy even of the consideration of the Massachusetts Medical Society. "*Fiat experimentum in corpore vili.*" It is not for us. The great influence of the Massachusetts Medical Society should be thrown on the side of that only which is known to be good. That many young women, who might be better employed, are studying medicine is true, but there is no evidence that more than a very few of the best reach the average of male practitioners. It is true that there are some most estimable ladies of good attainments practicing medicine among us, but it is not unjust to ask these to wait without official recognition till they reach at least a respectable number. That a great society should modify its policy for the feelings of an utterly insignificant group of individuals is contrary to common sense. The burden of proof is on the women; when they can present a class deserving recognition they will be recognized. To do it sooner is to do a grievous injury to the society.

We are confident that a wise conservatism will begin to assert itself. Thinking members, who know something of the inside history of the proposed medical bill, which happily was killed in committee by the late legislature, blush for the discredit brought on the regular profession by the intrigues to which the manipulators of the bill descended. It was managed by an irresponsible body,— irresponsible at least to our society,— and never had the approval of the profession. But though it has failed, its evil is not yet over. Why do we allude to this painful subject? Because if the mass of the profession had but taken the trouble to speak, the plan would have been nipped in the bud, and this disgrace spared the society.

Let us not commit this mistake again. Let us be firm that the society shall not be driven into hasty action. Let us make no change till we are sure that it is needed, and that it is needed now.

A FELLOW.

RECTO-VAGINAL FISTULA CURED WITHOUT OPERATION.

BY IRA BROWN, M. D., WELLS RIVER, VT.

SEPTEMBER 21, 1878, I was called to see J. L., a maiden lady about forty-eight years of age. She had been an invalid most of the time for twenty-five years, and now complained of frequent micturition, the water having a bad odor and containing a gritty dark sediment.

On making a digital examination I found a recto-vaginal fistula twelve lines in length, with rounded and thickened edges, showing that it had existed for some time.

Not having the means at hand nor any one to assist in an operation, after introducing the speculum I made a thorough application to the edges of the fistula of a strong solution of carbolic acid, four parts of the acid to one part alcohol. This done the patient was di-

rected to remain in bed, and to use no means to move the bowels until I saw her again.

September 25th, four days after the first visit, she reported herself better, her water having lost its bad odor and containing no sediment.

She was again seen September 29th, eight days from first visit, when an examination showed the fistula nicely closed in its whole extent.

October 9th, eighteen days from the first visit, a careful examination failed to show any trace of the fistula.

In July following, I learned that she had remained well. I would here venture the opinion that carbolic acid may be used in most cases instead of the knife in preparing surfaces to be united with sutures.

JOHNS HOPKINS UNIVERSITY.

WE find this interesting information in the *New York Tribune*: "In accordance with the suggestion of Dr. W. K. Brooks, associate professor of biology, who has recently visited the town of Beaufort, N. C., the trustees of the Johns Hopkins University have chosen that town as the place for the third session of the Marine Zoological Laboratory of the University. As heretofore, Dr. Brooks will be the director of the laboratory, which retains the name of the Chesapeake Zoological Laboratory. It has been voted to try Beaufort for one year before putting up a permanent building for sea-side work. This year's session will extend from April 22d to September 1st. A house has been rented close to the water for a party of six investigators besides the director. The laboratory will be equipped with boats, nets, dredges, aquaria, books, microscopes, and all the necessary appliances for collecting and studying marine animals and plants. It will also be furnished with a steam launch, which is now building at the yard of Herrescott, in Bristol, R. I., for dredging and surface collecting. Such applicants for admission as may be approved by the director will be charged a registration fee of \$15 for the use of the laboratory and outfit, and the scientific advice and assistance of the director. No lectures will be given. Lodging and board will not be provided by the university, as the town of Beaufort affords ample accommodations; but the director will secure accommodations in advance for those who wish him to do so. Dr. Brooks is now at Beaufort.

The situation of the town, just opposite to and only two miles distant from the straits which connect Pamlico Sound with the open ocean, is considered a very advantageous and salubrious one. In years past, Louis Agassiz, Professor A. S. Packard, Professor E. S. Morse, and others have prosecuted successful researches there.

From time to time, as material has accumulated, the university has published under the editorship of Dr. H. Newell Martin, the head of the biological department, collections of original papers entitled *Studies from the Biological Laboratory of the Johns Hopkins University*. The first volume is just completed; Dr. W. K. Brooks's papers on "The Development of the American Oyster and on The Acquisition and Loss of a Food-Yolk in Molluscan Eggs constituting Part IV. The volume contains 519 pages, 40 plates, and is divided into four parts.

In future the publication will appear under the joint editorship of Professor Martin and Dr. Brooks; the

former taking charge of the physiological and the latter of the morphological papers. Parts will be published as sufficient material accumulates.

Three other journals are conducted by professors of the University. *The American Journal of Mathematics*, pure and applied, has for its editor-in-chief J. J. Sylvester, head of the mathematical department. *The American Chemical Journal* is edited by Ira Remsen, head of the chemical department. B. L. Gildersleeve, professor of Greek and head of the philological department, has recently issued the first number of the *American Journal of Philology*. Each of the other journals has completed its first volume.

There has been recently organized a Baltimore Naturalists' Field Club, with its headquarters at the university. Professor Martin is its president. The object of the club is to study the fauna, flora, and geology of the neighborhood of Baltimore, to make collections illustrative of the above subjects, and to accumulate data for an accurate map of the region, which shall be of use to all students of its natural history. Sections have been organized in botany, vertebrate land animals, invertebrate land animals, aquatic animals, geology, and physical geography. It is proposed to make weekly excursions on Saturdays, and to hold monthly meetings at the university. As there is not so much as a list of plants of Baltimore city and county, the club seems to have a promising field for its operations.

PROSTITUTION AND DEPOPULATION.

THE following is from the *American Medical Bi-Weekly*:—

"According to a correspondent of one of the London journals, it appears that a deputation of members of both sexes from the reform societies of Switzerland, Belgium, England, etc., visited Paris during the early part of the year 1878, with the view of putting an end to legal prostitution in France; but it seems from their discoveries that their mission was an absolutely hopeless one. While this committee was in Paris the whole subject was discussed by the Anthropological Society of that city, for the purpose of determining what was really the effect of prostitution on both the population and depopulation of different countries. Dr. Desprès showed that in Belgium, where the legal organization of prostitution is most complete, marriage is continually becoming more rare, and that the system of national concubinage and prostitution thereby resulting is rapidly depopulating that country. It was demonstrated during the debate that women living under the marriage relation produce more children than those living in a condition of concubinage; while those living in this latter condition are more fruitful than regular prostitutes. It was further made manifest that while concubines miscarry during the first or second month, as the result usually of artificial causes, prostitutes miscarry during the first month as the direct effect of the life which they lead and the immediate and constant strain upon the generative organs. It seems that this miscarriage among professional prostitutes is almost invariable; that they themselves are never aware of conception, as it does not proceed far enough, but learn the fact either from a profuse and untimely flow, or from the examination to which they are periodically subjected. While, therefore, conception is rare among regular prostitutes, miscarriage is almost the

invariable rule when conception occasionally takes place. So that the result of both this general concubinage and prostitution is, as far as population is concerned, a practical sterility, and in countries where concubinage and prostitution are generally tolerated an increasing depopulation is now the result. These facts at first seem to constitute only social problems, but it is manifest to the careful thinker that they underlie the very basis of national prosperity and growth; for even if scientists agree or disagree as to the advisability or necessity of legalizing prostitution, with the view of checking disease, both immediate and prospective, there is far beyond this question the ultimate one of the effect of prostitution in the depopulation and destruction of a nation. It would seem, too, that if prostitution be made safe and disease be not relatively but actually checked, that public sentiment would thus give an implied support to prostitution:

that it would largely increase, and that the results of such a system must be fatal to national increase. It is very true that the disciples of Malthus see in the effects of prostitution a practical removal of their fears in regard to over-population; but it is manifest that this apparent remedy (for over-population) has precisely the same effects as would the condition (over-population) for which the remedy is applied; for it makes practically but little difference in the problem whether, according to Malthus, depopulation would occur as the result of over-crowding or the result of general prostitution. It appears that in France the normal increase of population is being diminished at the rate of 500,000 every year. This appalling fact, striking ultimately at the very existence of the French nation, seems, according to Gallic philosophy, to be not one of national extinction, prospectively, but of national prosperity."

REPORTED MORTALITY FOR THE WEEK ENDING MAY 8, 1880.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Deaths under Five Years.	Percentage of total Deaths from				
				The Principal "Zymotic" Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.
New York.....	1,085,000	603	264	16.09	21.39	4.15	1.33	.50
Philadelphia.....	901,380	334	110	9.88	6.59	2.70	1.20	2.40
Brooklyn.....	564,400	222	87	17.12	18.02	5.86	1.80	.45
Chicago.....	—	184	115	26.09	20.65	8.70	2.72	.54
St. Louis.....	—	142	66	11.97	16.20	1.41	—	2.82
Baltimore.....	393,796	150	54	16.00	6.00	3.33	6.67	.67
Boston.....	365,000	147	48	10.88	14.97	7.48	—	—
Cincinnati.....	280,000	105	49	18.09	12.38	.95	3.81	.95
New Orleans.....	210,000	—	—	—	—	—	—	—
District of Columbia.....	170,000	63	17	7.94	15.87	—	—	—
Buffalo.....	—	—	—	—	—	—	—	—
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	—	65	30	35.38	18.46	12.31	6.15	8.15
Milwaukee.....	127,000	46	32	13.04	13.04	8.70	2.17	2.17
Providence.....	102,000	43	18	23.26	20.93	2.33	13.95	2.33
New Haven.....	60,000	27	3	18.52	22.22	—	—	11.11
Charleston.....	57,000	29	13	10.34	10.34	—	—	6.90
Nashville.....	37,000	—	—	—	—	—	—	—
Lowell.....	34,000	18	7	11.11	11.11	—	—	5.56
Worcester.....	53,000	25	7	8.00	24.00	—	4.00	—
Cambridge.....	50,400	11	3	9.09	9.09	9.09	—	—
Fall River.....	49,000	23	—	30.43	4.35	4.35	8.70	—
Lawrence.....	38,600	—	—	—	—	—	—	—
Lynn.....	34,000	21	7	9.52	28.57	—	—	9.52
Springfield.....	31,800	8	4	25.00	—	12.50	12.50	—
New Bedford.....	27,200	14	8	21.43	—	—	21.43	—
Salem.....	26,500	17	4	23.53	11.76	5.88	—	—
Somerville.....	23,500	10	1	10.00	10.00	—	—	—
Chelsea.....	21,000	6	1	33.33	—	33.33	—	—
Taunton.....	20,200	9	3	11.11	44.44	11.11	—	—
Holyoke.....	18,400	8	4	25.00	25.00	12.50	—	—
Gloucester.....	17,300	11	5	—	27.27	—	—	—
Newton.....	17,300	5	1	20.00	20.00	—	—	—
Haverhill.....	15,350	6	1	—	16.67	—	—	—
Newburyport.....	13,500	6	1	16.67	—	—	16.67	—
Fitchburg.....	12,500	6	4	33.33	16.67	16.67	—	16.67
Twenty Massachusetts towns.....	156,210	43	5	11.63	11.63	4.65	—	2.33

Deaths reported, 2407; 972 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 382, lung diseases 378, consumption 351, diphtheria and croup 106, measles 58, scarlet fever 54, diarrheal diseases 51, typhoid fever 35, malarial fevers 20, whooping-cough 20, cerebro-spinal meningitis 15, erysipelas 11, small-pox six, typhus fever three. From measles, New York 25, Brooklyn and Cincinnati seven, Chicago five, Pittsburgh four, Philadelphia three, St. Louis and Salem two, Providence, Lowell, and Fall River one. From malarial fevers, New York seven, Brooklyn five,

Chicago, St. Louis, and New Haven two, Baltimore and Malden one. From whooping-cough, New York five, Cincinnati four, Philadelphia, Chicago, and Pittsburgh two, Brooklyn, St. Louis, Boston, District of Columbia, and Charleston one. From cerebro-spinal meningitis, New York four, Philadelphia three, Chicago and St. Louis two, Baltimore, District of Columbia, Worcester, and Holyoke one. From erysipelas, New York, Philadelphia, Brooklyn, St. Louis, and Boston two, Salem one. From small-pox, Philadelphia, Chicago, and Fall River two. From typhus fever, Baltimore two, Chicago one. In addition, New Orleans reports consumption 23, lung diseases 10, diar-

rheal diseases eight, measles seven, malarial fevers six, whooping-cough four, scarlet fever two, cerebro-spinal meningitis, diphtheria, and typhoid fever one each, total deaths not given; and Nashville reports consumption three, whooping-cough and typhoid fever two each, total deaths not given.

Eighty-two cases of measles, 41 of scarlet fever, 28 of diphtheria, and one of typhoid fever were reported in Brooklyn; small-pox nine, in Chicago; diphtheria 19, scarlet fever 12, in Boston; diphtheria 17, scarlet fever 10, in Milwaukee; scarlet fever 10, diphtheria eight, measles two, cerebro-spinal meningitis one, erysipelas one, typhoid fever one, in Providence; diphtheria six, in Cambridge; small-pox nine, in Fall River; scarlet fever seven, in New Bedford.

The total number of deaths reported and the number of deaths under five are about the average. One death from sun-stroke is reported from Chicago.

In 38 cities and towns of Massachusetts, with an estimated population of 1,006,260 (population of the State about 1,690,000), the total death-rate was 19.81 against 20.50 and 19.82 for the previous two weeks.

For the week ending April 17th, in 149 German cities and towns, with an estimated population of 7,632,325, the death-rate was 29.9 against 28.1 and 28.6 for the two previous weeks. Deaths reported, 5785; 2080 under five: pulmonary consump-

tion 651, acute diseases of the respiratory organs 608, diphtheria and croup 130, measles and *rubeola* 80, scarlet fever 70, whooping-cough 64, typhoid fever 55, purpura fever 18, typhus (Dantzig, Thorn five, Brannschweig) eight, small-pox one. The death-rates ranged from 17.7 in Karlsruhe to 52.4 in Munich; Königsberg 40.6; Breslau 29.8; Munich 52.4; Dresden 29.8; Berlin 29.8; Leipzig 30; Hamburg 27.2; Hanover 23.5; Bremen 24.8; Cologne 25; Frankfurt 30.1. For the same week, Vienna 35.5; Paris 31.4.

For the week ending April 24th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 21.3. Deaths reported, 3062: acute diseases of the respiratory organs 295, whooping-cough 132, measles 108, scarlet fever 107, fever 47, diarrhoea 33, small-pox 15, diphtheria 13. The death-rates ranged from 14 in Portsmouth and Leicester to 32 in Plymouth; London 20.2; Bristol 19.6; Birmingham 20.9; Liverpool 23.7; Manchester 23.6. In Edinburgh 24, Glasgow 25, Dublin 36.

In the 20 chief towns in Switzerland, population 445,790, there were 39 deaths from acute diseases of the respiratory organs, diarrhoeal diseases 16, diphtheria and croup 10, scarlet fever seven, whooping-cough four, typhoid fever four. Death-rate of Geneva 27.3; of Zurich 27; Basle 29.6; Berne 29.5.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.		Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
May 2	30.100	50	56	44	56	85	66	69	SW	W	Cal.	11	5	0	O	R	C	—	—	.45
" 3	30.040	65	81	45	79	28	58	55	W	S	SW	7	23	22	C	F	C	—	—	—
" 4	30.119	70	88	52	72	28	54	51	SW	SW	SW	10	6	3	F	C	O	—	—	—
" 5	29.978	64	75	55	67	36	71	58	SW	SW	Cal.	14	12	0	C	F	F	—	—	—
" 6	29.727	61	79	51	75	19	35	43	W	W	NW	4	28	20	C	F	F	—	—	.01
" 7	30.147	49	51	45	43	51	52	48	NE	SE	S	14	15	14	C	F	O	—	—	—
" 8	30.116	52	63	47	72	72	74	72	W	SE	SW	10	12	10	F	C	C	—	—	—
Week.	30.032	58	88	44				53		Southwest.									6.16	0.46

¹ O, cloudy; C, clear; F, fair; G, fog; H, hazy; R, rain; S, smoky; T, threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM MAY 8, 1880, TO MAY 14, 1880.

KING, WILLIAM S., Lieutenant-colonel and surgeon. His leave of absence still further extended six months on account of sickness. S. O. 101, A. G. O., May 7, 1880.

WOODWARD, J. J., major and surgeon. To proceed to Europe under special instructions to be communicated by the surgeon-general. After completion of the duties assigned him, to return to his station in Washington, D. C. S. O. 105, A. G. O., May 12, 1880.

LIST OF CHANGES IN THE MEDICAL CORPS OF THE NAVY FROM MAY 1, 1880, TO MAY 15, 1880.

SURGEON C. H. WHITE from the Naval Hospital, Mare Island, Cal., to the U. S. S. Lackawanna.

Surgeon G. A. BACOT from the U. S. S. Tascara to the hospital, Mare Island.

Assistant Surgeon GEORGE ARTHUR from the Naval Hospital, Norfolk, to the iron clads, Brandon, Va.

Passed Assistant Surgeon R. WHITING from the U. S. iron clads, Brandon, Va., and granted sick leave.

Passed Assistant Surgeon P. FITZSIMMONS granted leave for three months.

Passed Assistant Surgeon W. R. DE BOSE detached from the receiving ship, New York, and granted sick leave.

Assistant Surgeon R. ASHBURIDGE ordered to the receiving ship, New York.

Passed Assistant Surgeon GEORGE P. LUMSDEN ordered to the Naval Academy, Annapolis, Md.

BOOKS AND PAMPHLETS RECEIVED.—Students' Aids Series. Aids to Physiology. By B. Thompson Lowne, F. R. C. S. Eng. Aids to Materia Medica and Therapeutics, Part II. Aids to Chemistry. Parts I, II, and III. By C. E. Armand Semple, B. A., M. B. New York: G. P. Putnam's Sons. 1880. (A. Williams & Co.)

On the Coincidence of Optic Neuritis and Subacute Transverse Myelitis. By E. C. Seguin, M. D. (Reprint from the Journal of Nervous and Mental Disease, April, 1880.)

Dr. G. Beck's Therapeutischer Almanach. 7 Jahrgang. 1880. Leipzig: J. Delp.

Common Mind Troubles and the Secret of a Clear Head. By J. Mortimer Granville, M. D., M. R. C. S. Philadelphia, D. G. Brinton. 1880.

The Hysterical Element in Orthopaedic Surgery. By Newton M. Shaffer, M. D., New York: G. P. Putnam's Sons. 1880. (A. Williams & Co.)

The Throat and its Functions. By Louis Elsburg, A. M., M. D., Professor of Laryngology, etc. Illustrated. New York: G. P. Putnam's Sons. 1880. (A. Williams & Co.)

Thirty-First Annual Announcement of the Woman's Medical College of Pennsylvania. Philadelphia. 1880-1881.

A Practical Treatise on Sea-Sickness, its Symptoms, Nature, and Treatment. By George M. Beard, M. D. New York: E. B. Treat.

A Case of Intra-Ovarian Pregnancy, with Post-Mortem Examination. By Talbot Jones, M. D. (Reprint from The American Journal of the Medical Sciences.)

Thomas Keith and Ovariotomy. By J. Marion Sims, M. D. (With Portrait.) New York: William Wood & Co.

The Waters of Kreuznach. By Charles Engelmann, M. D. Third Edition, revised by Frederick Engelmann, M. D., Physician at Kreuznach. London: J. A. Churchill & Co. 1880.

Original Articles.

FRACTURES AT THE RHODE ISLAND HOSPITAL.

BY EDWARD T. CASWELL, M. D., PROVIDENCE, R. I.

THE Rhode Island Hospital was opened for the admission of patients on October 1, 1868. When it had completed the first ten years of its existence, I thought I would collect and publish some statistics of what had been done during those years by my colleagues and myself. The laborious undertaking of going over the hospital records and other engrossing duties have postponed the publication of this, which may be considered a first contribution, until this late day. I greatly regret the inaccuracy of the records, and their failure in a large majority of cases to supply precisely the most important information, as, for example, the side of the body which sustained injury, and the length of limb in fractures of the lower extremity, both on admission and discharge. Nothing can be more unsatisfactory or more worthless for all purposes of comparison than to have the result of treatment of a case of fracture entered as "good," or "well," or "recovered." But such, I regret to say, has frequently been the entry. In spite of these failures, however, I venture to present the following tables, hoping that they may not be without some interest. They represent all the fractures admitted to the wards of the hospital for ten years; they do not include fractures treated in the outpatient department.

I find recorded 185 cases of fracture occurring in 167 persons. There have been 152 cases of single fracture, 12 in which there were two different fractures, and 3 in which there were three different fractures. Each of these are entered under their respective sections. Of course this does not apply to the case of fractured ribs, where one, two, or more may be broken, nor to that of a leg or fore-arm where both bones are broken. Just as these sheets were nearly ready for the press, I find that one case of fracture of both thighs and one of compound fracture of both legs have each been entered as one fracture. So that there are actually 187 cases of fracture in 167 individuals. Fractures of the foot and hand have not been included. A separate list has been added of injuries rapidly fatal, although they have been included in their appropriate sections. I have also appended the statistics of the very small number of dislocations that have been admitted to the wards of the hospital for the same period.

From the summary we see that of all the fractures nearly one half were fractures of the lower extremity, and of these more than half were fractures of the leg. Of the latter more than half were fractures of both bones. According to frequency, these fractures would be arranged as follows: Leg, thigh, fore-arm, arm, ribs, clavicle, skull, vertebrae, scapula. No fractures of the pelvis are recorded. The relative frequency of the fractures of the different sides of the body will be referred to further on.

MORTALITY.

Of the 167 individuals who were admitted for fractures, 25 died, or 15 per cent. Of these, 15 died in the course of twenty-four hours, and of this number, 11 were caused by railroad accidents. These deaths, although not so stated in the record, are without doubt

to be ascribed to shock and the loss of blood attendant upon the accidents. Of the remaining 10 cases, 2 died from intemperance, 1 from pneumonia following a fracture of the ribs, 1 from pyæmia, 1 from convulsions on the third day after a compound fracture of the skull, 1 suddenly, without cause ascertained, on the second day after a simple fracture of the thigh; and in the remaining 4 cases death ensued from the injury, at intervals varying from thirty-six hours to six days, as follows: (1) vertebra and compound fracture of tibia, six days; (2) vertebra, three days; (3) skull, three days; (4) base of skull, thirty-six hours.

REVIEW OF FRACTURES IN GROUPS.

I now propose to pass in review the different groups of fracture, stating such points as are the most salient in the tables.

CRANIUM.

There were ten cases, all in males, of which seven were compound. All died except two of the latter. Of these, one was a compound comminuted fracture of the left orbital region, accompanied with the loss of brain substance. The accident happened six weeks before his admission to the hospital, and was occasioned by a heavy piece of machinery falling upon him while erecting the engine at the pumping station at Sockanossett. Pieces of bone were removed at the time. He remained in the hospital one hundred and fifty-two days, and left entirely restored, with the loss of the left eye. He has continued to be perfectly well, and still fills the post of engineer at the station. The other successful case was caused by a pistol-shot in the frontal and parietal region. The trephine was used, the bullet extracted, and the patient left the hospital in twenty-three days.

MAXILLÆ.

There were nine cases, all in males. One died from delirium tremens. One was a compound fracture of both bones, and left the hospital at the expiration of twenty-six days. Of the seven simple cases, the average residence was twenty-six days. Wiring the teeth, pasteboard and gutta-percha splints, were the methods of treatment.

RIBS.

There were thirteen cases, of which ten were males and three females. Of these three died, two from other serious injuries, and one from pneumonia, in twenty days. Of the remaining ten, the average residence in the hospital was thirty-three days. In seven cases more than one rib was broken. The majority of cases were treated by strips of adhesive plaster.

SCAPULÆ.

Of only four cases recorded, all of males, one died from fracture of the skull. In two cases the left is specified. The average residence of three was thirty-three days.

CLAVICLE.

There were twelve cases, of which eleven were males and one female. Of these, one died from other serious injuries, and one left the hospital four days after admission. The average residence of the remaining ten was thirty-six days. Of these cases, five were on the right side, four on the left, and three not given. In eight the fracture was in the outer third, in two, in the middle, one in the inner third, and one not stated. The treatment varied, the larger number being treated by the axillary pad and bandage; Sayre's method, with adhesive strips, was used in some cases.

FRACTURES OF THE HEAD.

Sex, Age, Nativity.	Date of Admission.	Cause.	Definition of Fracture.	Treatment.	Date of Discharge.	Result.	Remarks.
I. CRANIUM.							
<i>Simple.</i>							
1 M. 27	October 22, 1872.	Railroad accident.	Base.		October 26, 1872.	Died.	
2 M. 27	September 7, 1874.	Railroad accident.	Left supra-orbital arch.		December 1, 1874.	Died.	
3 M.	September 24, 1875.	Thrown fr. overboard.			September 25, 1875.		Thirty-six hours after admission. Died in hospital next morning.
1 M. 59	April 2, 1875.	Brick falling.	"No depression."	<i>Compound.</i>	April 5, 1875.	Died.	
2 M. 30	October 16, 1875.	Fall from house.	Comminuted.		October 16, 1875.	Died.	
3 M. 45	October 24, 1875.	Fall from house on him.	Comminuted, left frontal bone.		March 30, 1876.	Good.	Admission. Attended with hemorrhage and loss of brain, loss of left eye, and fracture orbital plate. Comminuted admission. Died in six hours.
4 M. 33	June 15, 1876.	Left ear, surface depressed.			June 15, 1876.	Died.	
5 M. 38	August 7, 1876.	Gun-shot, antistial.	Frontal and parietal.		August 20, 1876.	Good.	Bullet lodged in bone. Accident two weeks before admission.
6 M. 13	May 16, 1875.	Fall from third story.	Depressed behind left ear.		May 16, 1875.	Died on admission.	Compound fracture right radius, fracture left ulna and fracture left tibia and fibula.
7 M. 45	July 15, 1878.	Mining accident.	Depressed.		July 15, 1878.	Died 8 hours after admission.	Fracture left acromion, comminuted fracture left tibia.
II. SUPERIOR AND INFERIOR MAXILLA (COMPOUND).							
1 M. 35	July 18, 1877.	Struck by deriek.	Super, entire length barrel-nail in median line; finger could be laid in cavity. Infer, left of symphysis.		August 13, 1875.	Good.	Fracture of clavicle, No 10.
III. INFERIOR MAXILLA.							
(1) In front of symphysis and teeth on left side wired; (2) In front of angle, right side, pointed bandage.							
1 M. 26	November 4, 1878.	Blow.	Neer symphysis.		December 8, 1878.	Good.	Small spicula of bone discharged from an abscess which formed on inner surface, right side.
2 M. 27	August 15, 1879.	Run over.	Alveolar process not ruptured.		August 21, 1879.	Died.	Delirium tremens.
3 M.	October 2, 1874.		Process not ruptured.		October 21, 1871.	Good.	
4 M. 24	February 1, 1872.	Blow.	At symphysis.		February 27, 1872.	Good.	
5 M. 39	July 16, 1873.	Struck by lawer.	Gutta-percha splint; teeth Gutta-percha splint.		August 8, 1873.	Good.	
6 M. 8	March 6, 1874.	Fall.	Each side median line.		March 26, 1874.	Good.	Removed by friends. Fracture left femur, No. 9.
7 M. 42	April 20, 1877.	Fall.	Between canine and first bicupid; not oblique.		May 28, 1877.	Good.	Small pieces of bone discharged May 23d and 24th from abscess on inside over seat of fracture.
8 M. 50	July 15, 1878.	Blow.	Right, half an inch anterior to angle.		August 8, 1878.	Union.	Discharged because he refused to submit to wiring fragments.

FRACTURES OF THE VERTEBRÆ.

1 M. 28	French Canadian	September 15, 1873.	Struck by a beam falling.	Spinous process of one of lower dorsal wanting.	September 21, 1873.	Died.	Paralysis of lower extremities and bladder. Compound fracture of tibia and fibula. (No. 1.)
2 M. 58	American.	October 21, 1879.	Falling on back.	Sacrum.	October 21, 1879.	Died.	Shortly after entrance, twenty-four hours after accident.
3 M. 31	English.	February 22, 1871.	Railroad accident.	Fourth cervical, also dislocated.	February 22, 1871.	Died.	
4 M. 21	Irish.	April 21, 1875.	Railroad accident.	Eleventh dorsal, vertebra, and dislocation of teeth.	April 19, 1876.	Died.	Fracture of ribs and acromion end of clavicle.
5 M. 35	American.	January 11, 1873.	Struck by heavy stone.	Last dorsal and first lumbar.	January 11, 1873.	Died.	In an hour after admission.
6 M. 42	English.	January 16, 1878.	Struck by falling timber.		September 11, 1878.	Improved.	Had paralysis of lower extremities and bed sores. Later healed, and able to walk well when discharged.

FRACTURES OF THE RIBS.

1 M. 19	American.	February 15, 1872.	Railroad accident.	Four lower, near vertebra.	February 17, 1872.	Died in 1 hour.	Compound fracture of leg.
2 F. 69	Irish.	April 19, 1873.	Railroad accident.	End and bandage.	April 19, 1873.	Good.	Pneumonia. Fracture of tibia and fibula. (No. 8.)
3 M. 46	Fr. Canadian.	August 20, 1873.	Run over.	Sixth and seventh, near acromion.	September 3, 1873.	Good.	Accident two weeks before admission, followed by cough and expectoration.
4 M. 40	Irish.	September 20, 1873.	Stamped upon.	Eighth, ninth, and tenth. Broad swathe.	October 23, 1873.	Good.	

5 M.	50 Irish.	January 9, 1874.	Fall.	Eight and a half.	Adhesive strips	Good.	Died in 9 hours.	Dislocation teeth, dorsal vertebrae. Fracture of clavicle and acromion end of clavicle.
6 M.	24 Irish.	April 20, 1872.	Railroad accident.			Died in 3 hrs.		
7 M.	42 Irish.	May 6, 1875.	Fall.	Seventh.	Adhesive plaster.	Good.		
8 M.	43 Scotch.	October 25, 1875.	Fall.	Seventh.	Adhesive plaster.	Good.		
9 M.	21 Irish.	October 25, 1875.	Fall.	Eighth.	Adhesive plaster and band.	Good.		
10 M.	62 Irish.	January 13, 1877.	Fall.	Ninth.	Adhesive plaster.	Good.		
11 F.	63 English.	July 13, 1877.	Fall.	Right side, two ribs.	Adhesive plaster.	Good.		Elipsoid. Complicated with fracture of tibia and fibula. No. 13.
12 F.	40 Irish.	January 16, 1878.	Struck by fall. Umb.	Fourth, under sternum.	Adhesive strips.	Good.		
13 M.	25 American.	March 5, 1878.	Fall.	Sixth, three or four inches from acromion.	Adhesive strips.	Good.		

FRACTURES OF THE SCAPULA.

1 M.	50 Irish.	August 23, 1871.	Blow.	Neck.	Pad in axilla, arm across chest.	Unrelieved.		Accident two months prior to admission. When discharged, no union.
2 M.	44 American.	April 15, 1872.	Fall.	Neck.	Pad in axilla and sling band.	Good.		Charged at his own request.
3 M.	49 Irish.	June 15, 1875.	Kick of horse.	Left.	Adhesive plaster, Sayre's method.	Good.		Fractured clavicle. No. 5.
4 M.	45 Irish.	July 15, 1878.	Mining accident.	Left acromion process.		Died 8 1/2 hours after admission.		Depressed fracture of skull. Comminuted fracture of left tibia.

FRACTURES OF THE CLAVICLE.

1 M.	30 Irish.	September 11, 1871.	Fall.	Right, two and a half inches from acromion.	Pad in axilla and bandage.	Good.		February 27th, large callus.
2 M.	25 Irish.	April 19, 1873.	Railroad accident.	Left, outer third.	Pad in axilla and over fract.	Good.		When discharged, ends overlapped one half to three fourths of an inch. Sculp wound and loss of two
3 M.	40 Irish.	March 5, 1874.	Jumped.	Left, middle, two fractures.	Adhesive plaster.	Good.		Fracture of ribs and eleventh dorsal vertebra, and
4 F.	38 English.	March 20, 1874.	Railroad accident.	Left, middle, two fractures.	Bandage.	Good.		dislocation of the teeth.
5 M.	24 Irish.	April 20, 1875.	Railroad accident.	Acromion end.	Pad in axilla and bandage.	Died in 9 hrs.		Fracture of scapula. No. 3.
6 M.	49 Irish.	June 15, 1875.	Kick of horse.	Left, acromion end.	Adhesive plaster (Sayre's).	Good.		Fracture of superior and inferior maxilla. No. 1.
7 M.	25 Irish.	October 29, 1875.	Earth caved in.	Right, inner third.	Bandage.	Good.		Left the hospital.
8 M.	39 Irish.	November 23, 1875.	Fall.	Right, two in. from acromion.	Bandage.	Good.		
9 M.	38 Irish.	February 21, 1877.	Fall.	Right, outer third.	Pad in axilla, bandage, arm	Good.		
10 M.	35 Irish.	July 18, 1877.	Struck by derrick.	Right, junction middle and outer third.	Pad in axilla and bandage.	Good.		
11 M.	38 Irish.	July 21, 1877.	Blow.	Near outer extremity.	Adhesive plaster and band.	Good.		
12 M.	30 Irish.	January 3, 1878.	Jumped.	Left, acromion end.	Adhesive strips (Sayre's).	Good.		

FRACTURES OF THE UPPER EXTREMITY.

1 M.	60 German.	June 19, 1869.	Fall.	Middle and lower thirds.	No treatment.	Died.		Effects of intemperance.
2 M.	29 German.	January 10, 1870.	Wrench.	Left, just above middle, transverse.	External and internal angular splints.	Slight deformity.		Union firm. Motion imperfect.
3 F.	64 Irish.	June 30, 1871.	Fall.	Just below surgical neck.	Gibber splints, splint and shoulder cap.	Discharged by request.		
4 M.	40 Irish.	September 30, 1871.	Machinery accident.	Upper third.	Internal angular splint.	Good.		Fracture occurred one week before admission.
5 F.	11 American.	January 29, 1872.	Fall.	Lower and middle thirds.	Internal angular and external splints.	Good.		Fracture a little more than one week prior to admission.
6 M.	37 Irish.	June 7, 1872.	Fall.	Left, two in. above elbow.	Plaster Paris at angle.	Good.		Seven-pound weight, November 5th, to hand to overcome flexion. November 10th, ten pounds.
7 M.	68 American.	February 25, 1873.	Fall.	External condyle, involution.	Internal angular splint.	Good.		Pyemia. Abscesses, both elbows.
8 M.	15 Irish.	September 24, 1873.	Fall on elbow.	Left, internal condyle.	Internal angular splint.	Died.		
9 M.	25 Colored.	August 17, 1874.	Fall from scaffold.	Left, internal condyle.	Internal angular splint.	Good.		Motion almost perfect. Accident four days before admission.
10 M.	37 American.	September 3, 1874.	Fall.	Internal condyle (?). No crepitus.	Rectangular splint.	Good.		Fracture of ulna and radius two inches from wrist.
11 M.	21 Irish.	November 17, 1874.	Fall.	Left, internal condyle.	Internal angular splint.	Good.		
12 M.	31 Irish.	January 5, 1875.	Fall.	Right, internal condyle.	Ant. post. and lat. splints.	Good.		
13 M.	31 English.	June 11, 1875.	Machinery accident.	Right, upper third.	Internal splint.	Good.		

FRACTURES OF THE UPPER EXTREMITY (continued).

Sex.	Age.	Nativity.	Date of Admission.	Cause.	Detail of Fracture.	Treatment.	Date of Discharge.	Result.	Remarks.
14	M.	American.	November 18, 1875.	Fall.	External condyle.	External angular splint, Int. below elbow.	January 2, 1876.	Good.	Discharged for drunkenness before treatment ended.
15	F.	42 Irish.	December 9, 1875.		Lower third.	Plaster Paris, January 9th, Int. and external.	February 7, 1876.	Good.	Fracture of ulna "above coronoid process."
16	F.	70 English.	January 1, 1876.	Fall.	Left. High up.	Plaster Paris.	February 26, 1876.	Good.	
17	M.	42 French Canadian.	June 8, 1876.	Fall.	Left. External and internal condyles.	Internal angular splint.	July 8, 1876.	Good.	
ELBOW-JOINT.									
1	M.	23 American.	January 25, 1879.	Railroad accident.	Left, compound.	Resection.	June 15, 1879.	Wound nearly healed.	Left without permission. Said to have been amputated subsequently.
2	M.	28 German.	July 5, 1876.	Railroad accident.	Right, comminuted.	Internal ang. splint. July 12th, straight splint.	February 2, 1877.	Good.	Compound comminuted fracture of right tibia and fibula.
RADIUS AND ULNA.									
1	M.	8 American.	December 12, 1870.	Fall.	A little above wrist.	Ant. and post. splints.	January 3, 1871.	Good.	Lacerated wound wrist.
2	M.	27 American.	July 7, 1871.	Machinery accident.	Radius, lower part.	Bond's splint.	May 15, 1871.	Good.	
3	M.	14 American.	December 17, 1873.	Fall.	Upper part.	Straight splint, place Paris.	January 15, 1874.	Good.	Fracture right humerus (No. 12). Discharged for drunkenness before treatment ended.
4	M.	34 English.	June 14, 1875.	Fall.	Right, two inches above wrist.	Light side splints.	July 11, 1875.	Good.	Union and position good.
5	F.	15 Irish.	January 12, 1878.	Fall.	Left, middle and lower thirds.	Ant. and post. splints.	February 12, 1878.	Good.	
6	M.	13 Pole.	June 4, 1878.	Machinery accident.	Just below elbow.	Straight ant. splint.	August 17, 1878.	Good.	
7	M.	19 Irish.	September 23, 1878.	Machinery accident.	Just below elbow.	Ant. and post. splints.	October 10, 1878.	Good.	Discharged at request.
RADIUS.									
1	M.	12 American.	October 19, 1878.	Fall on feet.	Right lower end, carpus driven.	Ant. and post. splints.	October 25, 1878.	Good.	
2	M.	52 American.	November 5, 1878.	Fall.	Left lower end.	Ant. and post. splints.	December 18, 1878.	Good.	
3	F.	34 Irish.	February 10, 1872.	Fall.	Colles.	Bond's splint, short dorsal.	March 27, 1872.	Good.	
4	F.	65 Irish.	February 22, 1876.	Fall from window.	Right, Colles.	Post. slanted splint.	March 28, 1876.	Good.	
5	M.	62 Irish.	May 1, 1877.	Fall.	Right, Colles.	Post. slanted splint.	May 10, 1877.	Good.	
6	M.	45 Nova Scotian.	May 4, 1877.	Fall.	Just below tubercle.	Int. ang. splint.	July 3, 1877.	Good.	Good motion, radius straight.
7	M.	29 Irish.	May 14, 1878.	Blasding accident.	Right, Colles.	Ant. splint.	June 29, 1878.	Good.	Dislocation left wrist. Comp. fract. third finger right hand. Loss of second finger of left hand, with first metacarp. Face and eyes burned with powder.
ULNA.									
1	M.	15 American.	January 13, 1872.	Fall.	Olécranon.	Plaster Paris (straight).	March 20, 1872.	Good.	Abscess over eye, February 20.
2	M.	65 Irish.	July 11, 1872.	Machinery accident.	One inch below elbow.	Bond's splint and short dors.	August 13, 1872.	Good.	No crepitus; preternatural mobility.
3	F.	41 Irish.	April 3, 1872.	Fall from window.	One inch below elbow.	Plaster Paris.	May 9, 1872.	Good.	Accident some time before admission, and treated in out-patient department.
4	M.	33 Irish.	August 7, 1874.	Horse-car.	A little above middle.	Extrem. and intern. splints.	September 8, 1874.	Good.	Fracture condyle hum. (14) "acromion" dislocation hum. (13) "K. radius." Fracture right tibia and fib.
5	M.	29 Portuguese.	November 3, 1875.	Bow.			December 8, 1875.	Good.	
6	M.	39 American.	November 18, 1876.	Fall.	Left, "above coron. process."	Int. splint and ext. ang.	January 12, 1876.	Good.	
7	M.	13 Scotch.	May 10, 1878.	Fall from 3d story.	Left.		May 19, 1878.	Good.	

FRACTURES OF THE LOWER EXTREMITY.

FEMUR.

Simple.

(1.) NECK OF FEMUR.

1	M.	79 Irish.	February 27, 1872.	Fall.	Ext. and count. ext. March 27, Plaster Paris.	June 26, 1872	Unclassed.	One inch shortening; bone no weight.
2	M.	40 Irish.	April 19, 1872.	Fall	Weight and pulleys; removed February 1.	May 7, 1872.	Good.	No shortening; union firm.
3	F.	63 English.	December 19, 1872.	Fall on ice.	Long splint, Jan. 6, weight Buck's ext. April 25, plaster Paris.	March 25, 1873.	Good.	Erysipelas face, March 2.
4	M.	60 Irish.	December 25, 1872.	Fall on ice.				Left without permission.
5	M.	21 American.	April 21, 1873.	Thrown from stage		April 29, 1873		

6 M.	61	English	July 29, 1873.	Fell off a load.	One inch shortening.	Buck's ext., 15 lbs., Aug. 1, 1873. Under Paris.	September 26, 1873.	Shortening $\frac{1}{2}$ inch.	Accident happened a week before admission. Discharge, with one crutch. Load expired on rotation. Left without crutch. Fell again May 29, and re-admitted. See No. 10, below.
7 M.	17	Irish.	November 29, 1873.	Fall.	No shortening; eversion.	Pkt. and counter ext. Bed down. Buck's ext. Re-moved March 8.	March 17, 1874.	Shortening $\frac{3}{4}$ in.	
8 F.	59	Irish.	February 27, 1875.	Fall.	R. Extra capsular.	Buck's apparatus, 7 lbs. Re-moved March 8.	April 24, 1875.	Shortening.	
9 F.	72	Irish.	January 29, 1877.	Fall.	One inch shortening.	Buck's apparatus.	April 28, 1877.	Shortening $10\frac{1}{2}$ inch.	Ligam. union, so that she can move treacher in are fully amenable, removing dressings frequently.
10 F.	75	Irish.	July 9, 1877.	Uninjured.	Uninjured.		July 23, 1877.	Discharged.	
(2.) STAFF.									
1 M.	69	American.	January 8, 1870.	Thrown from wagon.	Left oblique; upper and middle thirds.	Buck's extens.	February 16, 1870.	Union firm.	Removed by friends.
2 F.	65	American.	November 6, 1870.	Fall.	Lower third.	Buck's extens. Doct., February 17, 1871.	April 13, 1871.	Fracture existed two weeks before admission; had not been diagnosed.	
3 M.	28	Irish.	February 10, 1871.	Fall.	Just above knee.	Buck's extens. Thist. Paris, March 12.	April 21, 1871.	Good.	
4 M.	21	American.	November 2, 1871.	Halfroad accident.	Left, comminuted.	Modified Liston's splint.	November 2, 1871.	Good.	
5 M.	11	Irish.	November 13, 1871.	Fall.	Middle third.	Buck's 10 lbs. July 22.	January 11, 1872.	Ideal in few hrs.	Compound fracture right femur. Union firm.
6 M.	9	American.	July 15, 1873.	Run over.	Left, middle, transverse, two inches shortening.	Pkt. with strips.	August 30, 1872.	Good.	
7 M.	69	Irish.	August 21, 1873.	Kneeling down by pole.	Left, middle and upper thirds.	Paris; Oct 7, rem. Oct. 13, long sole splint; ext. and count. extens. No. 13.	February 27, 1874.	Good.	September 13, half inch shortening. October 13, fell and broke thigh again in same place.
8 M.	—	Irish.	October 4, 1873.	Pole fell on him.	Lower third; one and a half inches shortening.	Buck's 20 lbs. October 21.	January 6, 1874.	Good.	Shortening, one inch.
9 M.	37	Nova Scotian.	October 7, 1873.	Staging bridge.	Right, middle, left, half inch shorter.	Buck's 14 lbs.	December 16, 1873.	Good.	Fracture occurred week before admission. November 1, removed by friends. Union firm.
10 M.	8	American.	March 6, 1874.	Fall.	Left, two inches shortening.	Plaster Paris, March 24.	March 26, 1874.	Good.	Removed by friends. Compound fracture lower jaw, November 6. Same case July 1, no shortening.
11 M.	17	Irish.	May 29, 1874.	Fall.	Left, two inches shortening.	Buck's 30 lbs.	August 14, 1874.	Good.	
12 M.	22	Swede.	June 2, 1874.	Fall from staging, three stories.	Right, middle third, one and three quarters inch shortening.	Plaster Paris flannel mould. June 12. Buck's 14 lbs.; July 12, 25 lbs.; Oct. 25, 25 lbs.	August 13, 1874.	Good.	September 12, one inch shortening.
13 M.	37	American.	August 11, 1874.	Fall from staging.	Right, oblique, one inch shortening.	Buck's 25 lbs. Plaster Paris; Sept. 4, Buck's.	October 15, 1874.	Good.	February 22, fell and fractured thigh. March 30, can walk without crutches. Completed on admission. Wound one inch long. Sutured. Bone forcibly replaced. Feb. 8, wound healed.
14 M.	19	Irish.	November 28, 1874.	Heavy plate boiler from fell on him.	Right, middle, and lower third, and half shortening.	Plaster Paris; Jan. 1, plaster Paris.	April 5, 1875.	Good.	September 13, half inch shortening.
15 M.	27	Irish.	July 29, 1875.	Bank fell on him.	Right, lower third.	Buck's 20 lbs. Buck's 14 lbs. Aug. 31, plaster Paris; Sept. 7, Desautel's splint.	November 17, 1875.	Good.	
16 M.	28	Irish.	August 17, 1875.	Fall.	Left, lower third, two inch shortening.	Ant. post., and lat. splints.	August 19, 1875.	Death.	Died suddenly; no cause found.
17 M.	48	English.	July 25, 1876.	Fall.	Right, middle, oblique.	Bay's, etc. Aug. 24, plaster bandage.	November 8, 1875.	Good.	One eighth inch shortening.
18 M.	38	Canadian.	September 21, 1876.	Strung brake; fell fifteen feet.	Right, upper third, oblique.	Doct., etc. Oct. 15, plaster Paris.	November 11, 1876.	Good.	Accident seven days before admission. Oct. 3, three quarters inch shortening. Healed at own request.
19 M.	23	Irish.	December 2, 1876.	Struck by bale of granite.	Little above middle.	Doct., Feb. 4, removed. Buck's 20 lbs. good union; amput. per. foot. June 10, outward curve couple splint retracted. Buck's; retracted in. Buck's; retracted in. Buck's; retracted in. Buck's; retracted in.	March 30, 1877.	Good.	September 11, one third inch shortening.
20 M.	28	Canadian.	April 23, 1877.	Struck by large block granite.	Left, middle third.	11th, plaster and extens. Buck's; Sept. 6, plaster Paris. Buck's 12 lbs. Sept. 28, plaster down to knee. Oct. 22, two thin splints. Buck's 7; eight pounds.	October 6, 1877.	Good.	
21 F.	49	American.	July 7, 1877.	Fall.	Comminuted, lower third.		September 22, 1877.	Good.	September 16, measured, no shortening discovered.
22 M.	21	Irish.	August 15, 1878.	Rock fell on him.	Right, middle third, transverse.		November 6, 1878.	Good.	September 28, half inch shortening, walking well without crutch or cane.
23 F.	59	Irish.	September 21, 1878.	Fall.	Right, just below treacher.		September 24, 1878.	Unhealed.	Recovered by friends.

FRACTURES OF THE LOWER EXTREMITY (continued).

Sex.	Age.	Nativity.	Date of Admission.	Cause.	Definition of Injury.	Treatment.	Date of Discharge.	Result.	Remarks.
FEMUR.									
<i>Compound.</i>									
1	M.	21 American.	November 2, 1871.	Railroad accident.	Right femur; with comminuted fracture left femur.			Died.	In a few hours.
2	M.	12 American.	February 8, 1874.	Railroad accident.	Comminuted left femur.			Died.	Capitulum comminuted right tibia and fib. Two hours after admission.
3	M.	31 Canadian.	April 9, 1874.	Railroad accident.	Comminuted right femur.			Died.	One hour after admission.
4	M.	— Irish.	September 24, 1875.	Railroad accident.	Comminuted left femur; comminuted right femur; fracture fourth finger left hand; lacerated wound left arm from shoulder to wrist.			Died.	Half hour after admission.
PATELLA.									
1	M.	23 American.	September 19, 1874.	Fall.	Scallate.	Fract. eight bandages; adhesive Post-splint and elastic bands.	December 24, 1874.	Good.	Fragments found in good position.
2	M.	30 American.	August 14, 1875.	Fall.	L. transverse.		September 6, 1875.	Good.	
TIBIA AND FIBULA.									
<i>Simple.</i>									
1	M.	35 Colored.	February 22, 1869.	Railroad accident.	Left fib. joint, middle and upper third.	Fract. box; March 29, dextr. plaster Paris splint.	May 22, 1869.	Good.	No apparent shortening.
2	M.	25 Irish.	July 3, 1869.	Machine accident.	L. fibula 4 in. above ankle, comminuted. Fibula 1 in. lower; transverse.	Fract. box; weight and extension 5 lbs.; Aug. 19, dextr. time band.	August 28.	Good.	
3	M.	55 American.	July 22, 1870.	Ducked by falling wall.	L. tibia, fib. and fib., comminuted.	Fract. box and counter-extension.	August 4.	—	Discharged at own request.
4	M.	50 Canadian.	July 27, 1870.	Earth and stones fell on him.	Ununited fracture.	Fract. box; Aug. 16, dextr. time band; Feb. 14, 1871, plaster Paris splint.	October 13.	Good.	Fib. united; fib. considered firm. Accident 48 days prior to admission. Death at own request.
5	F.	49 Irish.	December 25, 1870.	Railroad accident.	Oblique at middle of leg.	Fract. Paris; April 2, dextr. time band.	March 29, 1871.	Good.	
6	M.	65 Irish.	March 4, 1872.	Railroad accident.	Just above ankle.	Fract. box; Aug. 6, dextr. time band.	June 1, 1872.	Good.	
7	M.	29 Irish.	June 24, 1872.	Earth caved in.	Three inches below knee.	Fract. box; April 28, plaster Paris; Oct. 25, plaster Paris band.	September 6, 1872.	Good.	Fracture occurred six weeks before admission; union. Treated with plaster before admission. Fractured five days before admission.
8	F.	69 Irish.	April 19, 1873.	Railroad accident.	Middle; shortening one half inch.	Fract. box; Nov. 21, plaster Paris band.	May 11, 1873.	Died.	Complicated with fractured rib, No. 1. Death from pneumonia.
9	M.	45 Irish.	October 11, 1873.	Earth fell on him.	Just above ankle; shortening one inch.	Fract. box; Oct. 25, plaster Paris band.	December 15, 1873.	Good.	
10	M.	19 German.	November 6, 1873.	Caught by rope.	Just above ankle; shortening one inch.	Fract. box; Dec. 12, gutta-serena; ext. pract. box.	January 12, 1874.	Good.	
11	M.	52 Irish.	December 27, 1873.	Earth caved in.	Near knee; shortening one in.	Extension by wt. 12 lbs.; count. ext. pract. box.	March 24, 1874.	Good.	
12	M.	35 Irish.	January 10, 1874.	Kick.	Four inches above ankle; shortening one inch.	Plaster Paris; Feb. 1, plaster Paris; Feb. 7, new splint.	April 14, 1874.	Good.	
13	M.	29 Irish.	February 24, 1874.	Earth caved in.	Left; middle; shortening three-fourths inch.	Plaster Paris; March 19, removed.	April 4, 1874.	Good.	
14	M.	26 Portuguese.	May 15, 1875.	Jumped off cart.	Right; middle, oblique.	Fract. box; May 24, plaster Paris.	July 24, 1875.	Good.	May 24, three eighties each shortening.
15	F.	63 English.	July 19, 1877.	Fall.	Left; just above joint.	Fract. box.	August 11, 1877.	Good.	Left the hospital. Complicated with fractured ribs. Accident happened eight days before admission. Had delirium tremens.
16	M.	39 Irish.	March 30, 1878.	Fall.	Left; lower third, transverse.	Fract. bandages, Little's method; May 6, pasteboard splints.	May 8, 1878.	Good.	Depressed fracture skull; compound dislocation right radius; fracture left ulna.
17	M.	13 Scotch.	May 10, 1878.	Fall from third story.	Right.		May 16, 1878.	Died on admission.	
<i>Compound.</i>									
1	M.	28 French Can.	September 15, 1869.	Struck by falling beam; back and thighs; bone protruding.	Tibia, joint, upper and middle third; fibula comminuted.	Fract. box.	Sept. 21, 1869.	Death.	Fract. spin. process of one lower dorsal vertebra, No. 1; paralysis lower extremities and bladder.
2	M.	24 American.	January 31, 1872.	Railroad accident.	Near ankle; comminuted.		January 31, 1872.	Death in 3 hours.	Penetrating wound thigh down to trochanter.
3	M.	13 American.	February 17, 1872.	Railroad accident.	Near ankle; comminuted.		February 17, 1872.	Died in 4 hour.	Fract. four lower ribs near vertebral connection.
4	M.	30 Irish.	May 6, 1872.	Barrel fell on leg.		Fract. box; June 4, dextr. band; removed July 1.	September 27, 1872.	Good.	

5 M. 6 M.	21 American. 47 American.	February 8, 1874. June 11, 1874.	Railroad accident. Caught in wagon wheel.	Comminuted. Right lower end comminuted.	One half to one in. lower end of tibia removed; plaster Paris bandage; plaster Paris box; July 15, splints; Aug. 13, 80 spl. swung; Aug. 17, 80 spl. removed.	February 8, 1874. August 24, 1874.	Died in 2 hours. Good.	Compound comminuted fracture left femur. Good union, ankylosis ankle; openings on leg sides nearly healed. July 3, erysipelas in leg August 1, large abscess from heel.
7 M. 8 M.	25 German.	April 25, 1875. July 6, 1875.	Railroad accident. Railroad accident.	Right comminuted. Right comminuted.	Fract. box; Sept. 15, plaster bandage; plaster Paris box; Oct. 5, splint; Oct. 8, plaster bandage; Oct. 9, splint; Oct. 9, plaster bandage; Oct. 9, splint; Oct. 9, plaster bandage.	April 25, 1875. February 2, 1877.	Died in 1½ hours. Good.	Loss of toes of left foot. Small pieces bone worked out. When discharged sinuses still open; could walk on leg.
9 M.	26 Irish.	November 29, 1875.	Struck by a car.	Comminuted.	Plaster Paris; fract. box, congruence.	May 28, 1877.	Good.	Leg dropped off. Bones removed higher up.
10 M. 11 M. 12 M.	24 American. 25 Irish. 12 English.	August 20, 1877. August 2, 1878. August 14, 1878.	Railroad accident. Killed. Jumping.	Comminuted, both legs. Middle third. Middle third; wound in skin down to tibia.	Comminuted splints. Loug post. short external splint; Sept. 24, plaster Paris with fenestra.	August 20, 1877. August 29, 1878. October 11, 1878.	Died in 2 hours. Good.	Removed by friends. Discharged at request. Head bone could be felt.
1 M. 2 M.	20 American. 26 Irish.	June 15, 1871. November 21, 1871.	Railroad accident. Fall.	Right. Lower third.	Simple. Fracture box, short splint; Oct. 3, plaster Paris.	August 24, 1871. March 9, 1872.	Good. Good.	Amputation left leg middle and lower thirds. Plaster Paris removed Oct. 20; slough found not fully healed when discharged.
3 F. 4 M. 5 M.	50 Irish. 34 Irish. 44 English	December 27, 1871. September 17, 1872. September 25, 1872.	Ran over. Run fell on him. Fall.	Oblique lower third. Two inches above ankle.	Jan. 8, plaster Paris. Fract. box; Oct. 9, dextrine Fract. box; Oct. 11, dextrine.	February 27, 1872. October 22, 1872. February 27, 1873.	Good. Good. Good.	
6 M.	51 Irish.	March 18, 1873.	Ran over.		Plaster Paris; April 11, fenestra in consequence of ulcer; box; April 28, plaster Paris.	May 23, 1873.	Good.	Discharged for intoxication.
7 M.	18 Irish	April 19, 1873.	Railroad accident.	Two inches below knee.	Fract. box; June 15, plaster Paris.	June 11, 1873.	Good.	Ulceration from bandage fenestra.
8 M. 9 M.	35 Irish. 23 Swede.	June 9, 1873. July 6, 1873.	Fall. Struck by spur.	Right, near ankle.	Fract. box; July 10, plaster Paris; July 10, fenestra for wound; Sept. 23, side splints.	August 9, 1873. November 16, 1873.	Good. Good.	Fract. occurred at seat two days before admission. Back injured. Paralysis bladder several days. Wound in ankle; skin bone discharging Aug. 4.
10 M. 11 M. 12 M.	21 Swede. 49 English. 27 American.	August 5, 1873. February 14, 1874. October 18, 1875.	Jump. Run over. Struck against stone.	Just above ankle. No shortening. Right, middle.	Fract. box; Aug. 11, plaster Paris.	September 28, 1873. April 3, 1874. January 17, 1875.	Good. Good. Good.	
13 M. 14 M.	5 American. 21 American	December 22, 1875. November 23, 1877.	Fall. Bale cotton fell on him.	Lower third. Left lower and middle thirds	Fract. box; Jan. 31, gutta-percha.	March 1, 1876. December 13, 1877.	Good. Good.	
15 M.	45 Irish.	July 15, 1878.	Mining accident.	Left comminuted.	Fract. box; Nov. 29, side splints.	July 15, 1878.	Died 8 hrs after admission.	Depressed fracture skull; fract. left acetabulum.
1 F. 2 M.	42 American. 28 Canadian.	December 17, 1879. July 12, 1872.	Fall. Thrown from wagon.	Left. Comminuted.	Compound. Fracture box; December 18, dextrine bandage. Fracture box; August 28, plaster Paris; Sept. 1, plaster Paris; 3, side splints.	December 27, 1879. September 17, 1872.	Good. Good.	Occurred thirteen days previous to admission.
1 M. 2 M. 3 M. 4 F. 5 M.	23 Irish. 25 American. 42 American. 59 French. 20 American	July 22, 1870. December 20, 1871. April 13, 1874. April 6, 1877.	Fall. Fall. Fall. Fall. Kicked	Left: lower third. Lower and middle third. Right. "Lower fifth." ext.	Simple. Fracture box. Fracture box. Side splint; April 25, plaster Paris. Fract. splint, and, April 10, ext.	August 20, 1870. July 17, 1871. February 7, 1872. May 25, 1874. May 14, 1877.	Good. Good. Good. Good. Good.	

COMPLICATED INJURIES, RAPIDLY FATAL (INCLUDED IN THE PRECEDING).

Sex.	Age.	Nativity.	Date of Admission.	Cause.	Indication of Fracture.	Treatment.	Date of Discharge.	Result.
1	M.	21	American.	November 2, 1871.	Railroad accident.	Comp. fract. of right femur; commin. fract. of left femur.	—	Died in a few hours.
2	M.	24	American.	January 31, 1872.	Railroad accident.	Comp. fract. of leg, and penetrating wound of thigh down to four lower ribs near vertebra connected with fracture of four lower ribs near vertebra; commin. fract. of left femur; comp. commin. fr. of right tibia and fibula.	—	Died in three hours from admission.
3	M.	13	American.	February 17, 1872.	Railroad accident.	Comp. fract. of leg, and fracture of four lower ribs near vertebra connected with fracture of four lower ribs near vertebra; commin. fract. of left femur; comp. commin. fr. of right tibia and fibula.	—	Died in half an hour.
4	M.	12	American.	February 8, 1874.	Railroad accident.	Comp. commin. fracture of femur; commin. fracture of tibia; fracture of tenth dorsal vertebra; fract. of the eleventh dorsal vertebra; and commin. fracture of clavicle.	—	Died two hours after admission.
5	M.	31	Canadian.	April 9, 1874.	Railroad accident.	Comp. commin. fract. of left femur; comp. commin. fr. of right tibia and fibula.	—	Died one hour after admission.
6	M.	24	Irish.	April 10, 1875.	Fall of heavy timber.	Dislocated, of tenth dorsal vertebra; fract. of the eleventh dorsal vertebra; and commin. fracture of clavicle.	—	Died in nine hours from admission.
7	M.	—	Irish.	September 24, 1875.	Railroad accident.	Comp. commin. fract. of left femur; comp. commin. fr. of right tibia and fibula.	—	Died in half an hour after admission.
8	M.	57	—	April 25, 1876.	Railroad accident.	Comp. commin. fract. of right femur; commin. fract. of left femur; commin. fract. of right radius; fract. of right tibia; fract. of right tibia and fibula.	—	Died in one and a half hours after admission.
9	M.	24	American.	August 29, 1877.	Railroad accident.	Comp. commin. fract. of right femur; commin. fract. of left femur; commin. fract. of right radius; fract. of right tibia; fract. of right tibia and fibula.	—	Died in two hours after admission.
10	M.	13	Scottish.	May 16, 1878.	Fall from third story.	Depressed fract. of skull between frontal and parietal bones; commin. fract. of right radius; fract. of right tibia; fract. of right tibia and fibula.	—	Died on admission.
11	M.	45	Irish.	July 15, 1878.	Mining accident.	Small, transverse, open, extended fract. of skull; fracture of both arms; comminuted fracture of left tibia.	—	Died eight hours after admission.

SUMMARY.

Head.									
Cranium.	Simple							3	
Compound								7	
								10	
Maxilla.	Both.	Compound						1	
Interior.	Simple							8	
								9	
Trunk.									19
Vertebrae								6	
Ribs								13	
Scapula								4	
Clavicle								12	
								35	
Upper Extremity.									
Arm.	Simple							17	
Elbow Joint	Compound							1	
Comminuted.								2	
								2	
Fore-arm.									
Radius	Simple							7	
Ulna								4	
								22	
								41	
Lower Extremity.									
Femur.	Simple							23	
Shaft.	Compound							4	
								27	
								37	
Patella								17	
Leg.	Tibia and Fibula.	Simple						12	
	Compound							23	
								15	
Tibia.	Simple							2	
Compound								17	
								51	
								90	
								185	
Fibula.	Simple							17	
								51	
								90	
								185	

HUMERUS.

There were seventeen cases, all of simple fracture of which thirteen were in males and four in females. The right humerus was broken in two cases, the left in six, and in nine it is not stated. Of seven—en, one died from interperence, three days after admission, and the average residence of sixteen was forty-four days. As to the location of fracture, four were in the upper third, one middle third, two junction of middle and lower thirds, two lower third, two external condyle, three internal condyle, one both condyles, and two not stated. In treating these cases, angular splints, external or internal, were used in nearly all of those of the lower portion. Plaster of Paris was applied in three cases.

RADIUS AND ULNA.

Seven cases, of which six male and one female. Of these, two were of the right arm and one of the left, four not stated. Of these seven, one was discharged, at his own request, on the seventeenth day, and of the remaining six the average residence was thirty-seven days. As to location, one was in the upper third, one in the middle, one at the junction of middle and lower, two in the lower third, one in which the radius was broken in the lower and the ulna in the upper, and one not stated. Antero-posterior splints were chiefly used.

Radius. Seven cases: five males, two females; three of the right, one of the left, and four not stated. The average residence was forty-three days. Four were of Colles's fracture, two of the lower end, and one just below the tubercle. Anterior and posterior splints were chiefly used.

Ulna. Eight cases: six males, two females; two of the left, six not stated. Of the eight cases, one died immediately after admission from other severe injuries, and of the remaining seven the average residence was forty-one days. Of these fractures, one was of the olecranon, two of the upper third, one of the middle, and four not stated. In the case where the olecranon

was fractured, the degree of separation on admission or discharge is not given.

FEMUR.

There were thirty-seven cases in all, of which ten were of the neck of the bone. Of these ten, there were six males and four females. In only one instance is the side given, and that was the right. Of these cases, one left, one was discharged for misbehavior early in the treatment, and one was discharged on the eighteenth day with "*union firm*," so that in this case, presumably, there was an error in diagnosis. Of the remaining seven the average residence was ninety-one days. The amount of shortening on entrance is not stated in seven cases; one had no shortening, but eversion, and in two there was one inch. At the time of discharge the condition is not stated in five, and of the rest one had no shortening (not the same as on entrance), one had one fourth inch, one one half to three fourths inch, one three fourths inch, and one one inch. The treatment was chiefly by Buck's method, with the addition sometimes of sand bags and long splints.

There were twenty-three fractures of the shaft of the femur, and of these twenty were males and three females. Of these, eight were of the right thigh, eight of the left, one of both, and six not stated. Two of these cases died, one on the second day after admission, and one in a few hours, with a compound fracture of the other femur. Of the remaining twenty-one cases, three were removed by friends, three fell while convalescent, and refractured the thigh, remaining in the hospital respectively one hundred and twenty-eight, one hundred and thirty-six, and one hundred and ninety days, and for the remaining fifteen the average residence was eighty-three days. On admission the amount of shortening is not stated in fifteen cases. Three had two inches, and one each had one and three fourths inches, one and one half inches, one inch, and one half inch. In the case in which both femurs were broken, the left was one half inch shorter. At the time of leaving the hospital the amount of shortening is not stated in nine cases; in three there was one inch, in one three fourths inch, in three one half inch, and in one each, one fourth to one half inch, one third inch, and one eighth inch; in three there is said to have been no shortening. In the case of both femurs, the limbs were of equal length. Buck's apparatus was very generally employed, followed by plaster of Paris. One case, admitted November 28, 1874, was remarkable from the rare complication of a compound dislocation of the internal cuneiform bone, which was forcibly replaced, and the patient made a good recovery.

There were four cases of compound fracture, all of which terminated fatally shortly after admission.

PATELLA.

There were two cases, both male, one stellate and one of the left transverse. The degree of separation is not given. The former was in the hospital ninety-nine days, and the fragments were "found in good position" shortly before leaving, the treatment consisting of a posterior splint, adhesive strips, and a figure-of-eight bandage. The other was in the hospital but twenty-three days, and was treated by a posterior splint and elastic bands.

TIBIA AND FIBULA.

Of these there were seventeen cases of simple fracture, of which fourteen were males and three females,

two of the right, six of the left, and nine not stated. Two died, one shortly after admission, and one from pneumonia following a fractured rib; two left the hospital; and one was discharged at his own request on the thirteenth day. The average residence of the remaining twelve was seventy-seven days. As to location, there were two in the upper third, one at the junction of the middle and upper, four in the middle third, seven in the lower third, and three not stated. In one case the fibula was fractured three inches, and in another one inch, below the tibia. The degree of shortening is given only in five cases on admission; of these, three had one inch, one had three fourths inch and one had one half inch; it is given in only two instances on discharge, one having three eighths inch and one no shortening. The treatment in the majority of cases was by the fracture box, although plaster of Paris was used in a few cases. One case of ununited fracture was admitted, the fracture occurring sixty-eight days previous; he remained in the hospital seventy-eight days, and was treated by the fracture box and the dextrine splint. He was discharged at his own request, with "the fibula united and the tibia quite firm."

There were twelve cases of compound fracture of these bones, all in males; one was of both legs, two of the right, and nine not stated. Six died within a few hours of admission, and one was removed early in the treatment. Of the remaining five the average residence was one hundred and twenty-six days. The fracture box and fenestrated plaster-of-Paris bandages were chiefly employed. There are no statistics as to shortening.

Tibia. There were fifteen cases of simple fracture of this bone, of which fourteen were males and one female. Three were of the right leg, two of the left, and ten not stated. One died in a few hours after admission from a fracture of the skull, and of the remaining fourteen the average residence was seventy-three days. As to location, six were in the lower third, one lower and middle, one middle, one upper third, and six not stated. The fracture box was chiefly used, but in a few cases plaster of Paris or side splints were applied.

There were two cases of compound fracture of this bone, one male and one female, one of the left leg and the other not stated. One occurred thirteen days prior to admission, and after remaining ten days was discharged; the other remained sixty-seven days.

Fibula. There were five cases, four male and one female; one of the right, one of the left, and three not stated. The average residence was thirty-eight days. Three were in the lower third.

DISLOCATIONS.

There have been but eight cases of uncomplicated dislocations admitted to the wards of the hospital during the ten years covered by these tables. Of these, four have been of the thigh, all in males from twenty-six to forty years of age. Two were of the left thigh, and two not stated. Two were upon the dorsum ilii, one into the ischiatic notch, and one into the foramen ovale. All were reduced by manipulation according to Dr. Bigelow's method.

There were two dislocations of the humerus, one in a boy aged fourteen, "forwards and upwards," occurring two days before admission, and one in a man aged forty, upon the dorsum of the scapula, occurring eleven days before admission. Both were easily reduced.

There was one dislocation of the radius and ulna backwards, of long standing, in a man thirty-six years of age, admitted November 14, 1871. Frequent efforts were unsuccessfully made, and in the last of these, the pulleys being in use, a fracture of the bone was produced, which bone is not stated. He, however, left the hospital after a stay of six weeks, with improvement in the motion of the joint.

There was also one dislocation of the outer end of the clavicle in a man aged twenty-seven.

CONCLUSION.

Such are the somewhat meagre results that are on record for these first years of the existence of the hospital. Like all other institutions this has to grow into popular favor, and its second decennial will probably witness a larger number of cases coming under treatment. At all events, this comparatively small number will, I trust, furnish some details of interest to the reader, and may be regarded as a simple contribution to the study of fractures.

PROVIDENCE, April 29, 1880.

RECENT PROGRESS IN PHARMACEUTICAL PREPARATIONS.

BY BENNETT F. DAVENPORT, M. D.

REFERENCES. — Proceedings of the American Pharmaceutical Association. Year Book of Pharmacy and Transactions of the British Pharmaceutical Association. New Remedies. American Journal of Pharmacy. Pharmaceutical Journal and Transactions. The Pharmacist. Druggists' Circular. Chemist and Druggist. Therapeutic Gazette. American Journal of the Medical Sciences. Monthly Abstract of Medical Sciences. Lancet. Medical Times and Gazette. British Medical Journal. London Medical Record. New York Medical Record. Printed Report of the Committee of the American Pharmaceutical Association on the Revision of the United States Pharmacopoeia for 1880, prepared and compiled by Charles Rice, chairman, etc.

PARAFFIN OINTMENTS AND OLEATES.

ALL cerates and ointments, especially those subject to becoming soon rancid, keep well if made up with some soft paraffin base, such as is now sold under the name of petrolina, or with the paraffin ointment proposed in the printed report of the committee of the American Pharmaceutical Association on the Revision of the United States Pharmacopoeia for 1880.

A subnitrate of bismuth ointment made up with such a base is considered as much better in many cases than the more commonly used zinc ointment.

A series of oleates will doubtless be official in the United States Pharmacopoeia for 1880, the oleate of mercury having already been in use for some years. The oleates of the alkaloids, such as of aconitia two per cent., morphia five per cent., quinia twenty-five per cent., and veratria two per cent., furnish elegant methods of administration.

TAMARINDS.

An extract of tamarinds, which would properly be called "mellago tamarindorum," corresponding to the "pulpa tamarindorum" of the Pharm. Germ., being a clear, brown-red, thick, honey-like mass, is very favorably mentioned by Dr. H. Hager as a preparation for making a refrigerant drink, to be used in fevers, when dissolved in cold water; also as a purgative, if given in doses of three to four spoonfuls.

NEW POULTICE.

A new form of poultice has been introduced by a French chemist as a substitute for linseed and other ordinary poultices. It consists of an extract from Irish moss (*Fucus crispus*) dried between sheets of cotton wool. For use, a piece of suitable size is cut and dipped in boiling water, until quite swollen; then applied to the part, and covered with the accompanying piece of gutta-percha sheeting. It possesses the great advantages of being cleanly, of not drying quickly, of not easily slipping from its place, and of not having any unpleasant odor, as well as of being so quickly and simply prepared. It is offered in packages containing sheets five by eight inches and eight by thirty.

ELASTIC CAUSTIC CRAYON.

Elastic crayons of nitrate of silver can be prepared by dipping small laminaria tents in thick mucilage, and then rolling them in finely-powdered lunar caustic. When dried it makes a crayon which can be introduced into a cavity without fear of breakage. Other caustics can be used in like manner.

SCOPARIN, SPARTEINE, AND SCLEROTIC ACID.

Increased attention has been recently directed, in Germany, to the diuretic action induced by the subcutaneous injection of the active principles scoparin and sparteine, obtained from the broom (*Sarothamnus scoparius*) dissolved in water with the aid of glycerine. A preparation for use as subcutaneous injection has also been made from ergot in the form of sclerotic acid, the ordinary dose being 0.02 to 0.03 grammes. The acid is an amorphous, cinnamon-brown substance, readily soluble in water. Good ergot contains some four to five per cent. of it. It seems to have all the virtue of ergot itself in inducing uterine contractions, and does not lose its strength if only kept dry. It has the advantage over ergotin of not being likely to induce inflammation at the seat of puncture, and over any other preparation of ergot in the smallness of its dose and rapidity of action if used as a hypodermic injection.

ETHYL BROMIDE.

Ethyl bromide, the hydrobromic ether of older chemists, first made by Serullas in 1827, shortly after the discovery of bromide itself, received but little attention as a therapeutic agent until Dr. Nunnally, of Leeds, England, called attention to it as a useful anæsthetic in 1865. Rabuteau, of Paris, again created considerable interest by his experiments with it on the lower animals in 1876; but the credit of bringing it out prominently and, as it now seems, permanently is due to Dr. Lawrence Turnbull, and the hearty coöperation, persevering efforts, and experiments of Dr. R. J. Lewis, both of Philadelphia. As an anæsthetic it has always thus far proved safe when a pure preparation only has been used. In action it is more rapid than even chloroform, and is eliminated by respiration more quickly than either of the common anæsthetics; the senses and muscular coördination being therefore regained very soon after the inhalation ceases. The pulse and respiration are but slightly increased. It causes less irritation of the respiratory passages than ether, and less of the skin on contact than chloroform. The liability to nausea and vomiting is not as much after either of these. The quantity required to produce anæsthesia, as with the more common ether and chloroform, varies with the individual and the modes of administration.

Dr. Levis recommends that it be given by pouring two to three fluid drachms upon some soft, porous material inclosed within a folded napkin large enough to cover the entire face. This held at first closely over the mouth and nose makes a rapid and decided impression, and thus, as with ether, anesthesia is attained with but a very short stage of mental and muscular excitement. The same precautions in administration and against pushing the anesthesia to an unnecessary degree should be observed as with ether. The odor being more agreeable than that of ether, and being also more rapidly removed, it can be used with more comfort in the physician's office or the patient's chamber. As its vapors are not inflammable, there is not the danger of explosion near a light which exists in the case of ether.

CASTOR-OIL.

Castor-oil may be so palatable that a patient will not recognize it, if it is made into an emulsion containing castor-oil $\mathfrak{z}\text{i}$, tinct. cardamom. comp. $\mathfrak{z}\text{iv}$, ol. gaultheriae gtt. iv , pulv. acacie and pulv. sacchari alb. \mathfrak{aa} $\mathfrak{z}\text{ij}$, aq. cinnamomi q. s. ad $\mathfrak{z}\text{iv}$; misce secundum artem. German children are even said to quarrel over the confection of castor-oil made into a paste with either about three parts of coarsely granular sugar or two parts of comp. licorice powder, and flavored with a little powdered cinnamon or grated lemon peel.

KOOSO.

Kooso, one of the most certain of tænicides for tape-worm, is prepared, unimpaired in its strength and in a form which does not excite repugnance, by treating $\mathfrak{z}\text{ss}$. of fresh powdered kooso with $\mathfrak{z}\text{i}$. of hot castor-oil, and afterwards with $\mathfrak{z}\text{ij}$. of boiling water by displacement, expressing and by means of the yolk of an egg combining the two percolates into an emulsion; adding gtt. xl . of ether, and flavoring with some aromatic oil. This emulsion is to be taken at one dose early in the morning, after a previous fast of nearly a day. The worm is usually expelled dead after about six to eight hours.

CINCHONIA AND QUINIA.

Cinchonia can be very acceptably administered in the form of a troche if accompanied by a little carbonate of soda, so as to make the mixture alkaline, and thus prevent its solution and taste in the mouth. Quinine finds a very good solvent in milk, which almost completely disguises its bitterness if taken in the proportion of f. $\mathfrak{z}\text{i}$. to the grain. This mode of administering quinine is of especial use with children. A solution of quinine in glycerine made gr. i. to the f. $\mathfrak{z}\text{i}$. can be given in a cupful of milk without the child knowing it.

IRON ALBUMINATE.

An albuminate of iron has been for some years in use in Germany containing about five per cent. of ferric oxide. It is a perfectly transparent, light brown liquid, nearly tasteless, which will keep well in cool weather for several weeks. It can be obtained from its solutions by precipitation with common salt, and this when dried and powdered is again readily soluble in water.

SUCCUS CARNIS AND DEFIBRINATED BLOOD.

Succus carnis, or meat juice, is extensively used in St. Petersburg by invalids and infants in the place of raw meat, which is simply prepared from fresh, perfectly lean beef by hydraulic pressure, and is consumed on the same day it is made, as it does not keep well

for more than twenty-four hours. It is a clear, red liquid, having an acid reaction. Flavored with a little salt it has a pleasant taste, and under the microscope shows a few blood cells and fat globules. Its specific gravity is 1031 to 1037. It mixes clear with a little hydrochloric acid, but is coagulated by more, or by boiling. It is relished and readily digested even by very young children. It contains in 100 cc., organic matter 6.12 grams, mineral matter 1.04, and water 92.84 grams. The 1.04 grams of organic matter are composed of albumen 3.86 per cent., sugar 0.30, and gelatin, creatin, isatin, etc., 1.96 per cent., while the 1.04 grams of mineral matter contained 0.064 grams of phosphoric acid, principally in the form of acid phosphates of potassium and calcium.

This preparation, as not having been subjected to heat, and thus deprived of its albumen, is superior as a food to all the beef extracts prepared with heat. A somewhat similar food is made by defibrinating and then drying beef blood. This is then dissolved in a mixture of one part each of glycerine and brandy to four parts of water, in the proportion of one drachm of the dried blood to one fluid ounce of the above mixture. This preparation is found to be very palatable and easy of digestion.

SODIUM ETHYLATE.

Sodium ethylate, a caustic alcohol, was first used in 1870. It is a white crystalline material, easily prepared by the action of metallic sodium upon absolute alcohol. This material is recommended by Dr. B. W. Richardson, of London, to be prepared for use by dissolving one part of it in one and one half of absolute alcohol, and dispensed in a bottle furnished with a glass stopper ending in a pointed glass rod, which descends nearly to the bottom of the bottle. This solution, when applied to living tissue, absorbs water, liberates soda, which acts as a caustic, and alcohol, which coagulates the tissues, and thus prevents the decomposition of the dead organic substance which is found. Used, therefore, as a caustic upon vascular growths, it reduces them to a mere dry mass. If a more concentrated solution than the above be used the caustic action is over-severe, and hemorrhage may follow.

PERFUMED CARBOLIC ACID.

Perfumed carbolic acid is prepared from carbolic acid one part, oil of lemon three parts, alcohol of thirty-six degrees one hundred parts, mixed. This mixture, which appears to be quite stable, has only the odor of lemon, is what has been known as "Lebon's perfumed carbolic acid," the formula for which has long been kept secret, but has now been made known in the *Moniteur Scientifique* of Paris. The antiseptic properties are in no way affected by the oil of lemon.

NEW DISINFECTANT.

A new disinfectant has been introduced in Australia composed of one part of rectified oil of turpentine and seven parts of benzine, with five drops of oil of verbenia to each ounce of the mixture. Its purifying and disinfecting properties are due to the power possessed by its ingredients of generating peroxide of hydrogen or ozone. Articles of clothing, furniture, wall-paper, books, and papers may be saturated with it without damage. When it has once been freely applied to any rough or porous surface its action persists for an almost indefinite period. This may be shown readily

at any time by putting a few drops of a solution of iodide of potassium upon the surface which has been disinfected, when the ozone, which is being continually generated, will quickly liberate the iodine from its combination with the potassium, giving rise to a yellow discoloration, or a blue if boiled starch has been added to the iodide of potassium solution.

MENTHOL AND THYMOL.

Menthol, the camphor from the oils of the mints, such as peppermint, and thymol, the camphor from oil of thyme, with their isomeric substances from the other volatile oils, which are homologous with phenol, are becoming largely used as more agreeable antiseptics, in the form of lotions, ointments, soaps, etc., than the more common carbolic acid, the commercial form of phenol. The Chinese having long used their oil of peppermint as a local application in neuralgic affections, and the Japanese also under the name of *po-ho-yo*, an alcoholic solution of from one to ten per cent., scented with a little oil of cloves, has become popular in England for such purposes. A saturated solution of thymol in water, that is, a one tenth of one per cent. solution, is found to be sufficiently strong for the spray during surgical operations. Milk will dissolve thymol up to about ten per cent. Ordinary camphor rubbed up with thymol will liquefy it in all proportion between two and one tenth parts of the thymol. Thymol and chloral hydrate triturated together do not liquefy each other as when ordinary camphor is used, but these three rubbed up together in equal proportions at once liquefy into a powerfully antiseptic solution, which will mix with the soft paraffin ointments in almost any proportion. Its solubility in water, however, is not much greater than that of simple thymol. These camphors, like the ordinary camphor, all dissolve readily in ethers, alcohols, and oils, both fixed and volatile.

FERROUS IODIDE.

All previous processes proposed for preventing the alteration of ferrous iodide being more or less defective, C. Pavesi recommends the use of albumen for this purpose. Having made the ferrous iodide as is usual for the *syr. ferri iodid.* of the United States Pharmacopoeia, then for each part of iodine which has been used three parts of dry soluble egg albumen and five of mannite are added, the whole is heated to 104° F., and filtered through paper after all has dissolved. The filtrate is then evaporated to perfect dryness by gentle heat in a shallow capsule, and is preserved in glass-stopped bottles. Thus prepared, it is in brilliant, pale yellow, odorless scales, very soluble in water, and giving no reaction of free iodine with starch paper.

SUBERIN.

An impalpable cork powder under the name of suberin has come into use for the treatment of chapped nipples and other like purposes. It is dusted on after first washing the nipple, and then covered with a piece of gold-beater's skin, cut star-shaped, in the centre of which punctures are made with a needle. When the child is suckled the powder is washed off with water, and the skin replaced, the child drawing the milk through that without giving pain. After each nursing the powder is dusted on again, and the gold-beater's skin placed over it. It is also being used for the chafing in children instead of lycopodium, being preferred on account of containing tannin, and also costing much less.

ODORLESS IODOFORM.

The odor of iodoform is very much disguised by the presence of the volatile oils, such as peppermint and cloves, and also by balsam of Peru. Five to eight drops of the oil of fennel to the gram of iodoform is considered, however, to be the most effectual.

PYROGALLIC ACID.

Ointment of pyrogallic acid is being used instead of that of chrysophanic acid in many cases with good results. Psoriasis is the disease for which it has been chiefly tried, and the most convenient strength has been found to be that of ten per cent. Most of those who have tried it—for instance, Professor Hebra—prefer the remedy to chrysophanic acid. They find that, though its action is slower, it has the advantage over the latter in exciting scarcely any inflammation in the part to which it is applied, and in staining the skin but slightly, the brown color produced by it quickly disappearing. Hebra has never yet seen any poisonous symptoms follow its application to the skin, although in his cases it could always be detected in the urine. A case has, however, been lately reported by Dr. A. Neisser, where a patient died with the symptoms of pyrogallac acid poisoning in the skin clinic at Breslau. One half of the body of a robust man having been covered with a chrysophanic acid, and the other half with a ten per cent. pyrogallac acid ointment, he was attacked with vomiting, and died in collapse on the fourth day. The urine was dark brown, and had a thick sediment, which consisted of a very abundant blackish-brown substance, partly amorphous, and partly in the form of casts, but containing no blood cells. As the spectrum showed the characteristic bands of hemoglobin, and similar *debris* to that in the urine was found in the blood itself and in the renal tubules, there could be no doubt that it consisted of disintegrated red blood corpuscles. Dr. Neisser explains its poisonous action by its activity for oxygen in the presence of alkalies, and the consequent destruction of the red blood corpuscles, which are the carriers of oxygen. He considers that its use had best be restricted to the head and face, while chrysophanic acid may be used upon the surfaces covered by the clothing.

NITRO-GLYCERINE.

Nitro-glycerine can be prepared for use in a solution either of alcohol or of ether, a one per cent. solution in alcohol being that generally preferred. It being also soluble in melted cocoa butter, this has been employed for making it into pills, but in this form it does not act so quickly as in alcoholic solution. A better plan than this is to add an equal quantity of chocolate paste to this pill mass, and then make it up into lozenges of any desired size, which it would not be disagreeable to chew up in the mouth, and thus gain rapid absorption.

Nitro-glycerine bids fair to prove an anti-neuralgic of the greatest value, especially in cases of angina pectoris and such other affections as nitrite of amyl has hitherto been much used in, taken at intervals of two to four hours, in doses of about two drops of the one per cent. solution, and increased until full physiological action is obtained. The relaxed condition of the blood-vessels induced lasts usually about half an hour. Doses of the above strength and frequency have been continued through several consecutive days with safety and success in warding off threatening attacks of angina pectoris in cases in London hospitals.

Reports of Societies.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

A CASE OF LABOR, WITH CONSTRICTION OF THE INTERNAL OS.

OCTOBER 11, 1879. DR. L. R. STONE, of Newton, reported the case. The patient, a primipara, fell in labor in the early part of the evening. At one A. M., when Dr. Stone saw her, the external os was dilated to the size of half a dollar, and was somewhat rigid; the pains were slow and weak; at four o'clock there was some yielding of the os, and at six o'clock complete dilatation, though quite a long cervix remained, not with the circular orifice of the os uteri as generally found. The head was presenting, the occiput being in the left anterior position. The forceps were applied *through the cervix*; strong traction was made without effect; and the instruments, slipping, were readjusted, and finally slipped off entirely. On making a further examination the finger felt the firmly constricted inner os, hard, rigid, and unyielding, traceable in its entire circumference about the child's neck, but the shoulders could not be reached. The patient had been etherized, and was kept so with the object of producing relaxation. At 1.30 P. M. the forceps were again put on and the patient, with a good deal of labor, was finally delivered. The child was dead. For ten days afterwards the pulse ranged from 120 to 130, and the temperature averaged between 101.5° F. and 102° F., never exceeding 103° F. There was no doubt that the difficulty was occasioned by the rigidity of the inner os, which at first was so firm that the finger could not get beyond it. No constriction was detected through the abdominal wall. The pelvis was large and roomy, and the head was partially engaged in the superior strait when the forceps were applied.

DR. HOSMER remarked that in the class of cases to which that reported by Dr. Stone belongs, the constriction could be reached by the finger through the vagina, the whole head being in the cervix and the constriction about the neck. In another class the constriction is about the trunk of the child. In the original idea of hour-glass contraction its true nature was misunderstood. Playfair's theory is that the cavities are those respectively of the *body* and of the *neck* of the uterus. Bandl has demonstrated that the cervix has a remarkable capacity for elongation. Dr. Elliott, of New York, has alluded to some cases in which the constriction of the internal os had taken place about the neck of the child. In these cases, as in that of Dr. Stone, the stricture had been dilated. Those, on the other hand, which Dr. Hosmer had himself reported appeared to belong to a different class, in which the forceps, theoretically, are likely to do harm, and practically are useless, and in which Cæsarean section rather than craniotomy seems to be the indication.

DR. RICHARDSON said that Dr. Stone's case may be classed with those of Bandl, who accounts for the condition by the os getting caught down, the cervix stretching, and the internal os going up over the head and claspings the neck of the child.

DR. HOSMER said that it was worthy of note that in Dr. Stone's case there was some relaxation under ether, whereas in his own, seen in 1876, there was not the slightest yielding, the firm band holding like iron.

It was a question, he said, whether there were two distinct classes of cases, or whether one was transformed into the other; whether there ever was a constriction which should be made to pass from the neck to the trunk by the spontaneous passage of the shoulders. It was not probable, — not easy to see.

DR. RICHARDSON asked if it might not be possible that these two kinds or classes arose respectively from cases in which the whole os was caught down, and those in which the anterior lip only was so held.

DR. HOSMER remarked that the gravity was in proportion to the amount of elongation of the cervix. When a firm falciform constriction takes place about the trunk there is a condition of things which is extremely grave.

DR. STONE, in answer to a question, stated that the forceps were applied through the os, although the cervix had not disappeared, the finger detecting both its outer and inner surfaces.

DR. NICHOLS, of Cambridge, observed that Dewees speaks of a condition of contraction of the internal os as constituting a very serious condition, in which delivery neither by forceps nor by turning is practicable. His cases had been relieved by bleeding, a safer proceeding than that suggested by Dr. Hosmer.

A CASE OF ABDOMINAL TUMOR, WITH ASCITES.

DR. ADAMS, of Waltham, gave the following account: The patient was an unmarried woman, fifty-four years of age, not over five feet two inches in height, who first noticed in the right inguinal region, sixteen years ago, a movable tumor of the size of a goose's egg. Dr. Adams first saw her ten years ago. At that time the abdomen was already unusually enlarged, fifty-three and a half inches in girth, fluctuating everywhere, presenting no distinct localized tumor, dull throughout in front, and resonant in the lumbar regions. With these indications the case was supposed to be an ovarian cyst. The patient continued to do her work about the house, until, about a week ago, she could no longer breathe with comfort, and her stomach refused to contain anything. The girth at the umbilicus had reached seventy-one inches, and the distance from the ensiform cartilage to the navel was twenty-one. As she stood the tumor reached half-way below her knees; as she sat it reached within four inches of the ground. Dr. Adams tapped with a very small trocar, and removed twenty-two quarts of clear fluid, which became gelatinous on standing. On withdrawing the trocar the fluid continued to flow for upwards of thirty-six hours. Then it was determined that the effusion was ascitic. The abdomen now showed a large, freely movable, hard, and nodular tumor, extending from a hand's-breadth above the umbilicus down into the pelvic cavity. There was still entire dullness in the region of this tumor, and resonance in both lumbar regions, although the level of the ascitic fluid remained above these points, the abdomen not having been emptied. Menstruation had been regular until about five years ago, when, after a fall, the flow entirely ceased for two years; during the last three years there has been a constant oozing, never profuse.

THE FORCEPS IN RELATION TO RUPTURES OF THE PERINÆUM.

DR. C. E. STEPMAN said that it had been stated that an appreciable increase in the percentage of cases of rupture of the perinæum had been observed, while there had been a corresponding decrease in the cases of ves-

ico-vaginal fistula appearing in our hospitals, since the more frequent use of the forceps in labor during the last five or ten years. He had asked Dr. Chadwick to make some inquiries at the last meeting of the American Gynecological Society about this relation of rupture of the perinaeum to the wider use of forceps, and he had received the following memoranda:—

"My experience is that nine-tenths of complete ruptures of the perinaeum are caused by the use of the forceps.

WILLIAM GOODSELL."

"I should not make the proportion quite so large, for many ruptures occur in delivery of head and arms in head-last labors; but I should say that lacerations in the second and third degrees have been greatly increased in frequency by the more frequent use of the forceps which has characterized obstetric practice during the last decade.

T. G. THOMAS."

Dr. Stedman said that rupture of the perinaeum depended on the dilatability of that structure, and that he knew of no sure preventive except incision. He had tried all the expedients recommended without avail in certain cases, and had heard confessions of the same ill-fortune from better men than himself. He had followed the practice, for the last two years, of removing the instrument before the head was born (unless speedy delivery was imperative); but it made no difference in the result if the perinaeum was not lax. He did not remember to have had a rupture into the sphincter. Fortunately, most of these lesions took care of themselves. Many ruptures were made by the after-coming shoulders, when the head had passed safely.

Dr. LYMAN said that he was astonished at the statements of Goodell and Thomas. Of the many cases seen at the City Hospital almost all had been delivered without the forceps. He could not remember a single one of these cases in which the rupture had been traced to the use of forceps. An occasional bad rupture has no doubt been so caused, but not the vast majority. It should be noted that until recent years the laboring class had not been examined for the lesions so frequently as now.

Dr. FORSTER said that he had seen several cases where no forceps had been used; very few where they had been employed.

Dr. ABBOT said that the worst case coming under his observation had occurred without the intervention of forceps, the laceration extending into the rectum an inch above the sphincter, the child having been born before the physician reached the house. He had met with two pretty extensive lacerations under the use of the forceps, but these might fairly be called accidental. In Charlestown he had seen in consultation a young woman who at the time of his visit had been in labor forty-eight hours. The head was above the pubes, the face anterior, the os very rigid and not more than two inches across, the uterus being firmly contracted upon the body of the child. The pains had nearly ceased. At the urgent solicitation of the attending physician ether was administered, causing a relaxation of the os, and the forceps were applied; but the delivery for a time resisted the alternate efforts of the two attendants, until finally the head was suddenly extracted, tearing the perinaeum to the anus. Three superficial stitches were put in, and complete union resulted. In another case, in which he had been consulted by Dr. Borland, a similar laceration occurred in a somewhat different way. The forehead was at the pubes, and the patient, fully etherized, lay in a dorsal position across the bed. The forceps

had thus far failed to effect extraction. It was then proposed to remit the ether and swing the patient about, to give her an opportunity of bracing her feet against the foot-board. While she was in this position a pain came on, and she suddenly straightened herself out, bringing the child at once "into the world" by her own efforts, the forceps meanwhile being merely steadied by the attendant, who was standing behind the foot-board. In this case the laceration went through the sphincter. Sutures were employed as in the other case, and the parts healed well. In another case, which Dr. Abbot had visited with a member of this society, the patient had been in hard labor all night. The face was to the pubes. Forceps were applied, and Dr. Abbot supported the perinaeum while extraction was made by the attending physician. The perinaeum became so distended as to appear as thin as tissue paper, when suddenly a zigzag streak, at least four inches long, tore down on one side, and the delivery was accomplished. In the subsequently contracted condition of the parts the laceration proved to be insignificant, requiring no special treatment.

In the ordinary use of the forceps Dr. Abbot said that he felt that the physician had complete control. When the head was low it was his custom to unlock the forceps without taking them off, so that the tension on the external parts might be relieved, the instrument being in readiness for renewed application should farther extraction be required. He had employed forceps in ten and a half per cent. of his cases for the last twenty years, and his only regret was that he had not used them as freely before.

A NEW METHOD OF PERFORMING DECAPITATION.

Dr. RICHARDSON described in detail a new method of performing decapitation. He favored the combined use of Ramsbotham's knife and Braun's decollator: the latter being used for the purpose of breaking the cervical column, and the former for cutting through the soft parts. He claimed that decapitation was indicated in cases in which there was no hope of saving the life of the child, and the condition of the mother demanded operative interference, and in which delivery neither by version nor forceps could be easily effected, and the neck of the child could be reached.

AN OBSCURE LOCAL TROUBLE IN THE REGION OF THE STERNUM IN A CHILD.

Dr. HODGDON reported the case. The patient, who was first seen by Dr. Hodgdon in the last week in July, after a course of treatment by an irregular practitioner, was a child two and a half years of age, naturally healthy and of healthy parents, with the following history: It had been taken sick in the evening, vomiting, with high fever and great sensitiveness to touch. It continued in this condition for a week, when a small swelling was observed over the sternum. At the end of another week the then attendant informed the parents that an abscess had formed there and had opened internally. When Dr. Hodgdon first saw the patient there was a purplish prominence one and a half inches in diameter, half an inch in elevation, elastic, without fluctuation, situated over the lower part of the body of the sternum, at the site of the sternal foramen. When the patient was etherized it was found that the tumor could be pressed back through the sternum, but would return when the pressure was taken off. The patient was seen by Dr. Wyman, of Cambridge, in con-

sultation, and the question of mediastinal abscess was discussed, the usual site of which was, however, different from that of the tumor under consideration. Two days later Dr. Hodgdon explored the swelling with a subcutaneous syringe, which gave exit to serum and gas, the latter with a fizzing sound. Continuous compression was kept up over the tumor for two weeks without effecting an appreciable change; but the child, which was at first much emaciated and without appetite, regained strength and ran about the house, a graduated compress being kept over the tumor. At the end of two weeks more it was found that the tumor had disappeared, that the breast was smooth, and that the parts of the sternum which at the site and the time of the disease had been movable on each other were now firm. A hacking cough, which was present when the child was first seen, and which lasted for some weeks, had disappeared. There were no physical signs of pulmonary disease. Dr. Hodgdon was inclined to ascribe the tumor to the theory of a portion of lung pressing up through the sternal foramen, or through an opening resulting from inflammation.

Dr. ABBOT queried whether this case were not one of emphysema, caused by a giving way of the bronchi at the bifurcation and escape of air into the cellular tissue, as in a case of labor under his care, where the patient, making great exertion, felt a sudden pain in the chest, which was followed by a blowing up of the tissues from the eyes down to the breasts. He inquired if the patient had had a cough before the occurrence of the singular condition reported, which might possibly have had some connection with it as a cause, and was answered in the affirmative by Dr. Hodgdon, who said the child had been troubled for some time by a short hacking cough.

Recent Literature.

Paracentesis of the Pericardium. A Consideration of the Surgical Treatment of Pericardial Effusions.
By JOHN B. ROBERTS, A. M., M. D., Lecturer on Anatomy in the Philadelphia School of Anatomy, etc. With Illustrations. Philadelphia: J. B. Lippincott & Co. London. 1880.

This carefully written monograph has deservedly met with favorable notice, and is justly appreciated by the medical press and by the profession as being the only complete work in our language on paracentesis of the pericardium, a subject about which Dr. Roberts has previously written one or more articles, and to which he has devoted special study for several years. Although the attention of physicians has been long directed to the desirability of paracentesis in cases of considerable pericardial effusion, instances of the performance of this operation are of rare occurrence, and the text-books, as a general rule, as the author remarks, contain little information regarding it. Exception must be made, however, in favor of Reynolds's *System of Medicine*,¹ which, in a very complete article on pericarditis, gives a satisfactory account of the methods and results of paracentesis, obtained in part from the monograph under consideration. Professor Trousseau's work on *Clinical Medicine* also contains a valuable chapter on the same subject.

Dr. Roberts first notices the fact that there is often

an accumulation of serum, even to the extent of three ounces, within the pericardium, the result of post-mortem transudation. He then refers to the rare occurrence of pericardial distention in acute pericarditis, on account of the rapid absorption which usually takes place. Still, cases have been recorded in which the enormously distended pericardium has contained a gallon of fluid. The diagnosis of small effusions is attended with much difficulty, but the author mentions that Dr. Rotch was able, by percussion of the fifth right intercostal space, to detect the presence of seventy to eighty cubic centimetres of fluid introduced into the sac experimentally. The gravitation of the effusion to the lower part of the pericardial sac, which was also demonstrated by Dr. Rotch, leads the author to regard the triangular or pyramidal area of flatness, referred to by many writers as characteristic of pericardial effusion, as of doubtful or infrequent occurrence, and of little value in diagnosis.

The best points for tapping are thought by Dr. Roberts to be the fossa between the ensiform and the costal cartilages on the left side, and the fifth left interspace near the junction of the sixth rib with its cartilage, with a preference for the latter point, where there is less risk of puncturing the diaphragm. The danger of wounding the heart, which is a practical one, as is shown by several recorded cases, is perhaps underestimated by the author, who considers tapping the ventricle of less serious moment than puncturing the auricle, which is more likely to occur if too high a point is chosen. The necessity for further clinical investigation before adopting Dr. Rotch's suggestion to tap in the fifth right interspace, four to five centimetres from the edge of the sternum, is mentioned; but should this prove to be an available point, the dangers above alluded to would be to a great extent, or entirely, obviated.

Sixty cases of paracentesis are tabulated, of which thirty-six died, most of them with complications which were necessarily fatal, and twenty-four recovered. The greatest age was sixty-eight years, and the patient was tapped twice; the second time the puncture was made on the right of the sternum.

It is noticeable that within a few days of the appearance of Dr. Roberts's volume Dr. C. Hindenlang reported in the *Deutsches Archiv für klinische Medizin*, October 23, 1879, two cases of paracentesis pericardii, one occurring in Professor Räumler's clinic at Freiburg, and the other in Professor Kussmaul's at Strassburg. In connection with these two cases Dr. Hindenlang reviews the literature of the subject, and records fifty cases of paracentesis, with a favorable result in about one third. Puncture with a fine trocar connected with an aspirator is recommended at a point three or four centimetres to the left of the sternum, in the fourth, fifth, or sixth interspace, according to the amount of effusion.

Professor Kussmaul's case was interesting from the fact of the coexistence of right-sided pleurisy with extensive pericardial effusion. The needle was inserted in the fifth right intercostal space, outside of the mamillary line, and twenty cubic centimetres of clear serum flowed. When the needle was pushed deeper, however, a brownish-red muddy fluid escaped to the amount of seven hundred and fifty cubic centimetres. Four days later the operation was repeated with similar result, five hundred and fifty cubic centimetres of clear pleuritic fluid being withdrawn, followed on

¹ American Edition, vol. ii.

deeper puncture by two hundred and fifty cubic centimetres of red serum, which was thought to be pericardial. The patient recovered.

Dr. Roberts's interesting monograph, together with Dr. Hindenlang's recent clinical observations, and Dr. Rotch's original investigations with regard to the diagnosis of pericardial effusion published in the *JOURNAL* in October, 1878, have thrown new light upon one of the most important and difficult subjects in clinical medicine. The cases of rheumatic pericarditis, however, which require tapping appear to be very rare; perhaps more so now than formerly, since, with better methods of treatment, we have in many cases comparative control over the joint affection, upon the intensity of which, and the exhaustion arising therefrom, the pericardial inflammation is to a considerable extent dependent.

Health and Health Resorts. By JOHN WILSON, M. D. late Medical Inspector of Camps and Hospitals in the United States Army. Philadelphia: Porter and Coates.

Health and Health Resorts is a sort of mild guide-book for searchers after health on the continent of Europe, interspersed with moral reflections, a little pathology and physiology, and with some remarks on the *modus operandi* of curative agents generally and individually. The reason the author gives for not touching upon the sanitary resorts of the United States, namely, that they have been already described in a number of able works, might have equally restrained him from writing about those of Europe, particularly as he expressly disclaims any pretension to better judgment or more extended observation than many writers who have preceded him. What he says, however, if not always new, is sometimes true, and will bear repetition, as when he suggests that very sick people would often do better to rely upon the resources of their own land than to risk the sufferings and dangers which expatriation so frequently entails. In the chapter on Expatriation a sensible and glowing tribute is paid to the varied advantages of health resorts which the citizen of this country enjoys at home. These advantages deserve and will receive greater appreciation.

Photographic Illustrations of Skin Diseases. By GEORGE HENRY FOX, A. M., M. D. Parts VII., VIII., IX., X., XI., XII. New York: E. B. Treat, No. 805 Broadway.

The recent publication of the above parts, with a promptness unusual in a series of its character, brings this work to a close. The subjects chosen for illustration are: lupus vulgaris, lupus erythematosus, epithelioma superficiale, epithelioma rodens, epithelioma of the lip, trichophytosis capitis, trichophytosis corporis, lichen planus, lichen ruber; kerion, lepra maculosa, molluscum, erythema multiforme; phtheiriasis capitis, phtheiriasis corporis, scabies, porrigo e pediculosis; herpes facialis, hydroa bullosum, erythema circinatum, erythema exfoliativum, purpura simplex; cornua cutanea, alopecia areata, morphea, scleroderma, sarcoma pigmentosum. The plates have the same general merit as those in the earlier parts of the atlas already described. Some of them are excellent, others are poor, because the subjects are beyond the reach of photography. Some things are to be felt, not seen.

An attempt to represent such an affection as scleroderma, for instance, by this process fails through want of judgment, not skill. In the matter of titles, too, it is to be regretted that such conditions as hydroa, kerion, and porrigo have been perpetuated in this way as individual affections. The descriptive text is by no means the least important part of the work. It contains many new and interesting views, for the author does not hesitate to hold and express independent opinions about skin diseases. Dr. Fox is to be congratulated on the completion of a work which is in all respects a most valuable contribution to dermatology.

In conclusion, he announces a companion work entitled *Photographic Illustrations of Cutaneous Syphilis*.

The Therapeutics of Gynecology and Obstetrics. Edited by WM. B. ATKINSON, A. M., M. D. Philadelphia: D. G. Brinton. 1880. Pp. 365.

The object of the editor seems to be to present, under the head of each disease, the various methods of treatment which prominent members of the profession, at one time or another, have advised as the best course to be pursued. It is a volume of recipe and directions, and it is hard to imagine a more needless or impractical addition to a medical library. In many cases the bewildered practitioner, called suddenly to a case, would consult this volume, and find under the appropriate heading the most varied and contradictory advice. In many cases, the remedies suggested would appear in the light of to-day to be worse than useless. Convulsions, for example, occur after delivery. The first method quoted advises that the patient be fed carefully on milk diet for the first three or four days. Robust women, who have eaten well up to confinement, require an aperient within forty-eight or even twenty-four hours after confinement. Ergot should be used for the first week or two, if the uterus does not involute as it should. Just how this form of treatment is to relieve the convulsions we are at a loss to understand. If this advice should therefore puzzle the practitioner, he can turn to another authority, who advises him to bleed, or to another, who says that bleeding is of no use, or even hurtful. The author has evidently devoted a great deal of time to the preparation of a book which strikes us as possessing more of a historical than a practical value.

Atlas of Histology. By E. KLEIN, M. D., and E. NOBLE SMITH, M. R. C. S. Part X. Philadelphia: J. B. Lippincott & Co. London: Smith, Elder & Co. 1879.

We have been rather remiss in noticing this last number, which is the less excusable as we have little to say about it. It is of the same excellence as its predecessors, but the subjects discussed do not call for much comment. It treats of the intestine, the pancreas, the liver, and the larynx, trachea, bronchus, and lung. The description of the epithelium of the larynx is very thorough. In the other sections we find mention of the work of numbers of observers.

— Dr. Moubre, of Paris, claims to have made beneficial use of petroleum in chronic bronchitis and phthisis.

Medical and Surgical Journal.

THURSDAY, MAY 27, 1880.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly by HOUGHTON, MIFFLIN AND COMPANY, Boston. Price, 15 cents a number; \$5.00 a year, including postage.

All communications for the Editors, and all books for review, should be addressed to the Editors of the Boston Medical and Surgical Journal.

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A SPECIAL INSTRUCTOR IN HYGIENE IN THE PUBLIC SCHOOLS OF BOSTON.

CERTAIN members of the School Committee of the Board of Public Instruction of the city of Boston have for some years been impressed with the growing necessity for a direct supervision of the sanitary surroundings and arrangements of the school buildings, for a more especial medical control over the children frequenting the public schools, and for the instruction of the teachers, and of those expecting to become teachers, in matters pertaining to their own health and that of those over whom they have or are destined to have authority. It has been apparent, as the growing importance of these subjects has forced itself upon the attention of these members, that it was quite out of the question to expect the proper fulfillment of such functions from the other officers of the board, whose time is already fully occupied, and whose training has not been of the special character required by these duties.

In 1876, at the earnest and active instigation of Dr. J. G. Blake, who in common with Professor H. P. Bowditch, the other medical member of the school committee, has taken a deep interest in this subject, it was proposed to establish a new office, namely, that of Medical Inspector of Public Schools. Several gentlemen, among others, Drs. Folsom, Lincoln, and Nichols, as well as Hon. James M. Barnard and Dr. Blake himself, appeared before the committee appointed for a hearing of the subject, advocating very strongly the establishment of such an office; and the step would doubtless have been taken at that time had not the city solicitor informed the committee that in his opinion it did not possess the requisite legal powers.

The time which has since elapsed has only served to impress more forcibly those having the subject most at heart with its grave importance, and with the feeling that the city of Boston cannot discharge the duty which she undertakes toward her children unless their bodily welfare as well as their mental training receives due consideration. Good ventilation, a favorable light, suitable desks and seats, protection from contagious and miasmatic diseases, are not a whit less important to the child at school than methods of teaching or text-books; even those who differ as to the best means of obtaining these are agreed as to their vital value. Moreover, although it is felt that Boston has already postponed this step too long, she may still be a pioneer in the field of school hygiene, and her past history in regard to public education makes it incumbent upon her to press forward, to lead instead of waiting to follow.

When it is remembered that there are at the public schools of Boston between fifty-five and sixty thousand children, and more than twelve hundred teachers, the responsibilities of the city and of the officers connected with the department of public instruction are brought forcibly before the mind.

The school committee has now resolved, out of deference to legal technicalities, to appoint a special instructor in hygiene. This position, as at present regarded, is provisional for a year and a half, but it is hoped the result will justify its being made permanent. We are informed that the school committee are prepared to consider the names of candidates for the appointment. The duties of the instructor in hygiene will be the following:—

(1.) The special instructor in hygiene shall be a regularly educated physician, who shall, unless specially excused by the board, devote his whole time to the duties of his office.

(2.) He shall, under the direction of the committee on the Normal School, deliver annually a course of not less than ten lectures on hygiene to the pupils of that school. He shall also, if desired to do so by the board, deliver lectures upon the same subject to the pupils of the English High and Girls' High Schools and to the teachers in the service of the city.

(3.) He shall visit the grammar and primary schools as often as his other duties will permit, paying particular attention to the sanitary condition of the premises and to the physical condition of the pupils.

(4.) He shall endeavor to impress upon the minds of teachers and pupils the importance of observing hygienic laws, and he shall have authority to exclude from the schools any pupil whose health may be endangered by attendance at the prescribed exercises.

(5.) He shall examine the localities selected and the plans proposed for the erection of school-houses, and shall report his opinion of the same in writing to the committee on school-houses, for their guidance in deciding upon such location or plans.

(6.) During the erection of any school-house he shall examine the work as it progresses, in order to ascertain whether the sanitary arrangements called for in the plans and specifications are actually supplied in the construction. If it shall appear that such is not the case, he shall immediately report the fact to the committee on school-houses, which committee is hereby authorized to act at once upon such report with full powers.

(7.) Whenever, in the opinion of the special instructor of hygiene, the sanitary condition of any school is such as to require immediate action, he shall report the facts in the case to the committee in charge, and annually, in the month of May, he shall report in writing to the board upon all matters connected with the hygienic management and condition of the schools.

In all cases of doubt, teachers and truant officers shall consult the instructor in hygiene, whose decision shall be final.

The salary of the special instructor in hygiene has been fixed at three thousand dollars.

SUITS FOR FEES.

A CASE recently tried in the superior civil court presents some points of interest to the profession. Dr. Edward de la Granga sued Samuel P. Bennett for professional services. The bill as itemized was as follows: 153 visits at \$5, \$765; two night visits at \$20, \$40; one extra visit, \$10; one operation and sundries, making, with charge for interest, a total of \$959.10. The bill was disputed by the defendant on the ground of excessive charge, and he also filed a claim in partial set-off. The case was referred to an auditor, who reported that the principal conflict of evidence was upon the question of price per visit, that these visits extended over more than three years, and that the plaintiff had for a long time previous to the first item of the bill been attending physician to the defendant and his family. Up to the date of the first item full settlement had been made, and the visits had been charged at the rate of three dollars, except in extraordinary cases; but the plaintiff claims that about this time he notified the defendant, who acquiesced, that his charges in future would be at the rate of five dollars. This the defendant denied, and he supposed the rate was the same as he had been charged before. Plaintiff's books and vouchers put in evidence show that for several months after the alleged change from three to five dollars per visit the visits charged to the defendant were at the rate of three dollars, which the plaintiff claims was a mistake on his part, which he corrected further on in charges made that year, where the visits were carried out at the rate of five dollars per visit. The auditor fails to find sufficient evidence of a special agreement that the plaintiff was, with the defendant's consent, to charge him five dollars per visit, and hence is compelled to resort to expert testimony in relation to the custom of the profession in such cases. A long and searching examination and cross-examination of Drs. Damon, Chase, Clark, Hall, Hastings, Holt, Stacey, Lamson, Fleming, Harris, and Cilley, all practicing physicians in the city of Boston, convinced the auditor that the usual and fair charge for such visits is and should be three dollars per visit. The auditor allowed for 153 visits at \$3, two night visits at \$10, one extra visit at \$5, and one operation at \$10, in all \$494. He allowed in set-off \$171.14, awarding to the defendant \$322.86, with interest from time of writ.

The plaintiff refused to accept the award of the auditor, and the case came up for jury trial. As before the auditor, the conflict of testimony was chiefly as to what was a fair charge for the visits. Drs. Warner, Chase, Treadwell, and Clark testified that the usual and fair charge was five dollars per visit, and Drs. Ayer, Lamson, Stedman, Fleming, Newell, Harris, and Cilley that it was three dollars. Dr. Lamson testified that it was oftener two than three, which gave counsel for plaintiff the opportunity to quote the third clause of the provision in regard to fees from the code of the Boston Medical Association. The attempt was made to introduce the fee table of this association to show what the charges should be.

On objection by counsel for plaintiff the judge (Rockwell) ruled that it could not be introduced, neither could questions based upon it be put. The fee table was simply an agreement of a private nature between physicians, and no one was under any legal obligation to abide by it, neither was a patient obliged to pay fees prescribed by it. The only question for the experts was this: "What is a fair compensation per visit for a physician of the experience and standing of this physician for such services as described?" If a member of a particular association violates the provisions of the fee table of that association, he is accountable to the society alone. It is nothing with which the law has to do.

The jury awarded the plaintiff \$290.86. As the plaintiff had refused an offer of more than this amount in court, the costs of trial fall upon him. There is no way to ascertain exactly on what basis the jury made the award, but comparing it with the items in the auditor's report, it is probable that they awarded on the basis of three dollars for the regular visits in attendance.

This case shows that none of the profession can go into court and claim their charges as just on account of the provisions of the local fee table. They must take what experts testify that such services are worth, or, rather, such part of such sum as a jury will allow. The case would apparently be different, however, by the statement of the auditor, if it could be shown that there had been due notice given of the charge per visit; and so it behooves every physician who expects to collect a higher fee than three dollars (and there are many cases where a charge of five dollars would be only reasonable) to make a special agreement beforehand if he is likely to be obliged to appeal to the courts for his payment.

It seems also as if there were quite a difference between what is a *fair* charge and what is a *usual* charge. There is no doubt that, taking the profession as a whole throughout the city, there are more fees under three dollars than of that sum itself. It may be disguised under the name of discount or deduction for the circumstances of the patient, or of extra visits not charged for, or in some other way, but Dr. Lamson was right in saying that the fee was often two dollars, especially for mechanics and others receiving the same rate of pay.

 MEDICAL NOTES.

— The Massachusetts Medical Society will meet on Tuesday, June 8, 1880. At ten o'clock, A. M., there will be operations, surgical visit, and exhibition of patients at the Massachusetts General Hospital, in Blossom Street; at the Boston City Hospital, on Harrison Avenue; at the Carney Hospital, in Old Harbor Street, South Boston; and at the Lying-In Hospital, 21 McLean Street. At twelve o'clock will be the meeting in Horticultural (upper) Hall, 100 Tremont Street, to hear papers read as follows: (1.) Pneumonia, by Charles D. Hunking, M. D., of Haverhill.

(2.) Pyæmia of Doubtful Origin, apparently Spontaneous, by Charles H. Cook, M. D., of Natick. (3.) Antiseptic Treatment of Empyema, by Arthur T. Cabot, M. D., of Boston. Adjournment at two o'clock. At three o'clock, the reading of papers will be resumed as follows: (4.) Edema of the Lungs, with Illustrative Cases, by Henry F. Borden, M. D., of Brockton. (5.) Relation of Bacteria to Disease, by William F. Whitney, M. D., of Boston. (6.) Diphtheria and the Resulting Paralysis, by Andrew F. Reed, M. D., of Holyoke. (7.) Ambulatory Treatment of Hip Disease, by Charles P. Putnam, M. D., of Boston. During the afternoon the Warren Museum, at the Medical College, North Grove Street, the Warren Museum of Natural History, 92 Chestnut Street, the Children's Hospital, 1429 Washington Street, and the Museum of the Natural History Society, Berkeley Street, will be open to the society.

The programme for Wednesday, June 9, 1880, is as follows: The ninety-ninth annual meeting of the society will be held in Horticultural Hall, Boston, at nine o'clock, A. M. Order of proceedings: (I.) Records, and Names of New and of Deceased Fellows. (II.) Reports of Committees. (III.) Medical Papers and Communications: (8.) The Importance of Early Recognition of Ear Disease, by J. Orne Green, M. D., of Boston. (9.) Cape Cod as a Health Resort, and some Remarks pertaining to Sanitary Science, by Peter Pineo, M. D., of Hyannis. (10.) Litholapaxy, by Henry J. Bigelow, M. D., of Boston. (IV.) Introduction of Delegates. Intermission of fifteen minutes. At twelve o'clock, precisely, the annual discourse will be delivered by Thomas H. Gage, M. D., of Worcester.

In the Lower Horticultural Hall there will be an exhibition of surgical instruments and various pharmaceutical preparations.

The annual dinner will be served in the Music Hall, at one o'clock, P. M. N. B. — Fellows will enter the Music Hall by the Tremont Street entrance only, being called in order of seniority in Horticultural (upper) Hall, whence the procession will start. J. Collins Warren, M. D., is the anniversary chairman.

The annual meeting of the councilors will be held at the Medical Library, No. 19 Boylston Place, Boston, on Tuesday, June 8, 1880, at seven P. M.

The censors for Suffolk District, officiating also for the State Society, will meet for the examination of candidates for fellowship, on Thursday, June 3d.

—The eighty-ninth annual convention of the Connecticut Medical Society takes place in New Haven, May 26th and 27th.

—The Massachusetts Dental Society will hold its fifteenth semi-annual meeting at 167 Tremont Street, Boston, on Thursday and Friday, June 3d and 4th. On Thursday, at eleven o'clock, papers will be read as follows: (1.) The Dentist as a Plunderer, Dr. J. T. Codman. (2.) Mechanical Philosophy as an Element of Dental Education, Dr. George F. Grant. (3.) Care of the Temporary Teeth, Dr. Edward Page. Friday, at nine o'clock, Dr. Bonwill will demonstrate his method of anticipation of decay by actual

operation. He will exhibit his surgical engine, in use in the University of Pennsylvania and Jefferson Medical College, for operations on the bones and mucous surfaces. Physicians and surgeons are cordially invited to be present and examine the instrument.

—The *Michigan Medical News* says with regard to summer complaint in children: "The season of disaster among infants is even now upon us, and the bulk of the physician's practice during the next few weeks will be in caring for the bowel complaints of children. Doubtless the vast majority of these complaints are directly traceable to errors in diet. The physiological fact is unknown to the vast majority of mothers, and is forgotten or disregarded by very many physicians, that the infant before it has its teeth does not secrete saliva in sufficient quantity for the digestion of starch food, and the consequence is the general prevalence at this season of infantile diarrhoea. Cow's milk, next to that of the mother the most natural food for the child, very rapidly sours during this weather, unless greater precautions are taken than is generally possible, and it thus becomes a fruitful cause of trouble. What is wanted is a food which shall obviate the objection to both farinaceous or starchy preparations and milk. It remained for Liebig to prepare a formula for such a food, and many physicians can testify to its success." The very great improvement of late years in the preparation of children's foods is certainly noticeable, although such essentials to successful treatment are not always within the reach of the class who need them most.

—The *Chicago Medical Gazette* divides medical colleges into four classes: " (1.) Colleges which, from their circumstances and surroundings, have the power to introduce any desired reform, and do it. (2.) Colleges which, from their circumstances and surroundings, have the power to introduce any desired reform, but, with an eye to dividends, do not do it. (3.) Colleges which, from their circumstances and surroundings, have not the power to introduce reforms to the extent which they would desire, but do their best. (4.) Colleges which, from their circumstances and surroundings, have neither the power nor the inclination to introduce any desired reforms, and do not try.

"Foremost among the first class is Harvard Medical College. The preliminary examination has been so modified and extended as to require the degree of Bachelor of Science, or its equivalent, including the translation of easy Latin prose. The experiment is also made of adding a fourth year to the course, upon the completion of which will be conferred the degree of Doctor of Medicine, *cum laude*. Although at present the student may graduate after the usual course of three years, it is believed that the college will soon exact from every candidate for examination the entire four years. The fourth year's studies include clinical medicine, clinical and operative surgery, ophthalmology and otology, dermatology and syphilis, mental and nervous diseases, laryngology, hygiene and legal medicine, obstetrics, clinical and operative, diseases of women and diseases of children. Harvard is ahead!"

—The same journal says: "Dr. Stansbury Sutton, of Pittsburgh, Pa., who was the successful competitor last January in the *concours* for the lectureship of gynaecology in the spring faculty of Rush Medical College, has just completed his course of thirty-nine lectures. Two hundred and thirty-six students were in attendance. Dr. Sutton in his lectures mainly followed the teachings of Emmet, and is thought to have given one of the most satisfactory courses ever delivered in Chicago on gynaecology. He expects to return for another course next year, but has not arranged as yet to change his residence.

Relative to the *concours*, the *British Medical Journal* remarks that the *concours* seems to be adopted only in cities fully organized, like Paris, or very young, like Chicago, and declares that in London students are kept well in their place by compulsory attendance upon all the lectures, and only the lectures specified, in order that their certificates may be signed; that the lecturer is sure of his class, whether he be audible or inaudible, or good, or bad, or indifferent; and that the London schools furnish a large amount of inefficient lecturing. The *British Medical Journal* thinks these schools might profit by a breath of reform which the system of *concours* would blow in upon them. It is notorious that the *concours* in Paris is sometimes corrupt. It is probable that in London or in any other city it would be exceedingly liable to become so. In Chicago, the fairness of the *concours* thus far will be universally admitted. It has, moreover, been the means of securing excellent lecturers. It has certain objections, however. Manifestly, any man who could be secured to the college by the *concours* could be secured without the *concours*. The college would therefore have a much larger number of eligible men from whom to select the lecturer, since many would be reluctant to enter such a contest and take the chances of being advertised afterwards as having failed, — a sort of advertisement not damaging to a recent graduate, but exceedingly unpleasant to a gentleman whose experience and attainments qualify him to lecture acceptably to a class of two hundred and thirty-six students in a medical college. Rush College is at least to be congratulated on the excellent advertisement which this *concours* has furnished in the favorable announcements and comments which have appeared very generally in the medical journals, both at home and abroad."

—This extract from a valedictory recently delivered at the Buffalo Homoeopathic College is, to say the least, significant: "The elision of the term [homoeopathy] could be of no detriment to the denomination; in our judgment, it would be benefited in every way, — a great gain and no loss. In the minds of many it is the great barrier to progressive medicine, to professional tolerance and a high social status, to liberty of thought and action, to freedom of sentiment, speech, and practice. Its name and extravagant notions have kept in abeyance the careful examination of the most scientific method of treating disease, for the great mass of professional men have been tutored from their early pupillage to look upon it opprobriously. It has proved

the great obstacle to admission to army, navy, and health boards. Its exclusive dogma limits the research of its pupils, curbs the ambition of the practitioner, checks the progress of liberality and reform, and brands its votaries in the estimation of the majority as charlatans. The student should not be fettered by any dogma, pathy, or ism. The broad fields of science and art should be his realm, and he should be permitted to bask in the glowing light of reason and experience."

NEW YORK.

—At the meeting of the American Medical Association the following papers will be read, in addition to those already announced in the JOURNAL: —

Section on Practice of Medicine, Materia Medica, and Physiology. Progressive Muscular Atrophy and Pseudo-Hypertrophy, by Drs. J. D. Kerlin and Charles K. Mills, of Philadelphia; Microscopical Sections from Cases of Diseases of the Brain and Spinal Cord, by Drs. Charles K. Mills and Karl Seiler, of Philadelphia; On the Use of Sulphur and its Compounds in the Treatment of Diseases of the Skin, by Dr. L. Duncan Bulkley, of New York; Diphtheritic Poison, by Dr. J. T. Everett, of Sterling, Ill.; Artificial Inflammation as a Remedial Agent in Diseases of the Lungs, by Dr. W. T. Galloway, of Yazoo City, Miss. (to be read by Dr. J. Solis Cohen, of Philadelphia); The Electric Treatment of Exophthalmic Goitre, by Dr. A. D. Rockwell, of New York; A Case of Recovery from Occlusion of one or more of the Cerebral Sinuses, by Dr. M. O'Hara, of Philadelphia; Empyema and its Treatment by Excision of the Ribs, by Dr. ———, of Pennsylvania.

Section on Surgery and Anatomy. Laparotomy and Colotomy, with the Formation of Artificial Anus for Obstruction of the Intestines, by Dr. W. A. Byrd, of Quincy, Ill.; A New Inhaler, by Dr. D. M. Barr, of Philadelphia; Thoracentesis, by Dr. C. A. Leah, of New York; Cystotomy in Cystitis of the Male, by Dr. Robert F. Weir, of New York; Hip-Joint Disease, First Stage, with Microscopical Sections, by Dr. De Forest Willard, of Philadelphia; Repair Processes of Osseous Tissues, illustrated by Micro-Photographs, by Dr. H. O. Marey, of Cambridge, Mass.; The Theory of Inflammation, founded upon Original Investigations, and illustrated by Sections of Bone, by Dr. C. Heitzmann, of New York; A Method of treating Spinal Disease, by Dr. E. H. Grover, of Harrisburg, Pa.; Some Points in the Treatment of Hamorrhoids, by Dr. W. R. Blackwood, of Pennsylvania; On the Foramen of Monro in Man and the Domestic Cat, by Dr. Bart G. Wilder, of New York; The Treatment of Fracture of the Long Bones involving Joints, by Dr. James S. Green, of Elizabeth, New Jersey.

Section of Medical Jurisprudence, Chemistry, Psychology, State Medicine, and Public Hygiene. The Climate and Diseases of the Mississippi Valley, by Dr. Joseph Jones, of Louisiana; The Relations of the Medical and Legal Professions to Criminal Abortion, by Dr. E. H. Parker, of Poughkeepsie, N. Y.; Un-

sanitary Engineering, by Dr. A. N. Bell, of Brooklyn, N. Y.; The National Board of Health, by Dr. J. S. Billings, U. S. A., of Washington, D. C.; The Disposal of Sewage, by Dr. Charles F. Folsom, of Boston; The Temperature of Sewing Rooms, by Dr. R. C. Kedzie; The Moral Treatment of the Insane, by Dr. Charles W. Page.

Section on Ophthalmology, Otology, and Laryngology. Anatomical Peculiarities of the Cerebral Artery, by Dr. F. B. Loring, of Washington, D. C.; On Tumors of the Lachrymal Gland, their Pathology and Operative Treatment, with Demonstrations of Specimens, by Dr. H. Knapp, of New York; Demonstration of Models to illustrate the Refraction of Light by Asymmetrical Surfaces: to be followed by Remarks on the Determination and Correction of Astigmatism, by Dr. H. Knapp, of New York; On Perichondritis Auriculae, with Presentation of a Case, by Dr. H. Knapp, of New York; The Etiology of Ozena, by Dr. R. C. Brandeis, of New York.

The title of the paper by Prof. T. Gaillard Thomas before the section of Obstetrics and Diseases of Women and Children should read Ablation of the Uterus in Non-Malignant Tumors, instead of simply Ablation of the Uterus, as previously announced. At the request of Prof. A. Jacobi, there will be a special sub-section for the reading of papers and discussions on diseases of children. It is now definitely decided that the entertainment on the evening of Wednesday, June 24, will consist of the play of Othello at Booth's Theatre, with Mr. Booth in the part of Iago and Mr. F. W. Robinson in the title rôle. The committee of arrangements are having abstracts of Cushing's Manual printed for general distribution among the members of the association, so that there will be no excuse for any one infringing parliamentary rules during the session. The committee are also having maps of the city prepared, with the location of the different houses where receptions are to be given on Thursday evening marked upon them, for the convenience of those unfamiliar with the streets.

During the general session of the association papers on the advances and discoveries of the past year in the branches of science included in their respective sections are to be presented by Dr. J. S. Lynch, of Baltimore, chairman of the section on Practice of Medicine, etc., Dr. Albert H. Smith, of Philadelphia, chairman of the section on Obstetrics, etc., Dr. W. T. Briggs, of Nashville, Tenn., chairman of the section on Surgery and Anatomy, Dr. James F. Hibbard, of Richmond, Ind., chairman of the section on Medical Jurisprudence, etc., and Dr. Bolling H. Pope, of New Orleans, chairman of the section on Ophthalmology, etc. The following committees will also report: on prize essays, Dr. Austin Flint, New York, chairman; on necrology, Dr. J. M. Toner, Washington, D. C., chairman; on catalogue of National Library, Dr. H. C. Wood, Philadelphia, chairman; on ozone, Dr. N. S. Davis, Chicago, chairman; on metric system, Dr. T. Parvin, Indianapolis, chairman; on state medical societies, Dr. S. D. Gross, Philadelphia, chairman.

ST. LOUIS.

— At the regular meeting of the St. Louis Medical-Chirurgical Society, April 10th, Dr. Hudson Ford read a paper on the treatment of cystitis dependent upon the enlarged prostate of old age. The principal points were that when there was retention he recommended puncturing the bladder through the rectum, and maintaining this opening till the urethra was again pervious, and he stated that the arrangement of the muscular layers of the bladder was such that they formed a sort of sphincter vesicae, which was under the control of the will. In the way of medication, he recommended washing out the bladder with a two-ounce solution of nitrate of silver, five grains to one ounce, to be followed by the injection of four or five ounces of pure water. A few days later, if the cystitis continues, repeat this treatment, increasing the strength of the solution by five grains. This course is to be repeated at intervals of a few days, increasing the strength of the solution by five grains, till twenty grains to the ounce is reached, if the cystitis is not cured before that time. This plan was suggested to him by Dr. T. G. Richardson's method of treating cystitis occurring in young men. The ordinary measures were advised combined with these.

At the same meeting Dr. Charles Todd asked for suggestions in regard to a case which had applied to him for relief from the annoyance resulting from a noise which was produced whenever the sterno-cleido-mastoids of one side was called into action. The doctor described it as being audible at least a foot from the patient, and resembling the sound made by bubbles passing through a viscid fluid. It was thought it might be due to a bursa under the muscle, or to movements of the inter-articular cartilage in the articulation of the inferior maxillary. No satisfactory conclusion was reached.

The society appointed Dr. John T. Hodgen, Dr. W. A. Hardaway, Dr. Charles Michel, and Dr. William Glasgow delegates to the American Medical Association.

MEDICO-LEGAL.

— In one of his clinical lectures (*Gaz. des Hôp.*, January 27th), Professor Depaul observes that at the present day we readily admit that the death of the *fœtus in utero* need in no wise compromise the health of the mother; but some thirty years ago a frightful picture was still drawn of the effects of such an accident, and the idea has not yet quite disappeared from the mind of the public. Indeed, such fear does the death of the *fœtus* sometimes cause in a family that it is necessary to take precautions in announcing it. This comes from confounding maceration with putrefaction, although they entirely differ from each other. Putrefaction occurs when the contact of air gives rise to changes in the tissues contained in the uterus, and may develop very serious symptoms, as, for example, when the membranes are not expelled after an abortion, and become putrefied. But the infant being inclosed in a double sac, the air cannot gain access to it; and, instead of putrefaction, maceration results. Sometimes the dermis of the infant is raised into

ampullæ, whence exudes a sero-sanguinolent liquid that gives to the amniotic fluid the color of wine-lees, which is rendered still darker by the meconium that is expelled on the relaxation of the sphincters just before death. It would seem that some of this liquid is absorbed, as it is diminished in quantity, while its color becomes as dark as coffee-grounds. On analysis, blood in an altered condition and the elements of the meconium are discovered. An infant may remain in this state within the uterus for some months, especially in twin pregnancies, when one of the infants compressing the other causes it to become flattened and atrophied, so as exactly to resemble a little gingerbread figure. These details may prove of importance in legal medicine, for when a woman has been accused of infanticide it may be shown that the infant has been dead for some time from disease of the placenta or from other causes.

— New Hampshire. In an action against a town for personal injuries from a defective highway, the rule as to the degree of care required to be exercised by the plaintiff in the employment of a physician and surgeon, and in procuring and submitting to proper medical treatment, is not changed by the fact that the plaintiff was himself a physician and surgeon.

Disceplany.

HYPNOTIC COLOR-BLINDNESS.¹

MR. EDITOR.—Professor Heidenhain and Dr. Grützner report that with certain people slight pressure or stroking the brow and temporal region of one side produced on the other side a more or less complete cataleptic condition in the upper extremity first, and then the lower, the latter not always. The muscles of the face were not always affected, nor was aphasia always caused. In these individuals the eye on the cataleptic side *lost its color sense*. For other phenomena the reader is referred to the original article.

Dr. Cohn, of Breslau, has followed up the examination of the same persons: In Professor Heidenhain's brother, a perfectly healthy young man of twenty-two, not color-blind, normal visual power when his myopia of 7 D. was corrected, and no ocular defect, the following phenomena were observed: Stroking his right brow and temple three times with his right hand produced a cataleptic-like condition of the muscles of the *left* arm and leg, slight facial paralysis, and reduction of the visual power of the left eye to scarcely a $\frac{1}{2}$, this with no loss of consciousness. His visual power was restored to normal at once, however, when a glass of —11 D. was placed before the eye instead of his own —7 D. There was therefore spasm of accommodation in this left eye equal to —4 D. In meantime his right eye kept its myopia 7 D., and vision normal with this glass as before. The near point for Buckard's spots No. 45 approached from seventy to twenty mm. Therefore, with this left eye = 50 — 11 = 39 D.; that is, equal to a lens of 2.5 cm. focus. These tests were repeatedly made, and always resulted in —11 D., being the best glass for distance during the hypnosis. The pupil retained its size and mobility. Light perception remained equal nity. The perimetric visual field for white perfectly normal. The visual power for *red* and

green, on Stillings's long card, sunk, notwithstanding correction by concave 11 D., to $\frac{2}{3}$; for yellow and blue to $\frac{1}{2}$. *The color sense in this left eye was wholly gone.* This was carefully proved by nearly all the present methods of testing: Holmgren's, Donders's, Daas's, Stillings's, Snellen's, Cohn's; colored shadows, successive contrast, the spectrum, etc.

In the hypnotic condition he had with the stereoscope no sensation of perspective, no phenomena of glance or contention of two colors presented, all of which he did have normally when not hypnotic. His brother, the professor, afterwards discovered that dropping into this eye a solution of atropine during the hypnosis caused it to become red-green blind instead of totally color-blind.

Dr. Cohn reports being able to render the eye alone hypnotic, without affecting the rest of the body, by simply warning the other eye with the hand, or letting the person examined do it. This done with Mr. Heidenhain, the colors at first appeared correct, then in their contrast color, then gray (total color-blindness). Removing the finger, the colors appear again in contrast color, and finally normally. This effect can also be produced on the eye warmed by the finger; the experiment cannot be so readily carried out, as the eye cannot of course be covered by the hand.

In some cases it was sufficient to bring a lighted cigar to within twenty-five cm. of the outer angle of the eye to cause the spasm of accommodation to commence, which increased as the cigar was brought nearer up to ten cm., when it suddenly ceased.

At certain distances, monocular diplopia and pleiopia appeared during the hypnosis.

This condition of the eye during the hypnosis resembles perfectly the case of congenital monocular total color-blindness recently reported by Professor Becker and translated in the JOURNAL.

A person who was congenitally totally color-blind distinguished the colors when his eye was rendered hypnotic. Since these observations, Dr. Cohn has followed up the experiments with other color-blind people, and he reports in the *Deutsch. med. Wochenschrift*, No. 16, 1880, the cases of three notoriously color-blind, in whom the defect disappeared on thus warming one eye. These observations are creating a good deal of discussion among physiologists. Some notice of them for the laity may be found in a recent number of the *Nation*. In the only case in which I have at present been able to make the experiment it failed. I should add that aside from the authority from which they come these extraordinary results are well attested.

B. JOY JEFFRIES.

COLOR-BLINDNESS.

MR. EDITOR.—In the report of the Proceedings of the Suffolk District Medical Society, April 10, 1880, published in the last number of the JOURNAL, I am made to say, in reference to color-blindness, that I "did not think the matter could be put so strongly in regard to railroads as it had been lately."

What I intended to say, and, as I believe, did say, was that I thought the need of proper examination for color-blindness among railroad employees could not be too strongly insisted on. Respectfully,

O. F. WADSWORTH.

¹ Breslauer ärztliche Zeitschrift, February 28 and March 27, 1880.

REPORTED MORTALITY FOR THE WEEK ENDING MAY 15, 1880.

Cities.	Population estimated for July, 1879.	Deaths in each.	Deaths under Five Years.	Percentage of total Deaths from				
				The Principal Zymotic Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.
New York.....	1,085,000	585	220	16.92	19.49	5.47	.85	.34
Philadelphia.....	901,380	330	118	13.94	6.67	3.64	2.73	2.73
Brooklyn.....	564,400	221	82	22.62	19.00	8.14	1.36	—
Chicago.....	—	178	101	30.90	12.92	9.55	3.37	1.12
St. Louis.....	—	103	46	11.65	13.59	1.94	1.94	.97
Baltimore.....	393,796	129	46	22.48	2.33	3.88	3.88	3.10
Boston.....	365,000	139	55	12.95	20.86	7.19	—	1.44
Cincinnati.....	280,000	111	41	22.52	7.21	2.97	2.97	2.97
New Orleans.....	210,000	126	63	27.78	4.76	.79	.79	1.58
District of Columbia.....	170,000	—	—	—	—	—	—	—
Buffalo.....	—	42	12	16.67	14.29	9.52	2.38	—
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	—	48	15	31.25	10.42	12.30	4.17	4.17
Milwaukee.....	127,000	33	11	18.18	6.06	9.09	—	3.03
Providence.....	102,000	35	10	31.43	22.86	—	22.86	2.86
New Haven.....	50,000	26	10	19.23	7.69	—	—	3.85
Charleston.....	57,000	33	13	30.30	9.09	—	—	12.12
Nashville.....	37,000	19	8	10.53	10.53	—	—	—
Lowell.....	54,000	21	8	9.52	14.29	—	—	—
Worcester.....	53,000	20	5	10.00	25.00	—	5.00	5.00
Cambridge.....	50,400	12	1	8.33	16.67	—	—	—
Fall River.....	49,000	26	13	15.38	11.54	—	3.85	—
Lawrence.....	38,600	7	1	28.57	14.29	—	—	28.57
Lynn.....	34,000	21	—	47.62	23.81	42.86	—	4.76
Springfield.....	31,800	9	3	33.33	22.22	—	22.22	—
New Bedford.....	27,200	13	4	15.38	7.69	7.69	7.69	—
Salem.....	26,500	11	2	9.09	9.09	9.09	—	—
Somerville.....	23,500	6	5	—	66.67	—	—	—
Chelsea.....	21,000	7	—	14.29	—	14.29	—	—
Taunton.....	20,200	7	—	14.29	28.57	—	—	—
Holyoke.....	18,400	9	6	—	22.22	—	—	—
Gloucester.....	17,300	3	—	—	33.33	—	—	—
Newton.....	17,300	8	—	—	—	—	—	—
Haverhill.....	15,350	6	2	25.00	12.50	12.50	—	—
Newburyport.....	13,500	6	3	16.67	—	—	—	—
Fitchburg.....	12,600	9	4	22.22	33.33	11.11	—	—
Eighteen Massachusetts towns.....	140,210	58	14	6.90	27.59	5.17	—	1.72

Deaths reported, 2411; 922 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 463, consumption 359, lung diseases 341, diphtheria and croup 130, diarrhoeal diseases 70, measles 56, scarlet fever 50, typhoid fever 39, malarial fevers 39, whooping-cough 30, erysipelas 22, cerebro-spinal meningitis 20, small-pox seven. From *measles* five, New York 18, Cincinnati 13, Brooklyn nine, New Orleans five, Chicago four, Philadelphia three, Pittsburgh two, St. Louis and Springfield one. From *malarial fevers*, New York and New Orleans 13, Brooklyn eight, St. Louis, Baltimore, Boston, Buffalo, and Charleston one. From *whooping-cough*, Philadelphia and New Orleans five, Baltimore four, New York and Brooklyn three, Boston, Cincinnati, and Charleston two, Chicago, St. Louis, Pittsburgh, and Providence one. From *erysipelas*, New York six, Brooklyn three, Baltimore and Boston two, Philadelphia, St. Louis, Pittsburgh, Milwaukee, Providence, New Haven, Lowell, Newburyport, and Fitchburg one. From *cerebro-spinal meningitis*, New York six, Philadelphia four, Chicago and Fall River two, St. Louis, Cincinnati, Buffalo, Pittsburgh, New Haven, and Taunton one. From *small-pox*, Philadelphia three, New York, Chicago, Lowell, and Fall River one.

Ninety-two cases of measles, 42 of diphtheria, 14 of scarlet fever, three of whooping-cough, and two of typhoid fever were reported in Brooklyn; small-pox two, in Chicago; diphtheria 30, scarlet fever nine, small-pox one, in Boston; diphtheria nine, scarlet fever eight, in Milwaukee; diphtheria 18, scarlet fever nine, erysipelas three, typhoid fever three, cerebro-spinal meningitis one, in Providence; diphtheria eight, scarlet fever one, in Cambridge; scarlet fever 12, diphtheria six, in New Bedford.

About the usual number of total deaths; deaths under five

somewhat diminished. The principal "zymotic" diseases considerably increased.

In 36 cities and towns of Massachusetts, with an estimated population of 1,011,560 (population of the State about 1,690,000), the total death-rate for the week was 20.21 against 19.81 and 20.50 for the previous two weeks.

For the week ending April 24th, in — German cities and towns, with an estimated population of 7,687,113, the death-rate was 27.4 against 22.9 and 28.1 for the two previous weeks. Deaths reported, 5660; 2019 under five: pulmonary consumption 637, acute diseases of the respiratory organs 511, diphtheria and croup 147, measles and *röteln* 65, typhoid fever 59, scarlet fever 56, whooping-cough 50, purpural fever 18, typhus fever (Königsberg two, Danzig five, Thorn three, Posen one, Benthien two, Brannschweig two) 15, small-pox (Benthien) one. The death-rates ranged from 16.6 in Mainz to 42.7 in Munich; Königsberg 31.6; Breslau 33.2; Dresden 24.7; Berlin 27.5; Leipzig 26.9; Hamburg 25.5; Hanover 22.1; Bremen 23.8; Cologne 23.1; Frankfurt 17.9. For the same week, Vienna 34.2; Paris 30.8, with a large mortality from small-pox.

For the week ending May 1st, in the 20 English cities, with an estimated population of 7,439,468, the death-rate was 21. Deaths reported, 3015: acute diseases of the respiratory organs 260, 80 below the average, whooping-cough 133, measles 93, scarlet fever 77, diarrhoea 43, fever 30, diphtheria 21, small-pox (all in London) 18. The death-rates ranged from 14 in Brighton and Wolverhampton to 36 in Plymouth again: London 19.8; Bristol 18.7; Birmingham 20; Liverpool 28; Manchester 26. In Edinburgh 22, Glasgow 22, Dublin 28.

The meteorological record for the week in Boston was as follows: —

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	9 P. M.	Mean.	7 A. M.	9 P. M.	Mean.	7 A. M.	9 P. M.	Mean.	7 A. M.	9 P. M.	Mean.	Duration.	Amount in inches.
May 9	29.971	72	90	53	88	45	58	63	SW	S	9	12	12	O	H	F	—	—
" 10	30.010	65	92	46	73	53	61	62	SE	SE	3	5	14	O	H	C	—	—
" 11	29.910	70	85	59	79	30	42	50	SW	SW	W	10	14	14	C	F	—	—
" 12	29.847	61	70	54	44	27	39	39	W	W	N	12	14	8	H	F	—	—
" 13	29.987	67	55	42	47	61	84	64	NW	NW	N	18	9	3	R	R	—	.28
" 14	30.264	46	56	45	47	56	54	52	NE	SE	E	11	8	2	F	O	O	.07
" 15	30.197	52	60	39	47	36	40	41	NW	SE	NW	14	11	9	C	F	C	—
Week.	30.026	59	92	39				53									6.40	0.35

¹ O, cloudy; C, clear; F, fair; G, fog; H, hazy; R, rain; S, smoky; T, threatening.

DR. ISAAC FAIRCHILD.

At a meeting of the New Bedford Society for Medical Improvement, held May 15th, the following preamble and resolutions were unanimously adopted:—

Whereas, Our much-respected and valued associate, Dr. Isaac Fairchild, of Fairhaven, has been removed from us by death; and *whereas*, in our sense of deprivation, we believe it appropriate to express some sentiment of the respect and honor due his memory; therefore,

Resolved, That we feel deeply the loss of our friend, whose honor, integrity, sagacity, and earnestness of purpose induced the high regard in which he was held by this society, and endeared him to us.

Resolved, That the example set by Dr. Fairchild in his professional relations, and in his intercourse with us as a society, is of the highest value, and will be constantly remembered with the regard due the memory of an unassuming, kind-hearted, earnest worker.

Resolved, That this society extends its warmest sympathies to the family of our late member, and would express its hope that their sense of bereavement may be lightened by the knowledge of the universal esteem and respect in which he was held.

Resolved, That the community in which he lived is called upon to mourn the loss of a faithful and skillful physician, and of a man who in his public relations was a model of unswerving integrity and zeal for the public welfare.

Resolved, That in respect to the memory of our deceased colleague this society attend his funeral in a body.

Resolved, That a copy of these resolutions be entered upon the records of this society, a copy sent to the bereaved family, and a copy published in the local papers and in the Boston Medical and Surgical Journal.

W. H. TAYLOR, Secretary.

NEW BEDFORD, MASS., May 16, 1880.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM MAY 15, 1880, TO MAY 21, 1880.

SERGEONS J. B. BROWN, J. H. BILL, C. H. ALDEN, and J. S. BELLINGS to represent the medical department of the army at annual meeting of American Medical Association, New York city, June 1, 1880. S. O. 107, A. G. O., May 14, 1880.

VOLLEN, E. P., major and surgeon. When relieved, to report in person to commanding general, Department of the East, for assignment to duty. S. O. 107, A. G. O., May 14, 1880.

BYRNE, C. C., major and surgeon. Relieved from duty in Department of Dakota, and to report in person to commanding general, Division of Pacific and Department of California, for assignment to duty in Department of California. S. O. 107, C. S., A. G. O.

HAPPESETT, J. C. G., major and surgeon. Relieved from duty in Department of the East, and to report to commanding general, Department of Texas, for assignment to duty. S. O. 107, C. S., A. G. O.

DE HANNE, J. V., captain and assistant surgeon. Relieved from duty in Department of Texas, and to report by letter to surgeon-general. S. O. 107, C. S., A. G. O.

McELDERBY, H., captain and assistant surgeon. Upon withdrawal of troops from camp on White River, Colorado, to ac-

company them to railroad, and then repair to Fort D. A. Russell, Wyoming Territory, and report for temporary duty at that post. S. O. 42, Department of the Platte, May 12, 1880.

LATDENHALE, J. V., captain and assistant surgeon. Granted leave of absence for four months, with permission to go beyond sea. S. O. 111, A. G. O., May 19, 1880.

MATTHEWS, W., captain and assistant surgeon. Relieved from duty in Department of California, to proceed to New York city, and report arrival to surgeon-general. S. O. 107, C. S., A. G. O.

BYRNE, C. B., captain and assistant surgeon. To report in person, May 30, 1880, to commanding general, Department of the South, for assignment to duty. S. O. 107, C. S., A. G. O.

MASSACHUSETTS MEDICO-LEGAL SOCIETY.—The third annual meeting of this society will be held at one o'clock on the 8th of June, at the hall of the Boston Medical Library Association, No. 19 Boylston Place, Boston. After the disposal of the regular business (probably at half past two o'clock) the following papers will be read: (1.) Report of the executive committee, by the corresponding secretary, Medical Examiner Abbot. (2.) On Points of Interest in the Case of Jennie P. Clark, by Medical Examiner Pinkham. (3.) On Criminal Abortion, by Medical Examiner Breck. (4.) Medico-Legal Relations of Alcoholism: Its Psychological Aspects, by Medical Examiner Russell. Its Legal Aspects, by Associate Member H. W. Chaplin, Esq. Its Pathological Aspects, by Associate Member G. K. Sabine, M. D. The associate members of this society and delegates from other medico-legal societies are earnestly invited to be present and participate in the discussions of the above papers. Members of the Massachusetts Medical Society are cordially invited to attend this meeting.

ROBERT AMORY,

Recording Secretary and Treasurer.

STEFFOLK DISTRICT MEDICAL SOCIETY.—A regular meeting will be held at the hall, No. 19 Boylston Place, on Saturday evening, May 29th, at seven and a half o'clock. The following papers will be read: Dr. A. N. Blodgett, Hallux Valgus, with a Report of two Successful Cases. Disputant, Dr. C. P. Putnam. Dr. E. H. Bradford, Two Cases of Infantile Paralysis. Disputant, Dr. J. J. Putnam.

All members of the Massachusetts Medical Society are cordially invited to be present, and to take part in the proceedings. Supper at nine o'clock. H. C. HAVEN, M. D., Secretary.

MIDDLESEX EAST DISTRICT MEDICAL SOCIETY.—At the annual meeting of the society, held in Woburn, Wednesday, May 12th, the following officers were elected for the ensuing year: President, Dr. D. W. Wight. Vice-President, Dr. A. H. Cowdrey. Secretary, Dr. George E. Putney. Treasurer, Dr. J. O. Dow. Councillors, Drs. F. Winsor, W. S. Brown, and J. O. Dow. Censors, Drs. Charles Jordan, W. F. Stevens, E. W. Graves, S. W. Kelley, and C. E. Chase. Commissioner of Trials, Dr. F. F. Brown. Nominating Councillor, Dr. Winsor. Reporter, Dr. Putney.

GYNÆCOLOGICAL SOCIETY OF BOSTON.—The next regular meeting of the society will be held on the second Thursday of June, at the Medical Library rooms, at 10.30 o'clock, A. M. Continuation of the discussions last announced. The profession are invited. HENRY M. FIELD, M. D., Secretary.

Lectures.

CLINICAL LECTURES ON ORTHOPEDIC SURGERY.¹

DELIVERED AT BELLEVUE HOSPITAL, NEW YORK.

BY LEWIS A. SAYRE, M. D.,

Professor of Orthopedic Surgery and Clinical Surgery in Bellevue Hospital Medical College.

V. SPINA BIFIDA TREATED WITH PLASTER-OF-PARIS DRESSING: PSOAS ABSCESS IN CONNECTION WITH POTT'S DISEASE.

GENTLEMEN,—The first case which I have to show you to-day is one which has been sent to me from the interior of Indiana, by a very distinguished medical gentleman of the West, for the purpose of having a diagnosis made. It has been pronounced by various physicians and surgeons to be sacro-iliac disease, congenital dislocation of the hip-joints, hip-joint disease, Pott's disease, and lateral curvature of the spine; and now it is asked that I should give my opinion as to what the trouble really is. The patient is a little girl, five years of age, and the history that the mother gives is that a large tumor in the lumbar region, situated directly over the vertebrae, was noticed at birth, and has remained ever since. She did not make any attempts to walk until she was thirteen or fourteen months old, and these were very awkward ones, as she did not seem to be able to control the muscles with any degree of certainty. She has been under the care of seven medical attendants, scarcely any two of whom have agreed in their opinion as to the nature of the case, as the long list of diagnoses which I have just repeated to you shows.

This seems to me most extraordinary, for the case is certainly a very simple one, and I can hardly imagine how an intelligent observer could mistake it for anything else than what it really is. When we come to make an examination here, we find a tumor of considerable size in the lumbar region, occupying the median line, and extending to an equal distance on both sides of the spinal column. On palpation over the latter, moreover, we find that there is a firm osseous wall on either side, and a soft space in the centre, the least pressure over which gives the child a good deal of pain. This soft space, however, is quite small in extent, the spinous processes of the vertebrae being felt, as usual, both above and below it. But one conclusion can therefore be arrived at, and that is that the case is undoubtedly one of well-marked *spina bifida*. A further and minute physical examination of the child fails to detect any other difficulty whatever, and, consequently, I have thought it well to bring the case before you, that it might teach you an important lesson in diagnosis, and serve as a useful warning, so that none of you, when practicing, perhaps, in remote portions of the country, will ever put your patient to the inconvenience and expense of a long journey to some great medical centre for any such trouble as this child is suffering from.

This is a perfectly clear case. There is simply a congenital deficiency in the formation of the spinous processes of the lumbar vertebrae, due to the same arrest of development, as it is called, which results in cleft palate and meningoceles of the cranium. Here, to use a rough illustration, there has been a failure in the formation of the roof of the spinal column; a

bifurcation has remained from fetal life, and, accordingly, at birth there was found a fluctuating tumor in this position. Such tumors always contain subarachnoid fluid, and frequently large nerves, if not the spinal cord itself. When they are present, all that we can do is to wait for nature gradually to form a bony covering over the exposed parts, just as the fontanelles in infants are closed by degrees by an advancing process of ossification. In the mean while it is usually desirable to protect the tumor by some artificial shield, and to endeavor to assist ossification by such internal remedies as seem to be indicated. The space between the bony walls here, which, as mentioned above, is very tender on palpation, is about an inch in circumference. The child apparently enjoys good health, but sometimes it is seized with an acute pain, which causes it to scream out very suddenly. By Seguin's surface thermometer we discover that the temperature of the tumor on the back is three or four degrees higher than that of any other portion of the body.

If any of you have the opportunity of looking at Parker's edition of Cooper's First Lines in Surgery, published, I think, in 1848, you will find in it the report of an interesting case of spina bifida, upon which I operated many years ago at Dr. Parker's clinic at the College of Physicians and Surgeons. At the time the operation was performed the child was seven or eight years old, if I remember rightly, and there was a large pendulous tumor which was attached to the back in the lumbar region of the spinal column, and which had evidently been a spina bifida at the time of birth. I was strongly advised not to attempt to remove the mass, as it was thought that on account of the irritation of the nerves, which no doubt passed into it, tetanus or other severe derangement of the nervous system would in all probability result; but I was of the opinion that if I were to put a ligature around the pedicle so tightly as to cause complete strangulation, and thus actually kill the nerves, no such consequences would ensue.

Accordingly, I passed through its centre a needle armed with a stout double thread, and carrying one strand around one half of it, and the other around the other half, I tied them so tightly that I felt confident that the desired strangulation of the tumor would be accomplished. Great interest was expressed as to the effect which the procedure would have upon the child's nervous system, but, as I had anticipated, there was not a single unfavorable symptom following it. In the tumor, when removed, a bundle of large nerve-trunks was found, thus proving conclusively that it had originally been a spina bifida. About seven years ago this same patient came to me when I was lecturing at Charity Hospital, on Blackwell's Island, with an infant of her own, whose back she wished me to examine, as in the mean while she had grown up to womanhood, married, and had a child.

In this connection I will also mention another interesting case of this kind of arrest of development, which came under my notice some years ago. I attended a woman in confinement in the lower part of the city, and when the child was born I was surprised to find that there was an enormous soft tumor on the back of the neck, almost as large as its head. I expected that the infant would die almost immediately, and was anticipating a very interesting post-mortem; but, contrary to my expectations, it continued to live and fairly thrive. Under the circumstances, therefore, I gave the

¹ Reported for the JOURNAL.

mother large quantities of lime for the purpose of promoting ossification, and when the proper time had arrived I proposed to operate in the same way as in the case which I have just related. Unfortunately, however, when nine years of age, the child died of cholera. I made an autopsy in this case, and presented the interesting specimen thus obtained to Dr. Watts, at that time professor of anatomy in the College of Physicians and Surgeons. It exhibited the same presence of nerves as was found in the other instance, and I hoped to be able to present it to you to-day, but in the short time at command for searching for it in the museum of the college it could not be found.

But to return to the case now before us. You will remember that one of the diagnoses made here was the so-called "double congenital dislocation," which is not properly a dislocation at all, but a malformation of the pelvis, due to an arrest of development, which consists in a non-fusion of the three bones entering into the composition of the acetabulum, and which I prefer, therefore, to call *congenital displacement*. If this condition were present, however, instead of a single tumor, occupying the central portion of the back, we should detect a prominence on each side, over the trochanters, which would be found to disappear when the child was placed in a horizontal position, and extension made upon both limbs. Again, it is not at all difficult to exclude the possibility of hip-joint disease in this case. In the first place, there is an entire absence of the characteristic deformity produced by that affection; and, secondly, no pain is caused the patient by pressure over the region of the joint by the freest possible movements of the femur, or by jamming the head of the latter up against the acetabulum in every direction.

Before making any examination whatever, I felt almost positive that there was no Pott's disease here; for I simply asked the child to pick up something from the floor, and the perfectly natural manner in which she did this convinced me that there was no Pott's disease. If the vertebra had been diseased she would have kept the back in a perfectly rigid condition, and reached the object by flexing the lower extremities alone. But, not content with this test, I made pressure upon the child's head, so as to crowd the vertebrae together without causing the slightest pain, while a careful examination along the line of the vertebrae failed to detect any disease whatever.

While we have all this negative evidence excluding other affections, we find as positive proof of the existence of spina bifida this broad, distinct tumor, situated in the lumbar region of the spinal column, with a central portion where the bone is lacking, and where there is marked tenderness on pressure. Immediately above and below this point the spinous processes of the vertebrae can be felt with perfect distinctness, and they are found to be unusually broad and flat, which is due, no doubt, to the late period of their ossification.

Now for the mechanical treatment, the object of which, you remember, is simply to protect the parts from all pressure and all possibility of injury until the process of ossification has become complete throughout the entire length of the spinal column. I first slip over the trunk a tightly-fitting knit shirt, similar to that used in applying the plaster jacket in Pott's disease or lateral curvature. Then, having the child held in a firm position, but without suspending her, I pass

a few turns of a plaster bandage around the trunk and pelvis in such a manner as to cover the spina bifida completely, after which I cut off a piece from both the top and bottom of the shirt, and turn the remaining portions over the part covered with the plaster. I then make a few more turns of the plaster bandage outside of all, and finally, before the plaster has had time to set, press in the dressing with my hands on both sides of the tumor, so as to make the covering immediately over it more cup-shaped, and thus protect it the more completely from all pressure whatever. We have thus made a hard artificial roof for the spinal cord and nerves, to take the place of the normal bony one until nature has supplied the deficiency; and if, on account of the child's growth, other similar plaster casings should be required before the process has become completed they can easily be applied in the same manner. A piece of steel or copper plate, of appropriate shape, would answer just as well in such a case as this, if it could be kept perfectly in position; but on account of the difficulty of securing this, I think the plaster decidedly preferable. Internally, we will put the child on a course of phosphate of lime, with a view of increasing the earthy phosphates in its system, and thus facilitating the further ossification of the spinal column.

PSOAS ABSCESS, IN CONNECTION WITH POTT'S DISEASE, OPENED ANTISEPTICALLY.

I have here a child, which was brought to me a few days ago, suffering from a large hernia, as it was supposed, in the left groin. There was some doubt about the diagnosis, however, and as I detected a sense of fluctuation, and found that there was disease of the spine present in addition, I concluded that, instead of an inguinal hernia, we had a psoas abscess to deal with. Since then the mass has become red and shining, proving the correctness of this view, and the time has now arrived when the abscess should be opened. This I propose to do to-day, antiseptically, after the method of Lister, which I consider to be undoubtedly one of the greatest contributions to surgery that has been made in the present century. It enables us to perform with impunity operations which, before the method was devised, were almost certain to terminate disastrously, or, at least, to be followed by the most severe constitutional disturbance, on account of the deposition upon the exposed tissues of deleterious germs supposed to be floating in the atmosphere. Mr. Lister, as you know, proposed, by means of a carbolic spray, directed throughout the operation upon the parts on which it was performed, to destroy all germs that could possibly reach them from the air, and at the same time protect them from infection from other sources by having the surgeon's hands and instruments washed in a solution of carbolic acid, and by employing nothing but carbolic materials in the dressings to be applied afterwards. In other words, the part is to be absolutely protected, both at the time of the operation and afterward, until the process of healing is completed, from all air that is not thoroughly charged with carbolic acid. The practical result of this admirable method is that we not only have no pyæmia, or even the slightest constitutional disturbance, but we almost invariably succeed in getting union by first intention, which is certainly a vast gain on former surgical practice.

In now commencing this procedure here, I first wash

my hands thoroughly in a solution of carbolic acid, one part to twenty, and then the skin over the enormous abscess in the left groin. The carbolic spray from the atomizing apparatus then having been directed upon the part from a distance of about two feet, I make my incision with a bistoury, which, like my hands, has been dipped in the carbolic-acid solution. You see that there is a very large quantity of pus here, and the pressure which is exerted by the abdominal muscles in consequence of the child's crying at first forcibly projects it for a considerable distance in a large stream. Afterwards I squeeze out all the purulent fluid that I can with my hands, and then through the opening made by the knife insert a carbolized drainage-tube, pressing it well down into the cavity. Now, having passed a thread through it, so as to prevent it from slipping inside, I cut it off on a level with the surface. Finally, the Lister dressing is put on, consisting of, first, a piece of carbolized oiled silk covered with paraffine, and outside of this several layers of prepared carbolized gauze, which are secured in position by means of a roller made of the same material passed over the abdomen and around the trunk, and then carried for some little distance down the left thigh. Having now attended carefully to all the minutiae of the operation and the subsequent dressing, I think we have every reason to anticipate a very excellent result in the case.

February 12th (two weeks after the operation). Has been dressed five times since the operation. Temperature has never been over 100° F., nor pulse over 96. Has never complained of any pain, and is now nearly well, the abscess discharging only a few drops.

Original Articles.

ON THE AFFECTIONS OF THE MIDDLE EAR DURING THE EARLY STAGES OF SYPHILIS.

BY F. R. STURGIS, M. D.,

Clinical Professor of Venereal Diseases in the Medical Department of the University of the City of New York, etc., etc.

COMPARATIVELY speaking, so little is known respecting disease of the ear in syphilis that I hope the report of the following cases may be of interest to the readers of the JOURNAL. In this paper I shall devote myself to considering the early syphilitic lesions of the middle ear, those occurring in what is so often spoken of as the secondary stage of syphilis, reserving the late aural manifestations for future discussion.

These affections of the middle ear occur in one of two ways: first, independently of any other lesion of syphilis, coming on, so to speak, idiopathically; second, in connection with and extension from symptoms in the pharynx, such as mucous patches or the infiltrations of mucous membranes so common in this stage of syphilis.

The first symptom to attract the patient's attention to his condition is pain; and this is seldom severe, such as we find it at the beginning of an acute otitis media, but of a dull character, with occasional sharp twinges. During this period of the disease the pain is also nocturnal in character, having usually a marked periodicity about it, which at the first blush is apt to mislead the surgeon into the belief of its malarial origin, but the presence of the other manifestations of an early syphilis

will put him on the right track. It is very rarely that these symptoms are absent, but it sometimes happens that the otitis media has not appeared until the eruption of skin and mucous membranes has passed off; in other words, it comes on during the period of repose. Then it is that the nocturnal exacerbation of pain becomes of value in the diagnosis, and the condition of the tympanum in these cases, although not absolutely pathognomonic, is such as should excite suspicion as to its true cause.

Let me illustrate this by Case I.

M. X. gives the following history: Primary lesion, apparent on April 21, 1873, was seated on the right side of the balano preputial fold near the frenum, and attended with well-marked induration. Inguinal glands of both sides were also indurated. By May 16th the ulceration of the initial lesion, which was very superficial, had entirely gone, under the local use of calomel, although the induration there and in the groins was still evident. At this date he presented an erythema syphiliticum on the body, attended with nocturnal hemiparasia, anterior and posterior cervical adenitis, and congestion of the fauces. There were no mucous patches in the throat nor on the tongue. He was then put upon the pil. hydrargyri et ferri, at first three daily, which was afterwards increased to four.

On June 5, 1873, the erythema syphiliticum had entirely disappeared. The induration of the initial lesion and of the inguinal ganglia was growing steadily less. There were no mucous patches in the throat, and the anterior and posterior cervical adenitis had diminished. He now for the first time reported a pain in the left ear of three to four days' duration, said pain extending along the upper and lower maxilla, and becoming worse at night. Upon examination of the left ear, the tympanum was found sunken, succulent-looking, opaque, and without any light spot; the drum-head looked as though infiltrated with fluid. There was no congestion of the vessels. H. D. 3'.

Atropine was instilled into the ear, and the pills hydrargyri et ferri were continued.

On the 9th of the same month, four days later, the following record was made: Pain in the ear has entirely disappeared. Examination now shows the tympanum still sunken, but not so opaque as it was at the previous record, the light spot now commencing to be visible. It has also lost that succulent, semi-soggy look which it had on the 5th inst. H. D. and non-congestion of vessels still remain as before.

Improvement went on steadily as regarded the infiltration, the light spot reappeared, but the hearing-distance and the sunken condition of the tympanum were not materially altered. On October 1, 1873, he had an epileptic attack, probably due to syphilis.

There are some noteworthy points in this case which make it peculiarly interesting. First, there was a very short period of incubation between the appearance of the initial lesion and that of the erythema, — very much below the average. Second, at the period when the earache came on, all the other symptoms of syphilis likely to attract attention to the true cause of the ear lesion were absent; there was no erythema, and there were no mucous patches. It is true that the sclerosis of the initial lesion and of the inguinal glands was still evident, but it is not usual to examine a man's penis and groins to treat an otitis media catarrhalis unless there is good reason to suspect syphilis as a cause; hence the real origin of the trouble might easily

escape notice but for one symptom, and that is the *nocturnal* character of the pain. When we pass on to the physical symptoms exhibited by the ear we experience a slight feeling of disappointment at the almost negative condition of affairs presented. One symptom, however, although *not* pathognomonic, is yet sufficient to cause suspicion and to lead to a careful questioning as to syphilis: it is the infiltration of the tympanum conjoined with absence of vascular congestion. The sunken drum in the case just given I attach no importance to so far as syphilis is concerned; I think it antedated this latter, and that would seem to be borne out by its persistence when the other symptoms had gone; but the infiltration is analogous to what we find in syphilitic lesions of the skin and mucous membranes.

CASE II.

L. M. N. Initial lesion appeared May 7, 1873. Seen by writer on 19th of same month. Record then taken is as follows: Three ulcers on penis,—one on the free border of the prepuce, two in the balano-preputial fold; all on the left side. Those seated in the balano-preputial fold were slightly indurated; that on the free border of the prepuce was not. They were superficial in character, of a red color, and the secretion was thin and scanty. The inguinal glands on the left side were not at all indurated, and only one on the right side.

On May 23d, of the two ulcers in the balano-preputial fold, one had entirely healed, the other one had much improved. This was the only sore which now showed any induration. The ulcer on the free border of the prepuce was also doing well. The glandular enlargement on the right side has entirely gone, and none has appeared on the left side.

On June 13, 1873, the report reads: Ulcers have all healed. Within the past few days has noticed hemierania, a feeling of lassitude, and rheumatoid pains, which come on at night. An examination of the body shows a commencing erythema of the trunk and of the fauces. There are no mucous patches of the tongue, throat, or mouth. A few papules are scattered throughout the hairy scalp, but there is no alopecia. Post-cervical adenitis present.

He was put upon the pil. hydrargyri et ferri, three daily, and on August 18, 1873, the record tells us that the symptoms detailed above had entirely disappeared. He has at the present time some pharyngitis. He also reports a sensation of fullness and tinnitus in the left ear, with deafness of that side. There is no actual pain, but a feeling of malaise. An examination of the right ear shows nothing abnormal. Left ear shows a diminished light spot. Tympanum looks puffy and infiltrated, and is somewhat thickened. Hearing-distance diminished (no record, I regret to say, was made of distance).

Under treatment the light spot became normal in size; the tympanum had lost its soggy look, resuming its usual healthy appearance; and hearing-distance had come back to its normal standard. All this occurred in the course of three weeks.

The chief point of interest in this case is the coexistence of a syphilitic pharyngitis with the trouble in the ear, rendering it probable that the latter was due to an extension of the disease from the throat along the Eustachian tubes to the middle ear. This case differs then, from the first one narrated, in which the

ear affection seemed to come on without any connection with or dependence upon other symptoms of syphilis.

CASE III.

The third case which I have to report is not so uncomplicated as the first two, inasmuch as there was a history of an old otitis media suppurativa. Still I believe that even here we may pick out the symptoms which are due to syphilis and those which are due to the older trouble.

F. G. H. was seen for the first time April 5, 1873. The history he gives is as follows: Initial lesion dates back to May, 1872; the treatment then was purely local. Three or four months afterwards he had slight nocturnal cephalalgia, with sore throat, alopecia, and an eruption (kind unknown) upon the arms and legs. Under internal treatment (probably mercurial) these symptoms disappeared. He has had recurrent attacks of sore throat, for which he has pursued treatment off and on. Four months after his initial lesion the sight of left eye grew dim, but this he is positive took place without any inflammation or soreness. On April 5th he was seen for the first time, when the diagnosis of iritis of the left eye, mucous patches of the tongue, and syphilitic congestion of the throat was made.

He was placed under mercurial inunction, which was later on changed to the internal use of the protiodide of mercury and the instillation of atropine to the eye; he improved up to May 15th, when his disease again became active, as shown by the following note: Tongue has recovered. On the right anterior fauces is a decided ulceration. He complains of a pain in his right ear, of recent date. Upon questioning him closely he says he had a suppurative disease of both ears, but so long ago that his memory does not run back so far.

An examination of the right ear showed the tympanum sunken, and the light spot very much diminished in size. This membrane, besides being sunken, was opaque and soggy-looking; there was some congestion about the periphery and the site of the malleus.

Along the handle of the malleus is an interstitial deposit, crescentic in shape, which Dr. Roosa thought due to an old suppuration, but the present infiltrated look might arise from syphilis. Left ear showed some injection of vessels, the result of syringing. Tympanum is very much sunken, opaque, having a dull, thickened look, and without any light spot. Hearing distance both ears 11". On May 17th it is recorded that the ulcer of the throat is reduced to one half its former size. The pain in the ear has almost all gone. Examination of right ear: tympanum has lost its succulent look, is more translucent, and is slightly reddened. Light spot as at last record. Left ear unchanged. May 20th. Ulcer of throat almost entirely healed up. The ear is nearly free from pain. Right ear: tympanum is more lucent and more normal in look. The crescentic exudation has diminished in size. Light spot dimly visible. Left ear as before.

June 10th. Throat well. Ear entirely free from pain. Right ear: tympanum is sunken and opaque, but without the soggy, infiltrated look that it had before. The light spot is now present. Left ear unchanged. Hearing-distance, right ear, = 12 1/2'; left ear, 10.

According to the usual custom of dispensary and hospital patients, he withdrew himself from further observation, but still not so soon as to prevent his case from being of interest for purposes of study. In the first place, we must bear in mind the existence of an

old suppurative otitis media, which is shown in both ears, and which can be excellently studied in the left ear, which was spared by syphilis. The right ear is attacked, and in addition to the sunken, opaque look common to both ears the tympanum of the syphilitic ear becomes succulent-looking, as if it were infiltrated with fluid, and an exudation takes place, which Dr. Roosa believes is due to the older trouble, but which diminishes very considerably in size as the syphilis improves, and may perhaps have been aggravated by the disease, although not originally dependent upon it.

These three cases of mine resemble in their history and course Cases XIII. and XIV. reported by Dr. Albert H. Buck, of New York, in his capital paper on Syphilitic Affections of the Ear in the *American Journal of Otolaryngology* for January, 1879. The points which I believe, upon further knowledge of these cases, will be found of most diagnostic value are absence of acute inflammation and the infiltrated condition of the tympanum. These are not, I think, common to the ordinary forms of middle-ear trouble, whereas the opacity and sunken condition of the drum-head are.

I offer the reports of these three cases as a contribution towards the better understanding of a class of cases as interesting to me in my special studies as they are to my otological brethren.

16 WEST THIRTY SECOND STREET, NEW YORK CITY.

ON THE PREVENTION OF NEAR-SIGHT IN THE YOUNG.

BY HASKET DERRY, M. D.

A BOY or girl is observed by the teacher, during the early years of school life, to see maps and drawings on the blackboard, across the room, less readily than the other scholars. After a time the parents' notice may be called to the fact, and in a small number of cases the child is brought to the surgeon. Expressions of incredulity are subsequently exchanged for those of astonishment when it is demonstrated to the parents that the child cannot see the largest letter of the test-card across the room, and that his farthest point of accurate vision is perhaps within twelve inches of his eyes. He has, without the knowledge of his family, become near-sighted. A difficulty has been fastened upon him that will act to his serious disadvantage through life, and the tendency to which he may transmit to his children. Though its progress may be modified by following suitable advice, it is now no longer capable of removal. Such cases occur with great frequency.

According to the best attainable statistics, there is found in the United States only about one third as much near-sight as is met with in Europe. And yet its prevalence in New England may be estimated from the fact that one person in ten who consults the ophthalmic surgeon does so on account of this very difficulty.

That near-sightedness is always a serious disadvantage to its possessor, that such an eye is in fact a diseased eye, that the affection is one that tends between certain ages to increase, and that exceptional increase may with advancing years lead to blindness are facts so often insisted on as to have become familiar to all who take an interest in this subject. Few states of the eye have been more accurately studied.

¹ Read before the Boston Society for Medical Improvement, May 24, 1880.

The statistics collected have reached the limit of usefulness. The age at which myopia is likely to begin, the period of life during which it generally increases, the influence of civilization and education on its development, are all satisfactorily known. The hopelessness of its cure is universally conceded. But, in my opinion, far too little study has been bestowed on the possibility of its prevention. It is to this branch of the subject that I briefly invite attention.

The first question that arises, then, is as to whether prevention is possible. In answering this, two facts are to be taken into consideration: *First*, that near-sight is seldom, if ever, congenital, though a tendency to its development may undoubtedly be inherited. *Secondly*, that it is usually a product of civilization. This view receives support from those who have had the opportunity of examining the eyes of savage tribes. Farnari, among others, found no near-sight among the Kabyls. Macnamara states that he, some years ago, was among the Southals, the aborigines of Bengal, dwelling among the Rajahmahal hills. "I took," he says, "every opportunity of examining the eyes of the people I was brought in contact with, for the purpose of discovering if myopia and such like diseases existed among them, but I never yet saw a young Southal whose eyes were not emmetropic" (that is, perfect). Other testimony is in the same direction.

The following is a brief summary of our knowledge regarding the appearance and progress of near-sight:—

It is not generally found at all among children who have not commenced school life.

Between the ages of six and seven some three school-children in a hundred are found, in this country, to be near-sighted.

This percentage steadily increases, and at the age of twenty at least twenty-six in a hundred are thus affected. The percentage rises to forty-two in Russia, and to sixty-two in Germany.

Other things being equal, the children of near-sighted parents are more apt to acquire near-sight than are those whose parents have normal vision.

The development of near-sight is furthered by the following causes.

- (1.) Work by insufficient light.
- (2.) Work on minute objects, such as fine print, intricate maps, and the like.
- (3.) Work in a constrained or stooping position.
- (4.) Continuous study, and
- (5.) Prolonged or excessive study.

The action of this last is well illustrated by an example given by Erismann. Four thousand three hundred and fifty-eight scholars being in the habit of studying out of the regular school hours, he found

Of those studying two extra hours 17 per cent. were near-sighted.

Of those studying four extra hours 29 per cent. were near-sighted.

Of those studying six extra hours 40 per cent. were near-sighted.

Such being the causes of near-sight, a large portion of the success that is likely to attend its prevention would depend on their judicious elimination. So much has already been written on this subject that it is needless to reiterate the advice given from every quarter. The necessity of well-lighted rooms, of clearly-printed text-books, of properly constructed desks and seats, has been clearly dwelt upon. The subject of prolonged study must be left to those more familiar than myself with the forcing system of modern educa-

tion. A single word may, however, be permitted regarding the continuous use of the eyes in young children, and the mechanism of the production of near-sight.

A normal eye becomes myopic, of course, by growing longer, by the bulging out of its posterior segment. There is excellent authority for believing that this is peculiarly apt to take place in the children of near-sighted parents. They inherit a diminished power of resistance in this part of the organ of sight. The length of the eye may be normal at birth, but the scleral tissue of its posterior half is unduly elastic, and gives way more readily than it ought, during the period of development of the body. After this time is passed it may acquire new strength, and cease, after the twentieth year, to be liable to give way. Let us bear this tendency in mind, and remember, moreover, Eulenburg's statement that ninety per cent. of curvatures of the spine, which do not arise from a special disease, are developed during school life. If now, in the case of a growing child, a constrained and unnatural position, long continued, may cause malformation of so solid a structure as the vertebral column, why may not a similarly constrained position (so to speak) of the eye cause a change in the shape of that organ? A bow must be kept unstrung to retain its elasticity. The continued effort of accommodation for near objects is accomplished by the change in shape of the crystalline lens from its least to its greatest convexity. And just as the bow, too long or injudiciously stretched, fails to regain its pristine shape, so does the crystalline, overstrained or fatigued, often refuse for a greater or less time to relax into the shape of rest, when the eye is sought to be adapted for only distant objects. This inability to relax we call "cramp of the ciliary muscle," "spasm of the accommodation," and it is the first step in a downward course.

Now one of the principal factors in bringing about the change of shape or lengthening in the posterior segment of the globe is this very exercise of the accommodation. It probably acts by throwing the choroid into a state of tension and inducing congestion. The eyes, therefore, used so continuously as to undergo spasm of the accommodation, are even more likely to become near-sighted than those in which the accommodation is relaxed as soon as near objects are no longer regarded.

Near-sight may then begin with spasm of the accommodation. A single case will serve as an illustration of this fact.

I examined the eyes of a student at Amherst College, at the commencement of his freshman year, in November, 1875. He presented himself towards the close of the day; the afternoon was a dark one, and he had just been reciting. There was a slight degree of near-sight in each eye. In October of the next year I examined him again, and found his near-sight entirely gone. He had been laboring under accommodative spasm. But in June, 1879, at the completion of his college course, true near-sight, to a considerable amount, had made its appearance, and the ophthalmoscope showed it to be real, and not due to spasm.

This case is of great interest as illustrating the theory that near-sight frequently commences in the above manner; how frequently cannot at present be estimated. According to many, such cases are the rule; others think them the exception. But allow the fact

that they do exist, and we have an important clew to the prevention of near-sight; for this spasm or cramp of the ciliary muscle yields readily to appropriate treatment. How often do we hear complaints from children that, after studying a time, distant objects appear blurred and indistinct! They can no longer tell time by the clock across the room, no longer make out figures on the blackboard. Such cases are often brought to the ophthalmic surgeon. With some of the children the spasm has already disappeared. With others a rest of a few days suffices to remove it. Others, again, require to be put under the full influence of atropine, to which, sooner or later, the thing must yield, as in the following instance:—

E. S., at the age of twelve, had never considered himself near-sighted. Both parents have normal vision. His brother, aged seventeen, who came under my care at the same time, had a considerable amount of myopia, which up to the present has gone on steadily increasing. His sister, slightly older than himself, is similarly affected. In March of this year E. S. came to me again, complaining of pain in eyes on use, and inability to see distant objects distinctly. He was now near-sighted, and could not see sharply any object removed more than thirty-nine inches from him. I kept him three weeks under atropine, and the near-sight entirely disappeared, he being able, according to his own expression, to see as far as ever. We are warranted in the supposition that, had the difficulty not been recognized and the treatment employed, he would, like his brother and sister, have become near-sighted for life.

Assuming, then, as we are amply justified in doing, that cramp of the ciliary muscle is the first step in the development of near-sight in a number of cases, and knowing that the spasm, as such, is readily curable, the desirability of watching for its occurrence becomes evident. In fact, the extreme importance of recognizing all near-sight in its very earliest stage has been far too little insisted upon, for it is at this precise period that so much may be expected from judicious treatment, as well as from careful regulation of the child's habits, method of study, and length of time spent in school.

Unless measures be taken to prevent it, the percentage of near-sight among us is liable to increase as time goes on, largely through the transmission of the hereditary tendency.

What course shall be adopted to prevent this? I would suggest the following plan: Let all children have their vision tested as soon as they know their letters; let a careful record be kept of the result; have the examination repeated at least twice a year during the whole of school life; and let near-sight be promptly treated as soon as its commencement is detected.

The school committee of Boston, for instance, might adopt some such plan as the following: A brief document, couched in popular terms, could be circulated among the teachers in the public schools, explaining the views just rehearsed, and giving instructions in the use of the test-types of Snellen or Monoyer. Each school should be provided with one or both of these cards, the price of which is trifling. The card itself should be hung in a room of sufficient length, and illuminated artificially at the time of examination, thus securing uniform intensity of light on every occasion. At its entrance into the school each child should have its vision tested by the card, in each eye separately,

and a record kept of the result. This examination might be repeated at least once in six months during school life, and any change noted.

Thus far the whole matter may safely be left in the hands of a tolerably instructed teacher. If, now, a child, that has previously had perfect sight, is observed to see less and less on successive trials, the assumption is that near-sight is commencing. The family should now at once be notified, and advised to apply to their physician. With the instruction in ophthalmology now given in our leading medical schools, it will be easy for him to carry the examination farther, to recognize the presence of near-sight, and to prescribe the necessary rest or atropine treatment, that, if the case has been taken in time, will restore the eye to its normal condition. If the myopia refuses to yield to atropine, and in moderate amount has to be accepted as a life-long disadvantage, suitable advice will certainly modify its progress.

If sufficient interest can only be awakened in the subject, and if this course be followed, I do not see why the amount of near-sight in the community may not ultimately be considerably diminished. Let the absurd traditions of the past, that myopia is due to an increased convexity of the eye, and is even an evidence of strength of sight, be once fairly banished from the popular mind. Let it be insisted on in season and out of season that near-sight is a disease, a product of civilization, arising generally during school life, often curable if promptly met, always incurable and even progressive if neglected, invariably a disadvantage to its victim, and sometimes in later life fatal to sight; let these facts be fairly brought forward and understood, and the next generation will have better and stronger eyes than those of the past, and that of the present.

There will be no near-sighted children turned out by the schools of Dr. Richardson's City of Health.

RECENT PROGRESS IN SURGERY.

BY H. H. A. BEACH, M. D.

ACCESSORY THYROID GLANDS.¹

MADELUNG teaches that accessory thyroid glands are independent of the thyroid body, or simply attached to it by a vascular pedicle, and, contrary to the opinion of Rokitsky,² congenital.

The appearance of the normal accessory glands is like that of ganglions. Their form is spherical, ovoid, or cylindrical, while their volume varies from the size of a pea to that of a bean. Gruber³ has found some superior glands from four to five centimetres long. They may be divided into superior, inferior, lateral, anterior, and posterior varieties. The superior glands are usually placed on the median line or a little to one side, in the space between the superior edge of the isthmus and the hyoid bone. Their capsule is commonly bound by ligamentous bands either to the thyroid cartilage or to the hyoid bone. Isolated lobules have been rarely found above the hyoid bone; the author reports two cases.

The lateral glands are found along the borders of the thyroid body, and have been observed in the triangles of the neck. The anterior are rare; the author

quotes but one case, that of Mr. Poland,⁴ with serious trouble in deglutition, phonation, and respiration. The inferiors are found below the isthmus, upon the median line or upon the sides of the trachea. Finally, the posterior glands, of which several cases are reported, claim an especial interest, on account of the compression which they exercise upon the trachea and oesophagus.

The accessory glands can undergo alteration independent of the thyroid body, but the simultaneous alteration of both forms of gland is very rare. All the varieties of goitre have been observed in the accessories, but the cystic is most common. The author suggests the possibility of the latter form being identical with hydrocele of the neck. Hereditary influence is doubtful; in only one case the mother of the patient had goitre. Accessory goitres are, like goitres of the thyroid gland, enveloped by a net-work of largely dilated veins, which distinguishes them when doubts as to their nature are raised by their location. They show a preference for the right side of the neck and the female sex; usually appearing at puberty or earlier, and growing slowly, until they may suddenly occasion trouble in deglutition and respiration. By compression they may cause a partial atrophy of the thyroid body;⁵ and softening of the tracheal and laryngeal cartilages is produced by them to such an extent as to close both passages, even after the removal of the tumor.⁶ The diagnosis of accessory goitres is always difficult; in making it, their mode of development should be investigated.

The author describes a case where, supposing that the tumor was a lymphoma, he cut down upon a hypertrophied accessory gland enveloped by a net-work of veins. In a case communicated to him by Lücke, death followed in the train of inflammation and suppuration of a posterior accessory gland, unappreciated during life and discovered at the autopsy.

The goitrous nature of the tumor recognized, it should be ascertained if a pedicle connects it with the thyroid body. Here the author cites a case from Briere⁷ in which a pedicle of two fingers' breadth was not found until the removal of the tumor. It should be remembered that goitres send prolongations in all directions, even to the lower jaw and mastoid process, which do not follow movements impressed upon the principal tumor; otherwise we shall be exposed to diagnostic errors, of which the Arch. gén. de Méd., 1875, ii., page 233, contains a striking example.

Glandular masses which belonged originally to the thyroid body, and have become more or less separated from it by some pathological process, may be called acquired goitres. They are never so clearly separated from the thyroid body as are the true accessory goitres.⁸

In a majority of the cases of accessory goitres the thyroid gland itself has undergone little or no change, while in the cases of acquired goitres the disease has involved that gland.

Upon careful palpation of the thyroid body, a depression may usually be found, whence the tumor has sprung.

¹ Gay's Hospital Reports, vol. xvi. p. 181.

² Rendu Bull. Soc. anatomique, 1873.

³ Czerny, Beiträge zur operat. Chir., 1878, s. 52.

⁴ Du Traitement chir. des Goitres parenchymateux, et en Particulier de leur Extirpation (Lausanne, 1871, page 35).

⁵ Lücke, Krankheiten der Schilddrüse: Handbuch des allgemeinen und speziellen Chirurgie, von Pitha, Billroth, iii., 1, s. 20.

¹ Langenbeck, Archiv, band xxiv., heft 1; Haussman, Arch. gén. de Méd., March, 1880.

² Denkschriften der Académie der Wissenschaften, 1850, I, s. 241.

³ Medecine, Jahrbücher der k. österr. Staaten, I. ii. s. 130.

The growths which follow degeneration of the thyroid body are alone amenable to parenchymatous injection. Madelung advises that as a precautionary measure tracheotomy should be done before an injection is employed. Excepting posterior tumors, extirpation of accessory goitres does not in general offer great difficulty.

ANÆSTHESIA BY BROMIDE OF ETHYL.

The profession is already familiar with the details of the earlier experiments made with this drug, and recently their attention has been directed to it by the death attributed to its employment, by Dr. J. Marion Sims. His theory of the cause of death (from the poisonous action of the agent) is not accepted by Dr. Lewis, who has used the anæsthetic between two and three hundred times, without bad symptoms, in operations not lasting over forty minutes. If Dr. Sims's evidence is not conclusive as to the cause of death, it must be conceded that he presents strong testimony for warning the profession of a drug that may prove, upon additional experimentation, to be more poisonous than chloroform or bichloride of methylene. It remains to be seen whether, from the comparative ease attending its administration, patients will be submitted to its influence while the death-rate is undetermined, or if experiments upon the lower animals are to demonstrate its toxic effects. It is fair to conclude that tests on the human subject, justifiable before the days of sulphuric ether, are no longer so, since the necessities, if not the luxuries, of anæsthesia are already provided for.

THE TREATMENT OF TRANSVERSE FRACTURES OF THE PATELLA.

At a recent meeting of the Medical Society of London, Mr. Rose presented two cases of transverse fracture of the patella by muscular action, with separation of the fragments, treated by him at the Royal Free Hospital. He cut into the joints antiseptically sixteen days after the injury and wired the fragments together, as first performed by Dr. Cameron, of Glasgow. Antiseptic dressings were afterwards applied. In the first case, the temperature never rose above 99° F. nor the pulse above 90. The dressings were changed eight times; horse-hair drainage was employed, and the last hair was removed on the twentieth day after the operation. The wires were cut down upon and taken out on the sixth week. The details of the second case were about the same as those of the first. In the latter, movement at the knee-joint was limited; in the former, the patient could bend his knee to a right angle, walk up stairs and had evidently free use of the rectus muscle. It was thought that bony union had taken place in both cases. In the discussion which followed, the propriety of performing the operation in recent fractures was questioned by Messrs. Bryant, Henry Smith, and Amphlett. Mr. Bryant considered that the result in the second case was very good, but in the first not equal to results in cases he had seen treated in the usual way. He would divide fractures of the patella into two classes, old and recent. In the former, where the limb is almost useless, it is justifiable to run some risk in order to cure the patient. In recent fractures, however, where the grave consequences of opening the knee-joint are dependent upon the protection afforded by a Lister dressing *carefully* applied, exceptions were taken. Mr. Lister and Mr. Rose advised the performance of the operation in recent cases rather than wait until the rec-

tus muscle has had time to become weaker and shorter, and the usefulness of the limb impaired. Mr. Lister strongly deprecated the adoption of this operation by any surgeon who did not fully understand the antiseptic treatment, and thought it wrong to do the operation in old cases as well as in the recent, unless the surgeon was morally certain that decomposition would not follow the operation. If that risk were abolished, it was the surgeon's duty to treat recent fractures in the same way as old ones, it being the only treatment holding out a certain prospect of a good result in all cases.

INGUINAL CASTRATION IN RETAINED TESTICLE.¹

Monod and Terrillon in their memoir on this subject conclude that it is not a dangerous operation. In fifty cases, peritonitis occurred three times, and only once resulted in death. The operation is easy, and is indicated when the testicle is painful, or the seat of grave inflammatory processes (false strangulation).

Hospital Practice and Clinical Memoranda.

A CASE OF TETANUS: RECOVERY AFTER SEVEN WEEKS.

BY C. C. FIELD, M. D., LEOMINSTER.

FEBRUARY 20, 1880. C. K., aged thirty-eight years, of great muscular strength and in robust health, temperate, a manufacturer of combs, while sawing horns received a severe blow upon his right eye by a horn, thrown with great force in a slanting upward direction from a rapidly revolving circular saw, crushing the eyeball up against the upper floor of its socket. There was also a wound in the lower eyelid, an inch and a half long, parallel with its edge and penetrating the cavity containing the eye. Great swelling and ecchymosis soon followed, but not much pain nor febrile action at any time afterwards. A compress wet with cold water was applied to the injured part, and retained there. Four days afterwards (February 24th), Dr. B. Joy Jeffries, of Boston, saw the patient, and thought the eye injured beyond reparation, probably, though, on account of the great swelling, its exact condition could not be ascertained. He advised a continuance of the cold compress, the bowels to be kept open, and the removal of the eyeball if the uninjured eye become affected sympathetically. On the eighth day after the injury (Friday, February 27th), in the night, tetanic symptoms were first manifested by violent contraction of the diaphragm, supposed to be an attack of cramp in the stomach, tetanus not being suspected. This was relieved by the subcutaneous injection of one sixth of a grain of morphia. On Saturday and Sunday, the two following days, the patient complained of a feeling of "lumpiness" in the muscles of the jaw, and the next morning trismus was fully developed. The following day, Tuesday, March 2d, the injured eyeball was removed by Dr. Dennett, of Boston.

At the onset of the trismus the prescription was ten grains of chloral hydrate and ten grains of bromide of potassium alternately once in two hours, and the medicine was taken accordingly. Tonic spasms as they occurred were relieved by hypodermic injections of morphia and by friction with the hands. This treatment was continued through the first and second weeks of the disease.

¹ Arch. gén. de Méd., March, 1880.

During the first four weeks the muscles of the trunk — back, neck, and abdomen — were in a state of rigid *clonic* spasm, drawing the head backward and preventing the body from bending forward. For the same time and through a part of the fifth week violent and very painful tonic spasms affected different muscles of the body and limbs more or less frequently, sometimes slight and relieved by friction, at other times violent, requiring for relief the injection of one eighth to one sixth of a grain of morphine hypodermically. It is a noticeable fact that the tonic spasms occurred in the muscles of the upper part of the body — the arms (not the fore-arms) and neck — and the diaphragm during the first two weeks, and of the lower limbs and back the third and fourth weeks and a part of the fifth.

At the end of the first week (Friday, March 5th), Dr. C. D. Homans, and six days later (Thursday, March 11th) Dr. Calvin Ellis, both of Boston, saw the patient with me in consultation.

Until this time, near the end of the second week, the pulse had been about 84, and the temperature not sensibly elevated above the normal standard. The bromide and chloral had been given without intermission, as at the accession of trismus, and the injections of morphine and friction were resorted to when the tonic spasms required.

The day following the consultation with Dr. Ellis (Friday, March 12th) the patient, having taken ten grains of chloral once in four hours — sixty grains a day — for twelve days, began to show signs of increasing debility, requiring more help in being moved in the bed or from it; his pulse also became more frequent, rising to 96 at noon, 108 in the evening, and 120 at two o'clock in the night, with Cheyne-Stokes respiration.

The question was forced upon our minds whether the present state of the patient was caused by the protracted use of the chloral, or by approaching dissolution. To solve the doubt the use of the chloral was suspended at once, and the next morning the pulse had fallen to 108, at noon to 96, and at night to 84, as before, at which rate it continued until approaching convalescence. For the chloral omitted the subcutaneous injection of morphine — one eighth to one sixth of a grain — once in eight hours was substituted; and after two days, as the quieting effect of the morphine did not last to the end of that time, six or eight grains of chloral were given four or five hours after the morphine. This small quantity had the desired effect. The bromide, morphine, and chloral were continued in this way through the third week, with considerable abatement of the force and frequency of the tonic spasms, and we began to entertain hopes of the final recovery of the patient. But in a day or two afterwards, on Sunday, March 21st, at the beginning of the fourth week, the patient was seized with extremely violent and painful spasmodic contraction of the muscles of the whole body, — trunk and extremities, — with impending asphyxia, the face being livid, from the spasm of the respiratory muscles. A quarter of a grain of morphine was injected under the skin; brisk friction with the hands was kept up on his back and limbs, and mustard applied over the epigastric region. After thirty or forty minutes this spasmodic action ceased. Thirty-six hours afterwards (Monday night) there was a similar but not so severe attack.

Noticing an article in the JOURNAL of April 17, 1879, in regard to the use of arsenic in the treatment of tet-

anus with apparent good results, by Dr. Hodgen and others, of St. Louis, Mo., the administration of five drops of Fowler's solution once in two hours was commenced, the bromide, chloral, and morphine being continued as before. After a week (Sunday, March 28th), on account of an evident increase of the "purty" or bloated appearance of the face, so common in tetanus, the Fowler's solution was omitted, and during the week (the fourth) there was marked diminution of the tonic spasms. Two days later (March 30th) there was an attack of severe cramp in the lower part of the back and legs, and Thursday (April 1st) another similar attack. The solution was again prescribed, and continued through the remainder of that week (the fifth), the sixth, and in diminished doses the seventh. There were no tonic spasms after the administration of the solution was resumed, and the rigidity of the muscles of the back began to relax, so that the patient could bend his head and shoulders forward. In the sixth week the clonic spasms of the masticatory muscles began to yield, so that at the end of that week he could put three fingers into his mouth and feed himself with a spoon. During the seventh week the arsenical solution, morphine, chloral, and bromide were continued, but in smaller doses and at longer intervals, and then omitted, except a small dose of morphine at night for a week or more. At the end of the seventh week he could masticate his food as usual, and was in every way convalescent; and on May 17th, after twelve weeks, his recovery was perfect.

During the first four weeks the tongue of the patient was bitten by the sudden snapping together of his jaws on suddenly awakening from sleep, particularly when under the influence of chloral; for in that state the muscles of the jaw would relax sufficiently to let the end of the tongue slip in between the teeth. This was in some degree avoided by gently rousing him when sleeping too heavily.

Particular pains were taken from the beginning to keep the patient well nourished. While the jaws were closed the nourishment was liquid, such as milk, good gruel, broths, and beef tea, and was taken through a "drinking cup," the small end of which was applied between the teeth, or rather against the narrow space between the teeth that existed, but not of sufficient width to admit it. At first the gruel and broth were strained, as the smallest particle of meal or meat between the teeth excited spasms; but later in the disease, when there was some relaxation of the muscles, or at least less tendency to spasmodic action, rice boiled very soft was added to the milk, and finally chopped meat to the broth. For the first four weeks nourishment was given in this way every second hour; afterwards, when the patient could take rice and meat, prepared as above stated, with the milk and broth, the interval between the meals was three hours. As convalescence advanced there was a return to the usual kinds of food and times of eating.

For the first three weeks the bowels were kept open by gentle laxatives, mostly by a compound infusion of senna, figs, and ginger every second day. In the third week, when a defecation took place, there was excited, strong spasmodic action of the abdominal muscles, with violent and painful bearing-down effort, like the expulsive pains of parturition. Laxatives were abandoned, and a copious enema of warm water was given every morning thereafter till convalescence, with satisfactory results.

At the request of the patient, on Sunday P. M., March 21st, subsequent to the attack of spasms with asphyxia, before described, he was placed in a warm bath with gratifying effect. The next day he had the bath again, but it excited some spasmodic action, and was not repeated.

Besides the medication mentioned above, various applications were made externally, such as mustard plasters to the back and stomach, and fomentations of hops, lobelia, and tobacco upon different parts of the body, the good effect of which was questionable. During the tonic spasms brisk and thorough rubbing of the skin with the hands, conjoined with some oily substance for lubrication, thus preventing the skin from being partially denuded of its outer covering, seemed to be the most efficient external application. The patient, in extreme suffering from the tonic spasms, would call upon the attendants to "rub *hard*, rub *hard*;" and this thorough and long-continued friction threatened abrasion of the cuticle. Among the many domestic remedies — "sure cures" — recommended by friends, "turtle's oil" was one, and this was used most of the time for the inunction. By reflex action, the nerves of the skin being soothed in this way, the spasms seemed in some degree to be allayed.

The patient had most excellent care and comfortable surroundings, intelligent and faithful attendants watching over him day and night; and to this, in no small degree, may be attributed the successful termination of the case.

LEOMINSTER, May 17, 1880.

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. ROTCH, M. D., SECRETARY.

MAY 24, 1880. DR. JAMES C. WHITE, permanent chairman, presided.

PREVENTION OF NEAR-SIGHT IN THE YOUNG.

DR. H. DERBY read a paper on near-sight, which will be found on page 533.

DR. WILLIAMS thought it important that attention should again and again be called to this subject; because the community is so slow to believe in the serious dangers which are now known to attend the excessive use of myopic eyes in study. The ophthalmoscope reveals great and progressive changes, previously unsuspected, in the most important structures of the eye, which are solely caused by continuous accommodation of the sight for small objects, and which, unless arrested, tend to deterioration and even loss of vision. Unfortunately, children who have become near-sighted generally find their chief pleasure in books, and are disinclined to the sports of other children, because they do not see objects around them so well as their fellows. The parents and teachers of such children, pleased with their precocious diligence, are but too ready to encourage excessive application to study and efforts to gain a high rank at school; especially, as for the time no complaint is made of the eyes. It is only when the myopia has reached a degree which will in the future render them incompetent for many pursuits, and especially for those requiring constant use of the eyes, to which they had hoped to devote themselves, and

when, perhaps, much use of the eyes already begins to cause pain, that it is discovered, too late, what a mistake has been made.

Prevention of further increase of myopia, being the only resource against certain misfortune, it becomes of the utmost importance, as a matter of public hygiene, that children, and especially girls, who already have a considerable degree of myopia should not be allowed to attend school after having completed such studies as are necessary for some vocation which will not greatly tax the eyes. They should abandon all efforts to acquire what is termed a higher education, so far as this involves close application of the eyes, because, in attempting this, myopes not only imperil their sight and their future well-being, for the sake of obtaining knowledge which they cannot afterwards make available, but they also create for their children a hereditary tendency to the same disease.

DR. H. P. BOWDITCH remarked that Dr. Derby's paper opened a field for an instructor in hygiene in the schools, and it was a matter of reproach among the physicians who were on the school board that some movement had not already been made in this direction; he thought that the schools would be greatly benefited by such an instructor.

DR. WADSWORTH agreed with the previous speakers as to the importance of the subject. Not only among the poorer classes was progressive short sight too little heeded; it was by no means an uncommon occurrence for parents of means and education to bring their children to the oculist only when the myopia had already reached a very considerable degree.

He said that there was one direction in which it was at present in the power of the school committee of Boston to make a change which could not fail to be of advantage. He referred to the subject of maps. In the geographies now used in the schools many unnecessary names of towns, rivers, etc., are set down on the maps; then the line of the coast is "shaded" by a series of parallel lines, to make the maps look prettier. The result of all this is that the names of places must be printed in quite small type, must often be printed across or among the lines shading the coast, and, in consequence, a great strain of the eyes of the children is necessitated in the effort to find the places sought. The search for a single name on one of these maps is often an exceedingly trying task for a child's eyes. This was not simply a matter of theory, but he spoke from repeated personal observation in his own family. If the committee would demand simpler maps, with fewer names of places and no shading of coast lines, both time and effort would be saved to the children, and one of the evil influences of school life causing near-sight would be removed. As for the matter of expense, such maps as suggested would cost less rather than more than those now in use.

PSEUDO-MUSCULAR HYPERTROPHY.

DR. J. J. PUTNAM showed a typical case of pseudo-muscular hypertrophy in a boy of ten years, the disease being of several years' duration.

Not only were the muscles of the legs and thighs, back, scapula, and upper arm involved, but the tongue was unusually broad and thick, and the lines of the face were thickened and dense.

No cause could be discovered either in his own or his parents' antecedents.

In speaking of the pathology, Dr. Putnam said that

he thought this affection was probably related to the so-called "hereditary form" of the progressive muscular atrophy, and much less closely, if at all, related to the usual adult form of that disease.

CEREBRAL HÆMORRHAGE AND FIBROUS TUMORS OF UTERUS.

DR. SHATTUCK reported the case. M. S., sixty years of age; profuse uterine hæmorrhages at the age of forty-two; for ten or twelve years continued to menstruate. She consulted an eminent gynecologist twelve years ago, who examined her, and said, "My good woman, I can do nothing for you, and before many weeks pass the undertaker's cart will stand before your door." She never gave up work but for a day or two at a time. During the last six weeks no uterine hæmorrhage. Four years ago profuse epistaxis. In October mental aberration for two weeks; January 8, she was better and stronger than for years. She felt very well on Monday, May 17th, doing her washing easily. At four o'clock in the afternoon numbness of left arm; at six P. M. numbness and loss of power in left leg. On Tuesday pain in head and limbs, but no affection of speech or intellect. On Wednesday coma, from which she could be roused for a short time. Her death was easy and quiet, on Friday evening, four days after the attack; there was a loss of consciousness during the last two days.

DR. CUTLER exhibited the specimens. There was extreme atheromatous degeneration of the arteries at the base of the brain, the change extending to the minute subdivisions of the vessels in many instances. A careful search did not reveal the presence of an embolus. The convolutions were flattened, more especially over the right convexity, though the left was also affected, but to a less degree. Atrophy was noticed on the left hemisphere in a small area near the longitudinal fissure, directly behind the fissure of Rolando. On section it was found that hæmorrhage had occurred into the substance of the right hemisphere at a point vertically under the angle of junction of the fissures of Rolando and Sylvius. A clot the size of a small hen's egg was turned out. The great centres were apparently healthy.

The uterus contained a large number of small interstitial and submucous fibrous tumors, which had undergone a greater or less degeneration. One polypoid tumor completely plugged the os internum. Some of the largest tumors contained deposits of lime salts.

EMPHYEMA: ANTISEPTIC OPERATION.

DR. J. B. AYER read a case of emphyema occurring in the prostate.

The patient, a girl, three and a half years old, previously healthy, was attacked with acute bronchitis early last February. Before recovering from the attack, which was of ordinary severity, an effusion insidiously formed in the right side of the chest, and four weeks after the commencement of bronchitis the right pleural cavity was found to be distended with fluid.

During the following thirty-five days I endeavored to remove the effusion by the energetic use of hot poultices, iodine ointments, diuretics, and laxatives, at the same time keeping up the patient's strength by tonics, stimulants, and nourishing food. In the first ten days of this treatment the fluid was gradually undergoing absorption, but after that time no further improvement was noticed, and later the amount increased.

Examination of the chest with Dr. F. C. Shattuck, April 7th, revealed flatness over the right lung except at the summit. The apex beat was found one quarter of an inch outside of the line of the nipple. There was immobility of the right side of the chest and absence of vocal fremitus. We agreed that surgical measures ought not longer to be deferred.

April 8th, Dr. Warren (Dr. Shattuck and Mr. Ballard being present) aspirated in the sixth intercostal space in the line of the axilla, and finding pus, immediately made a free incision, one inch long, through which came, with a gush, over twelve ounces of thick, odorless pus. A rubber drainage-tube was inserted and attached to the sides of the wound, and a long ligature sewed to the tube was allowed to fall outside.

Dr. Warren did not think it advisable to syringe the chest. The operation was performed under carbolic spray, and the full antiseptic dressing applied and bound in place by several long bandages. Very little ether was given, as the child did not take it well.

Twenty-two hours after the operation the dressings were changed. During this time additional bandages were twice applied, on account of serous oozing. She began to rest upon the healthy side. The temperature had fallen to 98.2° F., pulse to 114, and respiration to 35. The change was made under carbolic spray, with assistance of Mr. Ballard. The discharge was found to consist of odorless, bloody serum, entirely free from pus. During the following twenty-four hours there was less serous discharge, but there was sufficient to require a change of dressing. Four days later the third change of dressing was made; there had been but slight discharge from the wound, and there was no flow through the tube on removal of the dressing. A few drops of thin pus were noticed on the protective.

At this time she was troubled with a severe cough, which proved very obstinate, and distressed her eight days, resisting all treatment. Examination of the chest showed that the cough was due to bronchial affection and that both sides were alike involved. The pulse during this time was about 140; the temperature fluctuating between 99° F. and 103° F., and respiration between 60 and 70.

The fourth and fifth changes in the dressings were made at intervals of three and seven days, Mr. Jaques kindly assisting. At the fifth dressing it was found that the drainage-tube had been drawn within the pleural cavity, and that the opening in the chest had partly closed. With difficulty the tube could be brought within reach of the dressing forceps by pulling tense the silk guide. One teaspoonful of odorless pus followed the withdrawal of the tube. The tube was shortened and reintroduced. At this time the cough had disappeared, and the child was making rapid improvement.

Ten days later the dressing was changed for the sixth time. She had been fretting a little about the arm, which was still confined to the side by bandaging. The cause of discomfort proved to be an abscess in the axilla, which broke during this dressing, and discharged freely.

Three days later the dressing became disarranged from poulticing the abscess and from walking about (it was warm weather, and I had allowed her to go out-of-doors), and required changing.

I found that the drainage-tube contained a plug of fibrin, showing that it must, for a brief period, have come in contact with the air.

I removed the drainage-tube at this time, and dressed the wound as before. I think it would have been safe to have removed the drainage-tube several days earlier, as there was only a few drops of discharge from the wound daily.

Eight days later, when the dressing was removed, it was found that the wound had healed. This was the thirty-eighth day after the operation, and seventy-third day after the discovery of the presence of the effusion.

The lungs now show no sign of disease. Normal respiration is heard throughout, and the slight dullness which has been heard at the right base is rapidly disappearing. There is no difference in measurement between the two sides of the chest. The child is rapidly gaining strength.

It is worthy of especial mention that not more than two drachms of pus came from the wound after the operation.

ECZEMA.

DR. BETHUNE read a paper on *Ecze-ma* and its Relations, which will be published.

INTESTINAL OBSTRUCTION.

DR. FIFIELD reported two cases of intestinal obstruction, one of which, after existing for twenty-four hours, was relieved by full doses of belladonna and Epsom salts, given alternately every two hours.

The second case was a woman, in whom the obstruction had existed for two weeks, and where the diagnosis of lead poisoning was made by the attending physician.

The coils of intestine were plainly seen contracting beneath the abdominal wall, and Dr. Fifield, having been called in consultation, at once made the diagnosis of intestinal obstruction. Belladonna and Epsom salts were also given in this case, but without effect. Dr. Fifield then operated, making the incision according to Nélaton. The patient died. — DR. MINOT said that he could see why the belladonna was given in the second case, but that he did not understand why the Epsom salts were given, as the intestines were already contracting excessively.

DR. FIFIELD said that he had given the salts at a last resort.

DR. HODGES asked Dr. Minot why he thought that the belladonna should be given.

DR. MINOT answered merely as a hypnotic, just as he would have given opium, and that considerable relief can be obtained by aspiration in these cases. — DR. WARREN remarked that Dr. J. Hutchinson had written a paper on this subject some years ago, advising manipulation after complete etherization. He also mentioned the case of a new-born infant, which he had seen in consultation with Dr. J. B. Ayer, where complete relief was obtained after etherization.

THE PENNSYLVANIA STATE MEDICAL SOCIETY.

The session of this year was held at Altoona, on the eastern slope of the Allegheny Mountains, at the head of the Logan Valley, on the main line of the Pennsylvania Railroad, about nine hours' ride from Philadelphia. It is at this place also that the railroad company has its most important construction and machine shops. Altoona boasts a large hotel, the Logan

House, which is first-class in its appointments, and is owned by the Keystone Hotel Company. It is twelve hundred feet above the sea level, and, although warm enough during the day, is cool and comfortable at night. Hay fever is said to be unknown. Among the excursions is one to Cresson Springs, fifteen miles from Altoona, which is a popular place of summer resort, twenty-two hundred feet above the sea, beautifully situated, near the Pennsylvania Railroad. Between Altoona and Cresson are the famous horse-shoe curve and the Gallitzen tunnel (seven eighths of a mile in length). Another trip is by the Bell's Gap Railroad, an offshoot from the main line, about eight miles below Altoona. This little road is narrow gauge, and as the diminutive train meanders along the mountain side, and creeps over astonishing trestle-bridges (like a cat walking an exceedingly high fence), the panorama of mountain scenery is wonderfully grand and impressive. The grade of this road is on an average one hundred and fifty feet to the mile, the maximum being one hundred and ninety-four feet; its length is a little over seven miles, and its termination is eleven hundred and sixty feet higher than its beginning. The favorite seat in ascending the mountain is in a car in front of the locomotive; on the way back the same individual generally chooses the rear car; and it has been noticed that one experience of this excursion, like that of passing under the fall at Niagara, is generally sufficient. Both of these trips were taken by the delegates, with great satisfaction and enjoyment. A reception by the Blair County Medical Society, with a social supper at the Logan House, completed the entertainments.

This meeting was the thirty-first annual session of the State Society. The meeting began May 19, 1880, and continued three days. The usual reports were received deprecating the low standard of qualifications and the easy terms upon which diplomas are obtainable, and the example of the Harvard Medical School was pointed out as worthy of imitation by other colleges. In the report on Medical Legislation, the traffic in bogus diplomas was severely condemned, and a committee appointed to confer with the representatives of the regular schools upon the best method of relieving this community of a standing disgrace. Speaking of the existence of sects in medicine, such as hydropathic, eclectic, homœopathic, vitopathic, etc., it was declared that twenty chartered institutions devoted to these pathies are in operation in the United States, and most of them are openly engaged in the diploma traffic.

MEDICAL EDUCATION.

Dr. Andrew Nehring, in the president's address, said that education in most medical colleges had made but little real progress for thirty years. He earnestly advocated greater uniformity in the qualifications for the degree, the establishment of an efficient preliminary examination, and the extension of the collegiate course to four years.

HYGIENE.

The committee on hygiene in its report considered particularly the short-comings of the plumber and building contractor, and called for legislative action in order to establish the office of inspector of plumbing and drainage in every town and city provided with a system of sewerage, in order that all house connections, etc., could be regularly examined. A committee was

appointed to memorialize the legislature upon this subject, consisting of Drs. Lee, Dale, and Woodbury.

The number of papers that were offered to be read and the inevitable appearance of some whose quality was inversely as their length again demonstrated the need of the appointment of an examining committee, to whom all papers should be sent in advance of the meeting, so that those of inferior merit should not occupy the time of the session to the exclusion of better ones. We have room here only for a mention of the principal ones.

THE TREATMENT OF ASTHMA.

Dr. William Pepper, of Philadelphia, read a communication entitled *Some Practical Remarks on the Treatment of Asthma*. Asthma he considered as including not only the attacks, but also the peculiar tendency to the paroxysms which exists in the interval between them; in the same manner as epilepsy is constituted not simply by convulsions, but by the nerve lesion or disorder that leads to their recurrence. He believed that the essential factor in asthma is "a condition of morbid susceptibility or of actual disease of the nervous filaments supplying the ramifications of the bronchial tubes, and, perhaps, of the thoracic ganglia of the sympathetic." The principal or most common factor associated with asthmatic attacks is bronchial congestion; but the paroxysms may be induced simply by reflex irritation, from indigestible food, for instance, those showing a resemblance in pathology to spasmodic croup. In the treatment the removal of the underlying morbid condition and the palliating of the actual attacks both demand consideration. Two classes of asthmatics had been noticed particularly, the plethoric and the anæmic. The first are characterized generally by sedentary habits and the use of alcohol; and more or less swelling of the liver, sluggish digestion, and high-colored urine with excess of urates, coexist. The chest walls are apt to be heavily coated with fat, the heart's action is labored, and the skin is very susceptible to sudden changes of temperature, or to draughts and damp. Now if in such subjects a tendency becomes established to bronchial congestion, repeated attacks of asthma will readily occur. Bronchial catarrh gradually becomes a more prominent feature, a varying amount of vesicular emphysema is established, and trifling causes will now invite the attacks. Some of the worst cases belong to this group. The second class are poorly nourished and decidedly anæmic. Asthma is readily instituted in such patients, and indeed the tendency to spasmodic nervous affections not rarely precedes any local bronchial trouble, although bronchial catarrhs are also of frequent occurrence. In these cases phthisis may ensue, but more frequently emphysema (atrophic or hypertrophic) occurs, the heart fails seriously, and the case assumes grave features. Among the principal indications for treatment are: (1) restoration of tone to the skin and the muscles; (2) relief of congestion of the liver and of gastric catarrh; (3) improvement of the power of the heart and of the peripheral circulation; (4) removal of morbid conditions of bronchial mucous membrane, and of the morbid irritability of the nerves supplying the pulmonary tissues; and (5) repairing the vesicular emphysema that has resulted from the asthmatic attacks and the persistent bronchitis.

Gymnastic exercises, baths, frictions, inunctions, and the careful hygienic management of the case are in-

sisted upon as essential to the successful treatment. Changes of climate, especially from a damp to a dry, bracing atmosphere, is recommended as a remedy of primary importance. Where abdominal plethora is marked, the use of mild salines, such as Carlshad or Bedford water, with an occasional blue pill, is needed. Mineral acids, with quinia and strychnia, are often indicated. In anæmic cases a pill of strychnia, digitalis, arsenic, and iron has been used with advantage, after due attention had been paid to the digestion. Where the heart is embarrassed by local congestions, dry cups to the chest twice a week afford great relief. Associated bronchitis (subacute) requires alkalies, iodide of potassium, and perhaps corrosive sublimate in small doses. In cases of copious muco-purulent secretion the use of copaiba and erydriodene are especially valuable. Spasm of bronchial tubes calls for the bromides in small doses, or a hypodermic of morphine and atropia, but the continued use of sedatives is injudicious. The nitrite of amyl is sometimes palliative. Inhalations of carbolic acid and iodine are beneficial, and Waldenburg's apparatus affords the best means of pulmonary gymnastics, especially to be recommended where the vital capacity is below the average. Where the paroxysm is reflex, a mild emetic is sometimes useful; but due attention to the stomach and the secretions is imperative. Asthma cigarettes, consisting mainly of powerful sedatives and nitrate of potassium, frequently yield relief during an attack, but the writer had obtained excellent results from the following combination given internally:—

℞ Ammonii bromidi	5ij-5ij.
Ammonii chloridi	5ss.
Tr. lobelia	15ij.
Spts. ætheris comp.	ʒi.
Syrup. acacia	q. s. ad ʒiv. M.

S. A desert-ponion in water, repeated every hour or two during the severity of the attack.

Dr. J. Solis Cohen exhibited his method of hyperdistention of the air cells by means of an ordinary perfume atomizer bulb. In cases of catarrhal character, where the bronchioles are clogged and there is more or less collapse of air cells, a full inspiration, followed by auto-inflation by this hand-ball through a rubber tube held in the mouth (the patient at the same time holding his nose), is generally followed by forcible expiration and free discharge of bronchial secretions, giving great relief to the patient.

Dr. William Goodell read a paper on the Treatment of Uterine Fibroids by Enucleation.

BROMIDE OF ETHYL.

Dr. John B. Roberts presented a communication upon the use of the bromide of ethyl in practical surgery. Dr. Lewis also held a clinic, at which eleven patients were ethylized with the best results. Dr. Benjamin Lee read a paper on the alkaloïds of cinchona, in which he recommended a mixture of the cheaper alkaloïds with fifteen per cent. of quinia, in a preparation known as quin-quina. Dr. S. M. Ross, of Altoona, exhibited a case of double amputation at the knee-joints after railroad crush; the remarkable feature in the case consisting in the fact that the operation had been performed with only the instruments contained in a small pocket case.

The oil of ergot and oleic iodoform (oleic acid ʒi., iodoform gr. xxiv.) were recommended as applications in skin diseases by Dr. John V. Shoemaker

Professor Pancoast spoke of the formation of a new joint after excision; and also of the importance of moderate, not extreme, extension and rest in the treatment of joint disease. He also advocated puncture of the capsule when it is distended in the stage of effusion. Dr. Hewson reported cases of synovitis of the knee and of ovarian tumor cured by clay dressing.

Dr. Coover, of Harrisburg, showed the silicate-of-soda apparatus for spinal deformity, which is lighter and more durable than plasters.

The leather jacket was recommended by Dr. Charles T. Hunter during convalescence and for beginning lateral curvature.

Reports on progress in obstetrics, by Dr. J. T. Carpenter, of Schuylkill County; in surgery, by Dr. John H. Packard, of Philadelphia; in mental disorders, by Isaac N. Kerlin, of Media; in medicine, by Dr. Thomas Shaw, of Allegheny; and in hygiene, by Dr. Benjamin Lee, were also on the programme.

PROCEEDINGS OF THE CONNECTICUT RIVER VALLEY MEDICAL ASSOCIATION.

THE annual meeting was held at Towns' Hotel, Belows Falls, Vt., May 5, 1880. Thirty members were present; DR. A. P. RICHARDSON, president, in the chair.

DR. PORTER read a paper on Diseases of the Respiratory Organs. The treatment of thirty or forty years ago, with venesection, antimony, and mercury, was compared with that of the present time, by quinine, stimulants, and wet applications. It was shown that the mortality is much less now than under the old treatment.

In the discussion which followed, DR. WEBSTER remarked that he had met with a case of pneumonia where the temperature was $108\frac{3}{4}^{\circ}$ F., the patient living only three or four days afterwards. DR. GRAY had seen a case of typhoid fever with a temperature of $107\frac{1}{4}^{\circ}$ F., recovery following. The patient took sixty grains of quinine at one dose.

FOREIGN BODY IN THE LUNGS.

DR. SPOFFORD reported the case of a young man who drew a head of herd's grass into his lungs August 3d. Not much trouble ensued until August 21st, when he had a chill, with pain and dullness over the lower part of right lung. September 14th, abscess of lung broke and discharged, producing considerable strangling. Bits of the herd's-grass head appeared in the sputa. November 25th, he had an attack of hæmoptysis; December 3d, another; and March 5th he raised a head of herd's-grass two and one fourth inches long, which was shown the members. A good recovery followed.

DR. D. CAMPBELL reported a similar case, where a pint of offensive pus was discharged from the abscess.

SUBMUCOUS FIBROID TUMOR OF UTERUS.

DR. BRYANT related case of a woman who had a chill a few days after her third confinement, followed by a temperature of $107\frac{1}{2}^{\circ}$ F. Cleansing uterine injections were used. A state of septic irritation existed for several days. In three weeks the introduction of a tube into the uterus was found to be difficult, and a

uterine fibroid tumor the size of a hen's egg was discovered. This had acted as a valve, preventing a free discharge of the lochia, and was the controlling factor in producing the septicæmia. It was removed, with the use of speculum, by twisting, the pedicle being two fingers in breadth. Four days afterwards a severe hæmorrhage ensued. Patient recovered.

Recent Literature.

On the History and Statistics of Partial and Complete Resections of the Scapula. By GEORG F. B. ADELMANN. Professor of Surgery at Dorpat.¹

In an exhaustive critical and historical analysis of 195 cases of partial excision and of 66 complete extirpations of the scapula, Professor Adelmänn groups these operations according to the date, and the ages, sex, and nationalities of the patients, and the causes, whether traumatic or pathological. Of the 195 partial excisions of the scapula, 153 were for injuries, 41 for diseases, and 1 for unknown cause, with a mortality of 26.3 per cent. for the determined cases of resection for injury, and of 19.5 per cent. for the resections for disease. Of the 66 complete excisions of the scapula, 22 were for injury, 43 for disease, and 1 for unknown lesion, with a mortality of 27.2 per cent. for the traumatic and 19 per cent. for the pathological cases. Of the 261 excisions of the scapula — 66 total and 195 partial — the sex was recorded in 252: the males presented 223, with 176 partial and 47 complete resections; and the females 29, with 15 partial and 14 complete excisions.

In his extended bibliographical references, Professor Adelmänn cites F. Ried, O. Heyfelder, G. B. Günther, Stephen Rogers, H. Culbertson, and the Surgical History of the War of the Rebellion, 1861-65. From the last treatise he quotes quite freely, introducing his citations in the following terms: —

"This compilation by Otis classifies the injuries that came under observation during the North American war, from 1861 to 1865, and constitutes a work the like of which the European continent does not possess, presenting a splendid example, in a surgical point of view, for future compilations of results obtained in our recent European wars. The cases which are of interest for the operation under consideration, partly form a distinct class in this collection, and partly are scattered among the traumatic lesions of the bones making up the shoulder-joint. They form a prominent contingent of our table of partial resections of the scapula, and are of great value for war surgery. The arrangement in Otis's work is readily understood. While the text contains reports of wounds and operations of the war of the rebellion, extensive annotations at the end of each chapter testify to a comprehensive acquaintance with entire surgical literature; so that, although the cases detailed by Dr. Otis indicate only a more or less partial removal of the shoulder-blade, extensive references to a series of partial as well as total scapular operations are found in the annotations. Continuing Dr. Rogers's tables, Dr. Otis adds the more recent operations. Among them

¹ Zur Geschichte und Statistik der theilweisen und vollständigen Schulterblattresektionen. Von Dr. Georg F. B. Adelmänn, Professor Chirurgie emer. Dorpatens. Separatabdruck aus der Vierteljahrsschrift für praktische Heilkunde, Bd. cxlvii., 1879.

I have found — besides such as have been published by other writers — reports of several cases which I have been unable to verify, and which, of course, I could not take up on my tables. For instance, Otis cites a case of Professor Pirrie, which, however, in details, exactly agrees with Syme's case in 1856, and quotes as authority the *Principles and Practice of Surgery*, third edition, 1873, page 812; a work that I was unable to obtain. Under No. 5 is given a case published in the *Dublin Press*, November 13, 1861, without name of operator, in which the removal of the shoulder-blade, by reason from necrosis, on a patient named Messick, resulted in recovery with useful arm. Farther, Otis calls attention to a case of Dr. Twitchell, of Keene, New Hampshire, in 1838, in which the scapula, clavicle, and arm are said to have been removed. The patient died after several months of relapse. (*New York Medical Journal*, 1869, vol. viii., p. 434.) In the same report, a case of Dr. Krakowitzer, New York, 1868, is said to be described, in which the scapula was removed by reason of chondroma, five years after amputation of the arm, the patient succumbing from exhaustion seven days after the operation. The *Dublin Press*, as well as the *New York Medical Journal*, have, in spite of many efforts, proved inaccessible to me. Furthermore, it is stated in Otis's vol. ii., p. 498, note 2, that Surgeon H. L. Thomas, of Richmond, reported a case of the Confederate army, in which Surgeon B. G. Dysart resected, on June 30th, the entire scapula and the head of the humerus of a corporal who was wounded in the left shoulder on June 27, 1864. Further details are wanting."

Dr. G. A. Peters, in his history of a case of excision of the entire scapula for cancerous disease, in the *American Journal of Medical Sciences* for July, 1878, vol. lxxvii., p. 103, remarks that since the paper by Dr. Stephen Rogers the records of resections of the scapula have not been tabulated. The student will find, in the careful tabulations of Professor Adelnmann, the subject brought up to date.

A Text-Book of Physiology. By M. FOSTER, M. A., M. D., F. R. S. From the third and revised English edition. By EDWARD T. REICHERT, M. D. Philadelphia: Henry C. Lea's Son & Co. 1880.

The apology which this reprint offers for its existence is that it has been "adapted to the wants of the American student." This adaptation consists in the insertion of a mass of anatomical data, which seem to us eminently unnecessary, and which detract from the symmetry and perfection of the original work. Why, with all the anatomical and histological books at their command, American students should require to be fed on pap especially masticated for them, or why they should be so much inferior to their English cousins in the knowledge of such elementary anatomical facts as are intercalated into this edition, we fail to perceive. It is extremely exasperating, in the midst of a brilliant discussion of the functions of an organ or of its secretions, suddenly to find one's self wading into a waste of dry anatomical data, which are as much out of place in such an association, as a lot of foot-notes regarding color and perspective would be on the face of a beautiful painting. An artist assumes that his inspectors know enough about such matters to enjoy and profit

by his work, while those who desire more ample instruction in regard to detail can seek it in appropriate books and charts. Guided by a truly artistic instinct, Foster wisely limited himself to his subject, — pure physiology, — and confined his anatomical references to such facts as are actually involved in the interpretation of function.

The only point wherein this edition can justly claim commendation lies in the fact that the American editor had the good sense not to offend by attempted emendations of the original text. We prophesy for this book a justly merited brief career, because students will inevitably seek the original and unadulterated article when they realize that anatomy can never be properly studied from foot-notes, and that the pleasure of a physiological demonstration is only marred by the intrusion of extraneous and superfluous matters.

G. M. G.

A Hand-Book of Hygiene and Sanitary Science. By GEORGE WILSON, M. A., M. D., etc., etc. Fourth edition enlarged and carefully revised. Philadelphia: Lindsay and Blakiston. 1880.

The previous editions of this book have made it known as a very excellent one. In order to keep it up to date much new matter has been interpolated throughout, but the page has been somewhat enlarged, so that the size of the volume has not been materially increased. A new introductory chapter, giving a brief historical sketch of the progress of sanitary science and of recent sanitary legislation, has been substituted for the introductory chapter which appeared in previous editions. The author, who is the medical officer of health for the Mid-Warwickshire Sanitary District, embraces the belief in the *de novo* origin of enteric fever, and states that, whether the disease is produced by befouled air or polluted water, there is a constantly accumulating amount of evidence which goes to prove that neither the air nor the water need be tainted with the specific contagium of the disease; he does not, however, explain why it is that such vast amounts of befouled air and polluted water are constantly consumed without giving rise to typhoid fever. He again says: "In villages and country districts an epidemic of typhoid fever points to polluted wells, bad drainage, or filthy privies, all of which may originate the disease in the first instance, as well as be the means of propagating the specific contagium when it is developed or introduced. It cannot be said that he is wrong, but the present state of knowledge on this subject hardly justifies such positive statements.

The book as a whole can be warmly recommended.

—The Medical Association of Central New York held its thirteenth annual meeting at Rochester on the 18th of last month. The occasion seems to have been an agreeable one. Various papers were read. The address of the president, Dr. Hyde, touched upon medical progress. The committee on prizes offered twenty-five dollars for the best essay on Needed Legal Reforms regulating the Study of Medicine; also a prize of twenty-five dollars for the best paper on a subject to be chosen by the writer.

—Dr. A. Fred Swaine Taylor, the well-known toxicologist and writer on medical jurisprudence, is dead.

Medical and Surgical Journal.

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THE MEETING IN NEW YORK.

JUDGING from the accounts we have thus far received, the meeting of the American Medical Association promises to be one of the most largely attended and pleasant gatherings which have occurred since its foundation. Early estimates have placed the number of visitors at considerably over one thousand, and certainly nothing could be more satisfactory than the preparation made by the committee of arrangements for their entertainment. The good effects of the present improved organization are beginning to make themselves manifest in the disappearance of unprofitable discussions on ethical or parliamentary questions, and a more strict attention to the legitimate objects of the Association. The list of communications, which we have already given, is a very creditable one. We cannot help feeling, however, that this would improve from year to year were some more desirable method of publication devised than that now existing. Under the present arrangement no one of the members now in New York will be able to judge fairly the work accomplished until after the close of the present year. The greater facilities which our medical periodicals give for the prompt appearance of articles should be recognized by the Association, and we have little doubt that were the rule which retains all articles for the ponderous volume of Transactions exclusively abolished, a much greater inducement would be held out to the best men in the country to bring the results of their labors to the annual meetings. Events follow one another so rapidly nowadays that original work is liable to become stale if it be subjected to a long period of incubation before it sees the light. Few men who have been subjected to the annoyance of long delays in the appearance of Transactions or of comprehensive works by numerous authors will be inclined to repeat their experience. That the present system will not continue much longer in existence is evident from the tone of the president's address. The number of societies devoted to specialties which are springing into existence every year, and take advantage of this great gathering of the profession, is becoming one of the new features of the day. Monday last, the day before the opening of the meeting, was as busy a day of the week, probably, as any of those which succeeded it. The Association of Medical Colleges held its meeting on that day, as did also the Laryngological Society; and a meeting was called for the formation of a new national surgical society. These are to be counted among the good influences exerted by the parent association. Such a powerful

and influential body can easily afford to encourage special work of this kind, which will enable it to devote its energies to questions of a more general bearing upon the welfare of the country and of medical science than it has hitherto attempted. The address of Dr. Sayre, the president, which we give below is a patriotic tribute to American medicine, and contains many interesting suggestions to the members. It is evident that he sees the importance of a departure from the present custom of multiple periodicals, which is so great a hindrance to the progress of medical literature. While we are not prepared to indorse his method of overcoming this evil, arguing from the society's point of view, we feel quite sure that our best journals would not look upon it as in any way prejudicial to their interests.

Miscellany.

THE AMERICAN MEDICAL ASSOCIATION.

ADDRESS BY THE PRESIDENT, PROFESSOR L. A. SAYRE.

GENTLEMEN OF THE AMERICAN MEDICAL ASSOCIATION. — Before entering upon the duties of the high office to which you have elected me, I wish to return you my sincere thanks for the distinguished honor thus conferred, and to pledge you that I will endeavor to discharge its duties to the best of my ability.

No one can feel more keenly than I do my own incapacity properly to fill the distinguished position to which you have elected me, or more sincerely regret that some other, more competent and more worthy of the honor, had not been elected in my place. But as your too partial friendship has thus elevated me to this post, I must appeal to your generosity to overlook any of my short-comings, and rely upon your mutual aid to assist me in the discharge of the important duties thus imposed.

Who can properly appreciate the value of this Association, or the immense advantage it has already been to the medical profession throughout our whole country?

Contemplate for a moment the difference in the *morale*, the devotion to scientific investigation, the mutual respect and good feeling between its members at the present time and its condition when this Association was organized. At that time there were often envyings, jealousies and heart-burnings, fault-finding and detraction. Now each one seems so engaged in endeavoring to improve himself and elevate his own position in the profession that he has no time to devote to studying his neighbor's faults, much less accurately to scrutinize and publicly herald his seeming defects.

The science of medicine has been so much enlarged in all its different departments by the minute researches now demanded, and by the great advance and rapid progress of many of its specialties, as to require that every moment of a man's time be occupied in the closest study if he would keep himself abreast with the daily improvements in our profession. And he who is thus occupied has no time to study the defects of others. By this constant study to improve ourselves and advance our science, the whole profes-

sion becomes more elevated in tone; and we already see that it is becoming more and more respected by the community at large.

Let us contemplate for a few moments what has been done by the profession in America for the improvement of medical and surgical science and the relief of suffering humanity. Many years ago, Sydney Smith, one of England's most popular authors, said, in the *Edinburgh Review*, "The Americans are a brave, industrious, and acute people, but they have hitherto made no approaches to the heroic, either in their morality or their character. During the thirty or forty years of their independence they have done absolutely nothing for the sciences, for the arts, for literature, or even for the statesman-like studies of politics and political economy. . . . In the four quarters of the globe, who reads an American book, or goes to an American play, or looks upon an American picture or statue? What does the world yet owe to American physicians or surgeons? What new substances have their chemists discovered, or what old ones have they analyzed? What new constellations have been discovered by the telescopes of Americans? What have they done in mathematics? Who drinks out of American glasses, or eats out of American plates, or wears American coats or gowns, or sleeps in American blankets?"

It would seem to me that the very Declaration of Independence, and the willingness of the signers to sacrifice life to obtain it, was an act of heroism equal to any recorded in history. And the organization of the government under constitutional law, which has yielded such results as were never before attained, is an evidence of statesmanship and of knowledge in political economy which has been seldom equaled and never surpassed. As to the question of American manufactures and the nations that use them, we can safely refer to the reports of our chamber of commerce for a satisfactory answer. American science has no need to be ashamed of its Henry and its Morse, its Bache, Peirce, Newcomb, Draper, Dana, Marsh, Gray, Hall, and its adopted Agassiz. Nor has the *American Journal of Science* anything to fear by comparison with its European contemporaries. But to the question, "What does the world yet owe to American physicians and surgeons?" we would venture a more full reply, although time will not permit us to revert to more than a few of our professional achievements.

First among the greatest boons ever conferred upon suffering humanity stands "anæsthesia," an American suggestion, and one that immortalizes the name of Morton. Who can ever estimate the value of this discovery, or who can accurately describe the contrast between the former agony necessarily endured in many surgical operations and the present absolute oblivion of all pain,—the happy, tranquil, undisturbed sleep while the flesh quivers under the knife? When we contemplate the millions of human beings on the earth, and consider the fact that at every moment of time, in some part of the civilized world, hundreds, if not thousands, are receiving the benefits of this great discovery, the mind becomes overawed at the magnitude of the blessing, and even imagination fails to comprehend fully its benefits.

Ovariectomy, another American contribution to the medical profession, has done probably as much toward saving life as any other surgical discovery in the nineteenth century. It was first practiced in 1809, on

Mrs. Crawford, in Danville, Ky., by Dr. Ephraim McDowell. Although honestly and modestly reported, eight years afterward, in the Philadelphia *Eclectic Repertory and Analytical Review*, it still made no impression on the professional mind, but was received rather with derision and scorn, until Dr. Atlee, in 1844, revived the operation, and by persevering effort, in spite of all opposition and the very general condemnation of his contemporaries, was enabled at last by his numerous brilliant successes to establish the operation on a permanent basis. At the present time it is acknowledged as the proper operation to perform, in certain cases, by every medical school in the civilized world. Dr. Peaslee says that "in the United States and Great Britain alone ovariectomy has, within the last thirty years, directly contributed more than thirty thousand years of active life to woman, all of which would have been lost had ovariectomy never been performed."

In gynecology, the whole professional world cheerfully and gratefully acknowledges the original and invaluable contributions of Sims, Thomas, Emmet, Peaslee, Atlee, Kimball, Dunlap, Minor, and others in this department.

The new operation of litholapaxy, which consists in the entire fragmentation of calculous material in the bladder, and the prompt and entire removal of the debris by aspiration through a tube passed by the urethra at a single sitting, first performed and described by Dr. Bigelow, of Boston, is one of the grandest triumphs of modern surgery, one of which any American surgeon may feel justly proud.

In conservative surgery, we certainly compare favorably with any other nation. The mechanical treatment of diseases of the joints, by which means the patients are able to take free exercise in the open air during the whole progress of the disease, thus acquiring power to overcome the constitutional dyscrasia better than by any means heretofore employed; and, when the disease has progressed beyond repair, the sub-periosteal excision of the joint in such a manner as to leave the muscular attachments in their normal position, and by judicious after-treatment to restore them with but slight deformity and almost perfect power of motion,—these certainly are triumphs in surgery of which the American profession may well be proud.

In the *Lancet* of February 14, 1880, Mr. Roderick MacLaren, M. D., surgeon to the Cumberland Infirmary, in his presidential address to one of the branches of the British Medical Association, on The Advances in Surgery during the Past Twenty Years, says, "No account of the recent progress in surgery can justly omit the application of the principle of absolute rest to diseases of the vertebrae. It is done by inclosing the body in a plaster-of-Paris jacket. Though only introduced into this country about two years ago, it has established itself as an *incontrovertible success*." This is another triumph for American surgery, and is justly admitted not only in England, but in all parts of the civilized world.

When we contemplate the misery and suffering of the unfortunate "hump-back," who, after years of torturing treatment, has for its termination only deformity or death, or the patient with a bad lateral curvature, who, in addition to the deformity, has for years suffered constant agony from the application of the cruel instrument of torture, intended for his relief, but

never successful, and compare his condition with that resulting from the present mode of treatment, which is void of all danger, perfectly painless in its application, allowing the freest exercise and enjoyment during its progress, always affording immediate relief even in cases that have passed beyond the hope of cure, and in the majority of cases, when the treatment has been commenced at a proper time and judiciously carried out, terminating in a perfect result. — frequently leaving no trace of deformity as an evidence of its previous existence. — we feel that American surgery has a right to congratulate herself that she has contributed this great boon for the relief of human suffering.

In laryngology, we can certainly claim Green as a pioneer, and we all know the censure he received and the opposition he encountered; but the facts he then established are now acknowledged by the entire scientific world, and the improvements made in this department of surgery by Cohen, Cutter, Bosworth, Elsbury, Lincoln, Lefertis, Robinson, and many others in this country, entitle us to rank with other nations.

Time will not permit us to refer to all of our contributions in the different departments of medical and surgical science, but I have enumerated enough to justify the belief that if the distinguished author before referred to were now to write he would express very different sentiments from those above quoted. Not content, however, with what we have already achieved, let us still press onward, and, accepting the motto of our great State, constantly cry "Excelsior."

METRIC SYSTEM.

It is the duty of this Association carefully to investigate every claim to improvement or advance in medical and surgical science; and, if such claim is found to be worthy of confidence, to lend such innovation or improvement the moral influence of its support. One of these innovations is the substitution of the "metric system of weights and measures" for our present uncertain "formula."

At the meeting of this Association in Buffalo, June 5, 1878, the following resolution was passed by the section of Practical Medicine, Materia Medica, and Physiology: Resolved, "That this section, recognizing the value of the metric system for its uniform, international, indestructible, generally applicable, convenient, simple, safe, and scientific character, hereby recommends to all physicians the use of the same in their practice, and in their writings and teachings."

The present objectionable methods of dispensing medicine have the great advantage of prestige. To overthrow this and to secure for the metric system the mere opportunity to become generally known will require persistent effort on the part of its friends, aside from such concert of action as may be implied in the passage of resolutions. At the outset it may be observed that physicians are not put to the necessity of learning the entire terminology of the metric system, simple as this may be. The only unit of volume to be remembered is the *cubic centimetre*, occupying the space of a gaming die, or of a cube whose edge is about four tenths of an inch. The only unit of weight is the *gram*, which is the weight of one cubic centimetre of pure water at its heaviest. Its English equivalent is a little over fifteen grains.

No one objects to either the name or the use of dollars and cents, and no one on this side of the Atlantic

would be willing to give up our decimal mode of counting money for that of pounds, shillings, pence, and farthings, in which reduction from one denomination to another is a perpetual source of annoyance. By the simple change in position of a decimal point, we are able, without the change of a single figure, to express the fortune of a millionaire in fractions of a cent.

The reasoning which has been applied to the dollar in contrast to the British pound sterling is equally applicable to the gram in contrast with the British ounce *avoirdupois* or ounce *apothecaries*. A pound *avoirdupois* is made up of sixteen ounces, each of which weighs four hundred and thirty-seven and a half grains, making seven thousand grains in all. A pound *apothecaries* is made up of twelve ounces, each of which weighs four hundred and eighty grains, making five thousand seven hundred and sixty grains in all. The confusion resulting from this inconsistent use of the same name for things of different value is interminable and unnecessary. Let the use of the pound and ounce be replaced by that of the *gram*, which is perfectly definite in value.

Tables of equivalent have been in use for two years past in the United States Marine Hospital Service, at Washington, where the employment of the metric system was made obligatory in the spring of 1878, by order of the surgeon-general. To this department application was made, a few weeks since, for information as to the success of the experiment, the object had in view being to place before this Association actual results rather than theoretic arguments. To the surgeon-general, Dr. John B. Hamilton, the following questions were put: —

- (1.) Was any serious difficulty encountered by dispensing clerks in laying aside the old system and substituting the new?
- (2.) Have mistakes in dispensing occurred with any noticeable degree of frequency in consequence of lack of skill in the management of decimal points?
- (3.) Has any serious loss of time or of accuracy resulted from the substitution of gravimetric for volumetric methods of dispensing liquid medicines?
- (4.) In case volumetric methods have been retained, have mistakes or difficulties arisen from the necessity of carrying in mind the specific gravities of the liquids measured, and allowing therefor?
- (5.) Is there any apparent disposition on the part of dispensing clerks or nurses to return to the old system?
- (6.) Have you any suggestions to offer, based on the practical trial already given in the United States Marine Hospital, whereby the adoption of the metric system by members of the American Medical Association, and by druggists in the country at large, may be facilitated?

The reply of the surgeon-general is so pointed, clear, and satisfactory that no better service can be done in the cause of metric reform than by incorporating it, as a whole, in this address: —

DEAR SIR, — Referring to your letter of the 3d inst., I have to say in answer to the questions submitted: —

- (1.) No serious difficulty has attended the adoption and exclusive use of the French decimal metric system in this service.
- (2.) No mistakes have occurred on account of the change, so far as known to this office.
- (3 and 4.) Volumetric methods were retained, and as liquids have always been measured in the dispensing of medicines in this country less inconvenience and trouble must necessarily attend the adoption of the metric system referred to if measures be retained than if gravimetric methods be exclusively employed, since the latter course would render it necessary to carry in mind the specific gravities of many liquids, and to make allowances accordingly in converting the terms of the old system into those of the new.
- (5.) The discipline in the marine hospital service would prevent any opposition on the part of dispensing clerks or nurses.

(6.) The suggestions I would make, based upon the experience in this service, are the following:—

In order to facilitate the general adoption of the new metric system in medicine and pharmacy, volumetric methods should be retained. On the one hand, this would save much labor which would otherwise have to be done by prescription writers; and, on the other hand, it is fair to presume that whether liquids be prescribed in grams or in cubic centimeters they will be dispensed quite generally by measure. The principal merit of the new system lies in the fact that with nearly all liquids except syrups, glycerine, chloroform, and ether the grain and the cubic centimeter will represent the same quantity practically.

The terms used to designate the units of the metric system should be anglicized as far as practicable, and the units reduced to the smallest number requisite. Prominence should be given to the "gram" and the "cubic centimeter," as being the only units with which it is necessary to be familiar. After the gram, the *centigram* is the unit most applicable in medical and pharmaceutical gravimetry, and multiples and subdivisions of these two weight units are sufficient, in my opinion. All the other prefixes used in the French system should be avoided in adopting that system for physicians and pharmacists, the "centi" alone being retained. The cubic centimeter seems to me to be a more suitable unit for use in medical formulae than any subdivision of the liter.

In conclusion, it would be well if all friends of the metric system could agree to drop the fractions in the numbers which express the equivalents of the gram and the cubic centimeter in troy grains and minims, and to adopt the exceedingly simple rules for converting terms of the old system into those of the new, and *vice versa*, that have been found so useful in the practical trial given the decimal metric system in the marine hospital service, the medical officers of which are now prescribing in metric terms for over twenty thousand patients annually. These rules were adopted simply as an aid in learning metric posology, and their usefulness ceases as soon as the pre-crisis is familiar with the expressions in metric terms of the doses of medicines, and they are probably not now used to any extent by the officers of this service. I am, sir, very respectfully,

JOHN B. HAMILTON,
Surgeon-General M. H. S.

PUBLICATION OF TRANSACTIONS.

For many years past there has been an almost annual complaint about the publishing of our transactions. Sometimes it would be that publication had cost altogether too much money; at other times that they were not issued with sufficient promptness, and the volume when received was almost useless, since all the important papers or discussions in it had already appeared months before in the various medical journals of the country.

Upon considering carefully these objections, which have been increasing every year, it would really appear as if there were some just ground of complaint. And, since the matter is of very grave importance, I would respectfully suggest that the Association give it very serious consideration, and, if deemed advisable, refer the subject to some proper committee, to report whether any plan can be suggested to bring the proceedings of the Association before the profession that would be better than the one now pursued. Certainly our present plan, besides being very expensive, does not give entire satisfaction; and it is very questionable whether the model pursued by the British Medical Association, in establishing their own journal, would not be an immense improvement on our present method.

The *British Journal* is the exclusive property of the association; and by the liberal compensation of an accomplished editor a weekly edition is issued instead of an annual volume. Certainly this plan implies great economy; for, instead of being an expensive burden, as at present, the work of publication would, in a very short time, be a source of direct emolument.

Any one who has attended the meetings of the British Medical Association, and who is acquainted with

its journal for the last ten years, may have observed that the extraordinary growth of that association in power, wealth, influence in the profession, and influence in the state has been coincident with the development of a weekly organ of communication between the members, the property of the association, the journal of the association, and edited by a member of the profession, appointed for the purpose by the council of the association. This history, as told by these gentlemen, and as any one can confirm for himself by examining the facts, is extremely instructive in establishing at least one solid base for prosperity for any similar institution, such as the American Medical Association. Briefly to summarize the facts, it may be stated that the British Medical Association was founded forty-six years ago by Sir Charles Hastings, a country physician, mainly for the purpose of advancing the professional interests of country physicians. Its growth was rapid, and in time it became British rather than provincial. The greatest men in England became annual presidents; its meetings were held in London, Edinburgh, and Oxford, and as a body it was highly respected. It soon appeared, however, that there was a comparatively narrow limit to its powers of extension. At each meeting considerable accessions of new members joined, but they soon fell off again. Then it was found necessary to convert the annual volume of transactions into a weekly journal. It was noted that the provincial transactions, admirable as they were, formed a volume which did not appear for some months after the annual meeting; that such a volume was put upon the shelves, and occasionally referred to, but rarely read through; that it did not appear until the interest of the meeting had faded away, and until a good deal of the freshness had been taken off the papers by short abstracts and piecemeal reports; and that on the whole it was impossible to expect the association to spread unless means were provided for more constant intercommunication between the members, and for the more rapid publication of their contributions to medical science and the more continuous discussion between the members of subjects of medical, social, and ethical interest in the intervals between the meetings.

The publication of this journal had at once a favorable influence on the fortunes of the society. The members grew from one thousand to two thousand, and the society continued to make slow and steady progress, adding definitively about thirty new members a year to its total numbers. Twelve years ago, however, upon the resignation of Dr. Markham, a new editor was appointed, Mr. Ernest Hart, who was at that time coeditor of the *Lancet*, accepting the office of editor of the *British Medical Journal* on condition that he was allowed considerably to increase the size of the *Journal* and to conduct it in a thoroughly energetic and independent manner, in such a way as to make it worthy of being the weekly organ of a powerful association. Under his direction the *Journal* was at once doubled in size. It was brought into a state of scientific and social activity, and made an organ of the most recent scientific and professional work, and its editorial departments were conducted with vigor and literary skill.

The effect upon the fortunes of the association was magical. Five hundred new members joined that year, and for each successive year since that time, from five hundred to six hundred new members have

been added to the list by the simple process of sending throughout the country, once or twice in the year, copies of the *Journal*, and forms of application for membership. The result has been that whereas for the thirty-six years that the association had existed it had only slowly crept up to about two thousand, it has, during the ten years that Mr. Ernest Hart has edited the *Journal*, risen in numbers until it now includes eight thousand members of the profession, and, according to the statements printed in the *Journal*, it circulates another fifteen hundred copies outside the profession. It gives forty pages of printed matter every week, so that the *Lancet* has felt itself called upon to enlarge the number of its pages in order to bring them up to its now formidable rival; but the *Journal*, by reason of the closeness of its type, still gives about one fourth more matter than its senior rival. The circulation of the *Journal* is now alleged to be some thousands more than that of the *Lancet*, and larger than that of any other medical paper in the world. Certainly the British Medical Association has in this way become the most powerful medical association in the world. The way in which the *Journal* has done this has been by converting all its subscribers into members of the association, by a very simple process. Branches have been formed not only all over England, but throughout Scotland and Ireland; and new branches are being formed of members of the association who have emigrated to Australia and India, and still desire, by the branch organization of the association, to maintain close relationship with the profession in the mother country.

The total income of the British Medical Association is about seventy thousand dollars, of which twenty-five thousand are from advertisements in the paper, and the balance from subscriptions of members and sales of the *Journal*. Out of this income are defrayed the salary of the secretary, — not a medical man, but a business man, — who acts as business manager of the *Journal* and general business secretary of the association, at a salary of twenty-five hundred dollars a year, giving his whole time to the work; also the rent of a building, centrally situated, which serves as the printing and publishing office for the *Journal*, and also a gathering place for the committees of the association throughout the year.

There are, further, defrayed the expenses of the various standing committees appointed for special purposes, such as, last year, "the promotion of legislation for habitual drunkards;" the standing committee for the examination of bills brought into Parliament affecting medical interests, and for the promotion of clauses beneficial to medical interests, or the opposing of provisions considered likely to be injurious to them; and other similar committees. There is a further payment out of funds of the association for the promotion of researches in medicine and the collateral sciences. A thousand dollars were voted in this way to Professor Hughes Bennett and Professor Rutherford, of Edinburgh, for the expenses of their famous researches on Calomel and other Agents having a Reputation as promoting a Flow of Bile. In all, about fifteen hundred or two thousand dollars a year are voted in this way. Certain contributions are made towards expenses of the annual meeting, especially the printing expenditure, and from time to time special grants are made towards specially important medical objects. The editor of the *Journal* is paid about five thousand dollars a

year, including payments for his editorial writing, and the sub-editors about twenty-five hundred each.

The literary expenses for payments to writers on the staff for editorial articles, reviews, criticisms, and the like amount to about another five thousand dollars a year. After all expenses are paid, there remains now an annual surplus of from three thousand to five thousand dollars, which has been accumulated into a reserve fund. If, then, we review the position of this powerful association, we shall see that it has a formation which includes, first of all, a strong central executive; this is elective, mainly from its twenty-eight branches, each of which sends one delegate to the central council, generally the honorary secretary of the branch. This central council includes all past presidents and twenty members elected at the annual meeting; and it meets once a quarter at least, or more often under special emergency.

The central council is a powerful executive institution. It delegates the business conduct of the *Journal* to a Journal and Finance Committee, which meets also once a quarter, occupies itself chiefly with passing accounts and general questions of finance and business management, and communicates with the editor upon any subjects which may have arisen during the quarter. There are also a considerable number of standing committees, appointed at the annual meeting to consider special subjects, whose powers are strictly limited by the terms of reference, but who work throughout the year, and who derive their funds solely from special grants by the central executive committee. The standing Committee on Parliamentary Bills consists, like the executive council itself, of a representative of every branch and ten members appointed by the annual meeting, and is a most powerful protector of all medical interests. With this organization, the association possesses in the weekly *Journal* the means of keeping all its members in constant communication one with another. The addresses given at the annual meeting by appointed orators in each subject are at once printed in full in the *Journal*. Every paper read is printed in abstract, together with a report of the discussion excited by it. Thus the association secures for itself a full, rapid, and responsible report, which comes at once into the hands of all its members and of all those in the profession.

These details are of importance to the American Medical Association, for they include the germs of an organization peculiarly adapted to American ideas. It is essentially democratic and entirely representative. It is dependent for its success on the intelligence, union, and good-will of the members. It is decentralizing, inasmuch as it tends to the formation or the strengthening everywhere of the local societies, which have thus throughout the year the means of making themselves heard in metropolitan centres, and of communicating with each other. Above all, it is a most successful and influential means of increasing the membership, enlarging the power, and widening the basis of the association, and of making it a living organism during the intervals between the annual meetings. Finally, it has the great advantage of securing the largest amount of value to each and all of the members for the smallest possible subscription. The *Journal* becomes, in fact, a coöperative enterprise, in which the profits resulting from their subscriptions go into their own pockets.

One point, however, that is specially worthy of note

is that the success of the *British Medical Journal* has been largely dependent upon the manner in which it has been conducted. It will be necessary to find for any organ which this Association may publish an editor of recognized position, whom the Association would accept as its worthy officer and representative in so responsible a post. The question is one which appears to be well worthy of thorough examination by the council and members of this Association, because it seems tolerably certain that if for the present bulky, tardy, little-read, and unproductive volume of transactions there could be substituted an active, vigorous weekly journal, read everywhere, and with a large income, such as would naturally come to it from its advertising sheet, there would be in such a change the earnest of a rapid and important growth in the numbers, influence, and usefulness of the American Medical Association.

ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

As had been anticipated, the thirty-first annual meeting of the American Medical Association was very largely attended, and was one of the most successful and satisfactory sessions of this body which has yet been held. The city of New York, owing to the convenience of access and its numerous attractions, offered unusual inducements for the meetings, which were held in the lecture rooms of the College of Physicians and Surgeons, and in the Young Men's Christian Association rooms, on the southwest corner of Twenty-Third Street and Fourth Avenue, opposite to the college. The course of the proceedings was marked by harmony and dignity; much credit is due to the committee of arrangements for the admirable manner in which the business and entertainments were provided for. The number of papers that were presented was so great, no less than one hundred and eighty-four having been placed in the hands of the committee, that it was utterly impossible to have them all read at the meeting. This pointedly illustrates the truth of the opinion, held by more than one member of this body, that all papers should be sent to a special committee in each section at least thirty days in advance of the meeting, so that it can be determined whether such papers are worthy of being read. It is growing more evident every year that the time of the members of this Association is too valuable to be spent in listening to some inferior production which has already, perchance, been refused by the medical journals.

It seems invidious to name only a few of the distinguished men who were present, but in addition to the officers of the meeting, — Prof. Lewis A. Sayre, of New York; Vice-Presidents R. Beverly Cole of San Francisco, H. O. Marcy of Massachusetts, F. Peyre Porcher of South Carolina; Secretary William B. Atkinson, of Philadelphia; Treasurer Richard J. Dunglison, of Philadelphia; Assistant Secretary Walter R. Gillette, of New York, — we observed upon the platform Professors H. I. Bowditch of Boston, S. D. Gross, H. Pancoast, and Roberts Bartholow of Philadelphia, James White of Buffalo, T. G. Richardson of New Orleans, John L. Adce of Lancaster, Pa., J. Marion Sims of New York, Dr. Moore of Rochester, Dr. Levis of Philadelphia, Professor Dunster of Ann

Arbor, Dr. Chadwick of Boston; and among the distinguished strangers were Jonathan Hutchinson of London, Dr. Hingston of Montreal, and Dr. Irenholme of Canada.

The sections were officered as follows: (1.) Section of Practice of Medicine, Materia Medica, and Physiology, chairman, J. S. Lynch, M. D., Baltimore; secretary, W. C. Glasgow, M. D., St. Louis. (2.) Section of Surgery and Anatomy, chairman, W. T. Briggs, M. D., Nashville, Tenn.; secretary, C. Powell Adams, M. D., Hastings, Minn. (3.) Section of Obstetrics and Diseases of Women and Children, Professor Morse, St. Louis, chairman (in place of Dr. A. H. Smith, the regular appointee, who was detained by sickness); secretary, Robert Battey, M. D., of Rome, Ga. (4.) Section of Medical Jurisprudence, Chemistry, Psychology, State Medicine, and Hygiene, chairman, James F. Hildebrand, M. D., Richmond, Ind.; secretary, Thomas F. Wood, M. D., Wilmington, N. C. (5.) Section of Ophthalmology, Otology, and Laryngology, chairman, Laurence Turnbull, M. D., of Philadelphia (Dr. Bolling A. Pope, of New Orleans, being absent); secretary, Eugene Smith, M. D., Detroit, Michigan.

The committee of arrangements made several innovations at this meeting. The first was to encroach upon section three, and set aside a room for the meeting-place of those favoring the organization of a separate section for diseases of children, with the intention of creating a separate section next year. This was done, but of course no further business was transacted before this sub-section. The next innovation was the publication of the programme in daily installments, after the method of the British Medical Association. The amount of business to be transacted made this arrangement necessary, and also justified the third innovation, which was the convention of the sections at two P. M. instead of three o'clock, as generally is the case.

It was peculiarly unfortunate that the means and accommodations for the registration of delegates were so poor and inadequate. But a single place of registration was provided, in a small room, and all through the session a long line of delegates stood waiting to enter their names and receive their authority to vote at the meeting. Many of them were obliged to remain in line for over two hours before they could be enrolled as members. For this reason the nominating committee could not be appointed on the first day, as a large proportion of those present were not properly qualified to vote.

About half a dozen lady delegates were present, whose efforts to appear dignified seemed more or less appalling, according to the individual stand-point from which they were viewed, and the approach of the discussion to dangerous grounds.

The entertainments provided were very enjoyable; the size and style of the invitation cards and their number have seldom, if ever, been equalled, certainly not excelled. On Tuesday evening, June 1st, a reception by the members of the medical profession and other citizens of New York was given at the Academy of Music, where Grafulla's Orchestra discoursed most eloquent music; the committee on entertainment and invitations being Dr. Chas. Insee Pardee, Montrose A. Pallen, Robt. F. Weir, Jos. C. Hutchinson, Wm. M. Polk, and E. H. Parker. On Wednesday a complimentary entertainment was given to the members of the American Medical Association and their ladies by

Messrs. Reed and Carrick, Messrs. Scott and Bowne, and the New York Pharmacal Association. On this occasion was presented Othello, with Edwin Booth as Iago. Beautiful silk programmes were distributed. On the evening of June 3d, Mayor Cooper, Mr. August Belmont, and Drs. Fordyce Barker and T. Gaillard Thomas each gave receptions to the delegates. The last-named reception was held at the Academy of Music, and owing to the popularity of the hosts of the occasion it was very largely attended; as, indeed, were those of Messrs. Cooper and Belmont, which were everything that lavish hospitality could make them, to render them enjoyable by the guests.

On Friday afternoon, June 4th, Messrs. Wm. R. Wood & Co. invited the members of the Association upon a steamboat excursion around New York harbor, stopping at Brighton beach.

FIRST DAY'S PROCEEDINGS: GENERAL SESSION.

The meeting was called to order at eleven A. M., June 1st, by the president, Prof. Lewis A. Sayre, of New York, and opened by prayer by the Rev. Wm. F. Morgan, D. D.

Dr. T. Gaillard Thomas, chairman of the committee of arrangements, read a very graceful and chaste address of welcome to the Association, in which, after reviewing the many changes that had taken place in New York during the sixteen years since the American Medical Association held its last meeting in this city, and pointing to the numerous well-appointed hospitals and agencies for the relief of suffering humanity, he claimed for New York at the present day a well-earned reputation for fostering science and the arts. He referred to the characteristics that distinguish this era from all that have preceded it, and considered the leading factors in the improvement to be steam, electricity, and the printing-press. He pointed out that true success in medicine could be based only upon merit, urged professional advancement, and concluded by wishing the delegates welcome, thrice welcome, to New York.

Upon calling the roll of members registered, Dr. Atkinson read the names of 378 delegates, besides a large number of members by invitation.

Dr. Edward Seguin, of New York, presented a report of the foreign delegation on the progress of medical international uniformity, which was ordered to be printed, and made the special subject for discussion on the second day.

The committee on prize essays, chairman, Dr. Austin Flint, reported that only one essay had been received, and that in the opinion of the committee it was deficient in original investigation. No prize was bestowed.

In the address of the president Dr. Sayre pointedly criticised Sydney Smith's famous but unfortunate opinion of American products, and showed conclusively that abundant proof could now be furnished to refute each of his propositions. In reviewing American contributions to medical progress, he spoke of anaesthesia (which he credited to Morton); of ovariectomy, which we owe to McDowell; of litholapaxy, to Prof. Henry J. Bigelow, of which operation he spoke in the highest terms, and said that it is one of which American surgeons may feel justly proud. Sub-periosteal excision, the treatment of spinal disease by rest, and the many other achievements of American physicians in all departments of medicine were each considered in turn. He further advocated the adoption of the metric system

in the practice of medicine; reviewed the history of the establishment of the *British Medical Journal*, and suggested that the propriety of adopting some similar plan for publishing the proceedings of the American Medical Association be taken into consideration.

On motion a committee of five were appointed to consider the recommendation contained in the president's address.

Professor Gross asked for a suspension of the rules in order to perform a solemn duty. He spoke of the recent bereavement of Professor Sayre, and in high terms referred to the many good qualities of Dr. Charles F. Sayre, whose death occurred but a short time ago. On motion of Professor Gross, the society, by a rising vote, tendered sincere expressions of sympathy and condolence with Dr. and Mrs. Sayre in this great affliction.

SECTIONS.

I. Section on Practice of Medicine, etc. Dr. W. H. Thomson, of New York, read an elaborate paper suggesting a revised classification of medicines, which was discussed by Professor Roberts Bartholow, Dr. Mary Putnam Jacobi, and Dr. Thomson.

Dr. M. O'Hara reported a very interesting case of recovery after occlusion of one or more of the cerebral sinuses in a young man twenty-two years of age, whose chief features were neuralgic pains lasting several weeks, followed by a sudden attack of severe pain in the head with edema of the right side of the face and temples, protrusion of eye, and conjunctival ecchymosis; the left side of face soon became involved in this condition; paralysis of right sixth nerve occurred, and throbbing pain was experienced in right side of head; weakness of limbs and want of coordination and varying sensation on the two sides of body were present. General fever, accompanied by local increased temperature, persisted, until the sudden disappearance of the severe head symptoms and the paralysis of the adnexa. Paresis of upper extremities persisted for a week or two. The entire duration of case was about two months. The local temperatures of the head were repeatedly taken, and the case carefully watched throughout its course.

II. Section of Surgery and Anatomy. Spinal Extension, its Modes, Means, and Motives, was presented by Dr. Benjamin Lee, and he exhibited various methods of extension by a sofa-bed and double extension bed that attracted much attention from the section and elicited considerable discussion.

Dr. George M. Beard read a paper on Phimosis as a cause of nervous symptoms, and reported a number of interesting cases relieved by operation.

Prof. John S. Hodges presented the subject of section of the infra-orbital and inferior dental nerve for neuralgia. He proposed to divide the nerve in the infra-orbital foramen. As suggested by Dr. John Green, of St. Louis, the operation is as follows: "An opening being made at the inferior border of the orbit down to the bone, an elevator is then used to separate the soft parts from the orbital plate of the superior maxillary bone, and reaching the posterior border of this surface. The nerve is found lodged in the groove terminating in the infra-orbital canal. With a hook having a curve about one sixteenth of an inch from its end, the groove in the bone at its posterior part is readily found. It is well known that the infra-orbital canal runs almost directly backward from the infra-orbital foramen, and is situated directly under the middle of the palpebral fissure and two lines below the border of the orbit.

"The groove at the posterior part of the canal being found by the blunt hook, the hook is moved to the inner side, and is pressed hard upon the bone and pushed backward until it passes from the posterior border of the orbital plate of the superior maxillary bone, and is then turned outward and made to sweep behind the posterior termination of the groove in which the infra-orbital nerve and artery are lodged. Thus both vessel and nerve are caught in the hook. Straight narrow scissors, guided by the shaft of the hook, are carried backward and between the hook and the orbital plate of the superior maxilla until the nerve is reached; it is then cut." To this original proposition of Dr. Green Dr. Hodgden added the following part of the operation: "It consists in separating the soft parts from the facial surface of the superior maxilla down to the infra-orbital foramen. The blunt hook is made to sweep around this foramen, and thus the infra-orbital nerve and artery at their exit from the bone are hooked up. Using this hook as a lever, the nerve is readily turned out of its canal, and the portion of it which extended from the sphenoidal fissure to the infra-orbital foramen is thus removed. To make sure that the union will not again be accomplished, along this track of removal a needle carrying a double ligature is pressed through the incision below the orbit, and made to terminate in the mouth behind the upper lip. Through the lip, before the ligature is drawn through, is placed the now loosened end of the nerve, and as the loop is drawn through the nerve follows; so that the end which formerly occupied the position at the sphenomaxillary fissure is now lodged on the mucous membrane of the mouth under the upper lip." Very moderate bleeding or ecchymosis follows the operation, but anaesthesia of a certain area will ensue. The other operation, that of section of the inferior maxillary nerve, he proposed and performed thus:—

"With a strong knife a cut one inch long, well down to the bone, is made in the length of the bone, beginning at the base, and a little to the inner side of the most prominent part of the coronoid process of the inferior maxillary bone, and extending forwards. The periosteum is now separated, and the width of the small spear-pointed drill driven by the dentist's engine has its point placed a quarter inch in front of the posterior termination of the incision in the soft parts before mentioned, just below the side of the last molar tooth. The drill is directed downward, backward, and a trifle outward. The firm shell of bone is easily penetrated and quickly passed. Any uncommon resistance to the right or left after coming into the cancellated tissue of the ramus of the bone will indicate to the surgeon that the hard shell on the outer or inner side is being cut. If the drill is spear-pointed as directed, it will not cut through this dense bone of the sides, but will follow the cancellated tissue in the centre. In half a second the canal containing the blood-vessels and nerve will be reached, and, if this is well opened, a severe twinge of pain and the free flow of blood will announce that the nerve and vessels have been cut; and this should be done as soon as possible. The next step of the operation is the withdrawal of the nerve from the canal between the posterior dental and the mental foramen. The incision is made opposite the bicuspid teeth, at the junction of the lips with the gum. The soft parts are then detached with the elevator down to the mental foramen. The blunt hook is made to pass

around the foramen, and thus hook the nerve. The hook is used as a lever to the distal termination of the nerve, being noosed in a loop; the portion occupying the body of the bone is drawn out. Of course this breaks off those filaments that go to supply the teeth."

Twenty-three operations were reported upon twelve patients during the last four years. The results were encouraging.

Dr. Campbell, of Augusta, Georgia, considered that, these neuralgias referred to being generally centric in their origin, permanent good could not be expected from this operation.

Dr. Chas. F. Stillman, of Plainfield, New Jersey, presented some newly devised orthopaedic appliances for weak ankles, and club-foot before or after operation. The apparatus can be attached to an ordinary child's shoe by placing a button in the middle of the sole in front of the heel. The peculiar points of the apparatus are, first, the fact that it has only a single steel rod running up the outer side of the limb; second, its hinge movement is at the heel; the amount of extension of the toes can be regulated at pleasure, being restricted by an elastic band; finally, the rotation allowed at the button corresponds with the normal centre of axial rotation of the limb.

Professor Hingston, of Montreal, praised the ingenuity of the appliance, but did not agree with the statement made as to the pathology of club-foot. In many cases early tenotomy is necessary.

Prof. Wm. H. Paine presented Some Anatomical and Surgical Considerations in regard to Synovitis and Extension in Joints, in which he condemned over-extension of a limb as a source of synovitis.

III. Section of Obstetrics and Diseases of Women, etc. J. Marion Sims, M. D., read a paper on Battey's Operation in Epileptoid Affections, in which he recounted the histories of four operations, three of them for epileptic convulsions and the other for hysterio-epilepsy. In one case convulsions had not entirely ceased. One patient died twenty-two hours after operation, a result which he attributed to the anaesthetic (bromide of ethyl). In all the cases the ovaries were found to be diseased and in an advanced state of cystic degeneration. He has rejected the vaginal operation on account of its difficulty when there are adhesions. He removes both ovaries. An incision three and one half inches long is made in the hypogastrium, between the recti muscles, down to the pubic bone. Then Sims's elevator is introduced into the vagina and canal, and the uterus is bent forwards at a right angle to the axis of the vagina, and is held securely by an assistant. The operator now passes from the fundus the fore and middle fingers along the Fallopian tube, until one ovary is reached; the uterus is inclined a little to the opposite side by the assistant, while each ovary in succession is brought out in front and removed. The operation is performed under the spray of carbolic acid. The pedicle is tied in four sections. Sometimes the Fallopian tube is removed with the ovary. In the cases reported all other remedies had been exhausted, but all the patients expressed great relief, after the operation, from pain and suffering.

This paper was followed by one of the same tenor by Prof. Montrose A. Pallen, of New York, on the True Import of Oophorectomy or Spaying for Reflex Symptoms, more particularly in Epilepsy, Hysterio-Epilepsy, and Catalepsy. In this paper similar conclusions were reached as in the preceding.

¹ See Transactions of the Missouri State Medical Association.

IV. Section of Medical Jurisprudence, State Medicine, etc. The National Board of Health was the subject of a communication by Dr. J. S. Billings, U. S. A.

The Death-Rate of the Rich and Poor was the title of a paper sent by Dr. Chas. Robert Drysdale, of London, in which the evils of overcrowding in poor localities were pointed out as the cause for the difference existing in statistics. He alluded to the large families of poor people, and considered it immoral in its tendencies to have such families, and hoped the time would come when it would be regarded as on a par with drunkenness.

Dr. E. H. Parker, of Poughkeepsie, N. Y., reported three cases of criminal abortion, one causing the death of the mother, in which the guilty parties escaped punishment, owing to a defective law or judiciary.

Dr. A. N. Bell read a paper on Unsanitary Engineering, in which he referred to the ignorance of many builders. An interesting discussion followed this communication.

V. Section of Ophthalmology, Otology, and Laryngology. Dr. W. H. Daly, of Pittsburgh, read a paper on Stenosis of the Larynx, with cases.

Dr. Carl Seiler called attention to the lesions of the larynx in pulmonary phthisis, the turban-shaped epiglottis, the swollen and ulcerated mucous membrane covering the arytenoid cartilages, etc., and exhibited some beautiful microscopic sections of the entire human larynx.

Dr. H. Knapp, of New York, read a suggestive essay on Tumors of the Lachrymal Gland, their Pathology and Operative Treatment, with demonstrations, which was followed by a general discussion.

Dr. E. Seguin presented a paper on the Psycho-Physiological Training of Blotie Eyes, the scope of which is well expressed in the title.

THE MEDICAL EDITORS' ASSOCIATION.

THE fifth annual session of the American Medical Editors' Association was held on Monday evening, May 31, 1880, in the parlor of the Fifth Avenue Hotel. In the absence of the president, Dr. Thos. S. Powell, of Atlanta, Georgia, editor of the *Southern Medical Record*, the vice-president, Dr. Frank Woodbury, of the *JOURNAL*, presided at the meeting. Dr. Dudley S. Reynolds, of Louisville, was appointed secretary, in the absence of Dr. Davis, of Chicago. About thirty editors were present.

Dr. Woodbury, in a short address, called the meeting to order. A communication was received from the Convention of American Medical Colleges, informing this association of the passage of a resolution making three courses of lectures obligatory in all the colleges represented in that body, and requesting the medical editors to promulgate the knowledge of this action. This was received and entered upon the minutes.

The metric system was discussed informally, and a communication from Dr. Baldwin, of Columbus, opposing it, was received and read. On motion the subject was laid over until the next meeting.

The presidential address having been forwarded by Dr. Powell, it was read by Dr. A. N. Bell, of the *Sanitarian*, and resolutions of thanks for the address, and of regret at the absence of Dr. Powell, and condolence for his domestic affliction, were ordered to be transmitted by the secretary.

Drs. Bell, Brodie, and Nelson were appointed nominating committee, who reported the following officers for 1881: for president, Dr. George F. Schrad, of the *New York Medical Record*; vice-president, Dr. F. Nelson, of *St. Louis Archives of Medicine*; secretary, Dr. Dudley S. Reynolds, of *Louisville Medical Record*. Dr. Wm. Hammond, of New York, editor of *Neurological Contributions*, was, on motion, directed to cast the ballot of the association, and these officers were declared unanimously elected. Place of meeting to be determined by the action of the American Medical Association, the time to be the evening before the convening of that body.

— The appointment of Dr. C. F. Folsom, of Boston, and of Mrs. Clara T. Leonard, of Springfield, to the vacancies on the Board of Health, Lunacy, and Charity caused by the expiration of the terms of Drs. Wood and Allen, appears to give general satisfaction.

Dr. Folsom, having resigned the secretaryship of the board in order to pursue the practice of his profession in the specialty of mental diseases, consented to serve as a member of the board at the sacrifice of his personal preferences.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM MAY 22, 1880, TO MAY 28, 1880.

HALL, W. R., first lieutenant and assistant surgeon. To report in person to commanding general, Department of the Missouri, for assignment to duty. S. O. 107, C. S., A. G. O.

HARVEY, P. F., captain and assistant surgeon. Granted leave of absence for four months. S. O. 113, A. G. O., May 21, 1880.

RANDOLPH, JOHN F., major and surgeon. Died at Philadelphia, Pa., May 14, 1880.

TESSON, L. S., first lieutenant and assistant surgeon, assigned to temporary duty at cavalry depot, Jefferson Barracks, Mo., relieving Surgeon E. P. Vollum, S. O. 107, C. S., A. G. O.

YEOMANS, ACG. A., captain and assistant surgeon. Died at Toronto, Canada, May 13, 1880.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A meeting will be held June 7th, at eight p. m., in the hall of the Medical Library Association. Reader, Dr. Sumner. Subject, Cases of Abdominal Abscess. A. T. CABOT, Secretary.

BOOKS AND PAMPHLETS RECEIVED. — The Diagnosis and Treatment of Obstetric Cases by External (Abdominal) Examination and Manipulation. By Paul F. Mundé, M. D., Obstetric Surgeon to Maternity Hospital, New York, etc., etc. New York: William Wood & Co., 1880.

Health and Healthy Homes. — A Guide to Domestic Hygiene. By George Wilson, M. D. With Notes and Additions by J. G. Richardson, M. D. Philadelphia: Presley Blakiston, 1880.

A Guide to the Examination of the Urine. Designed chiefly for the Use of Clinical Clerks and Students. By J. Wickham Legg, Fellow of the Royal College of Physicians, London, etc. Philadelphia: Presley Blakiston, 1880.

The Management of Children in Sickness and in Health. A Book for Mothers. By Annie M. Hale, M. D. Philadelphia: Presley Blakiston, 1880.

Ophthalmic and Otic Contributions. By Daniel B. St. John Roosa, M. D., Professor of Ophthalmology in the University of New York. New York: G. P. Putnam's Sons, 1880.

Paper on Color Blindness given before the United States Naval Institute. By B. Joy Jeffries, M. D. 1880.

Anniversary Address before the New York State Medical Society, February 4, 1880. By H. D. Dulaney, M. D., President.

Thirtieth Report of the Medical Staff of St. John's Hospital, Lowell, Mass. 1880.

Original Articles.

THE ETIOLOGY OF FEVER.

BY GEORGE L. WALTON AND CHARLES B. WITHERLE.

THE main question presented for discussion in this paper is the relative importance of increased heat production and of decreased heat elimination in the causation of fever temperatures. The prominent pathologists of the present time are about equally divided on this question.

TRAUBE'S THEORY.

Traube's theory, perhaps, embodies best the view that decrease of heat elimination is the chief and primary cause of fever temperature. He assumes a contraction of the superficial small arteries, through irritation of the vaso-motor centre, as the starting-point of fever. In this way is produced a fall of temperature of the skin, that is to say, a chill, and, by the prevention of the normal escape of heat, a rise of the temperature of the body as a whole. The dryness of the mouth and the digestive disturbances are explained by a supposed contraction of the small arteries of the alimentary canal. In the same way, the cerebral symptoms and the lessened excretion of urine are partly accounted for by anæmia consequent on contraction of the vessels of the brain and kidney. The relaxation of the tetanus of the small arteries concerned is followed by sweating, increased flow of urine, fall of temperature, in short, by defervescence.

Those who regard increase of heat production as the chief and primary factor in fever point to the augmented excretion of urea and CO_2 as evidence of this increase; but, to establish their position that it is the more important process, they rely principally on arguments to exclude all other possible views. They admit occasional contraction of the small arteries in the course of fever, but consider this to be of very subordinate importance. They think it incredible that such contraction should be constant during the days and weeks through which a fever lasts.

Traube's followers reply that the existence of a tetanus of the small arteries for days and weeks is less incredible than that any possible increase of heat production should cause a considerable rise of temperature, while the heat-eliminating system remains intact. For it is well known that muscular exercise and the ingestion of food increase heat production; but the heartiest meal or the most violent exercise is followed by slight, if any, rise of temperature, as long as heat can freely pass off from the skin. If, however, the eliminative function of the skin is interfered with, as by a very moist atmosphere, the temperature at once rises.

It is further argued by the opponents of Traube's theory that the bed-clothes of fever patients are hotter, not colder, than normal, showing that more, not less, than the normal amount of heat is given off from their bodies. More precise evidence of increased elimination of heat from the body of a fever patient is furnished by a calorimetric experiment of Leyden's. This experiment will be discussed further on.

Finally, the following experiment of Liebermeister has been supposed by Burdon Sanderson and others to give the death-blow to Traube's theory. A man was placed in a water-bath of the exact temperature of his body. Under these circumstances, no heat is

given off from the body and none is received by it. Liebermeister found that the body temperature soon rose about a degree F., but no more, however long the experiment was continued. In this experiment, it was said, the heat of the body was more completely shut in than it could be by any contraction of arteries; yet the rise of temperature was not comparable to that observed in fever.

Sanderson, in discussing the experiment,¹ says, "The value of this experiment lies in the information it gives us as to the maximum result which can possibly be obtained by mere accumulation of the heat normally produced."

It appeared incredible to the writers that a constant shutting in of the "heat normally produced" should not be accompanied by a constant rise of temperature. Liebermeister's experiment was accordingly repeated, as follows:—

EXPERIMENT I.

On entering the bath, the body temperature was 98.2° F., the same as the temperature of the water. During a prolonged immersion, the maximum temperature of the body was 99°.

The result of Liebermeister was thus confirmed. It soon suggested itself, however, that there was a fallacy in this experiment. When the body temperature is 99°, the water being at 98.2°, the heat of the body is no longer completely shut in, but must pass off to the now cooler water. Therefore, to continue the shutting in of heat, the water must be raised to 99°, the new body temperature. A further rise may then be expected, when again the temperature of the water must be brought up to that of the body, and so on indefinitely.

The following experiment was made to test the truth of this reasoning:—

EXPERIMENT II.

A man, whose temperature, taken in the mouth, was 98.1°, was placed in a bath at the same temperature. The body temperature soon rose to 98.6°. The bath was then raised to 98.6°, and, as expected, the body temperature rose, in this instance, to 99.1°. The following table shows the course of the experiment:—

Temp. of Water.	Temp. of body rose from	Pulse.
98.1°	98.1° to 98.6°	82
98.6°	" " " " " 98.6° to 99.1°	88
99.1°	" " " " " 99.1° to 99.7°	96
99.7°	" " " " " 99.7° to 100.3°	108
100.3°	" " " " " 100.3° to 100.8°	116
100.8°	" " " " " 100.8° to 101.3°	124
101.3°	" " " " " 101.3° to 101.9°	136
101.9°	" " " " " 101.9° to 102.3°	144
102.3°	" " " " " 102.3° to 102.9°	156
102.9°	" " " " " 102.9° to 103.2°	160

The temperatures of body and water were all taken with the same thermometer, and the bath was constantly stirred to insure uniformity of temperature. When the body temperature reached 103.2°, the discomfort was great, and the experiment was discontinued. There was headache, thirst, nausea, weakness, and vertigo.

The pulse and temperature were, it is seen from the table, those of fever, and apparently in this experiment a true fever was present. The temperature of the bath was never higher than that of the body, and consequently no heat could have passed from the former

¹ British Medical Journal, August 9, 1873.

to the latter. A mere shutting in of heat produced all the phenomena observed, and the fallacy of the above experiment of Liebermeister seems to be completely shown.

Moreover, Experiment II. appears to give strong support to Traube's theory, since it shows that a fever may be produced by a mere shutting in of heat, while it never has been shown that one can arise from increase of heat production.

But can it be said that a true fever was presented in Experiment II.? To answer this question, we must consider the scientific meaning which should be attached to the term "fever."

WHAT IS FEVER?

Dr. H. C. Wood, in his Tower lecture on fever, says, "Fever comprehends three classes of disturbances, nervous, circulatory, and thermic; the nervous and circulatory are of secondary importance to the thermic, and as a rule all the symptoms vary with the temperature."

There is, however, a fourth class of disturbances, namely, nutritive, which is clinically recognized to be of the greatest importance. Rise of temperature, if not excessive, in itself only causes discomfort, while it is the nutritive changes that ordinarily represent the exhausting and dangerous effects of long-continued fever.

Experiments show that, corresponding with the increase of destructive-tissue metamorphosis, there is an increased excretion of urea. This increase must be understood as relative to the amount of food ingested, and is not always sufficient, when the patient is subsisting on a minimum diet, to make the absolute amount of urea in twenty-four hours greater than normal.

Ringer found, in intermittent fever, an increase of urea amounting to more than fifty per cent, during the period of chill, and a less marked increase in the period of heat. Unruh¹ found the urea excretion of fever in a large number of cases to be, on the average, seventy per cent. above normal. Numerous other experiments, showing that urea is increased in fever, might be adduced; but it is hardly necessary to multiply quotations in favor of a fact so generally accepted as this is at present.

Here, then, we have a definite and measurable phenomenon accompanying the febrile state, and the writers believe that if urea could be determined as conveniently and accurately as temperature can be measured we should obtain almost as valuable information in regard to the course of fever from examination of the urine as we now do by the aid of the thermometer. It has not been shown that the elimination of urea varies accurately with the temperature; but if it does not, that is an additional reason for its importance, and, *a priori*, one would suppose that an increased elimination of urea without, or with slight, elevation of temperature would be a process of more importance than a rise of temperature, which leaves tissue metamorphosis but little affected.

In regard to the increased production of CO₂ which has been supposed to take place in fever, grave doubts have been expressed by Senator and others from the light of experiments, and the question must still be regarded as unsettled.

E. Wagner says, in reference to the point under dis-

cussion, "Some doubts even begin to be occasionally expressed as to whether increase of body heat is to be made an absolute *sine qua non* for the conception of fever, or whether it would not be better to be content with demonstrating increased tissue metamorphosis."

Senator says, "Rise of temperature is only one symptom, and does not constitute the essence of fever. Its explanation has not as yet furnished any theory of fever, because there are in fever other important processes, independent of elevation of temperature."

Finally, Naunyn says, "It can no longer be doubted that in really feverish states a lasting normal or sub-normal temperature may be produced, if the factor of refrigeration assume the upper hand."

Without attempting to give a rigid definition of fever, it may be said that pathologists are generally agreed that increased-tissue metamorphosis, indicated by increased excretion of urea, forms a part of fever, and that by many it is regarded as not secondary in importance to rise of temperature. If, then, a rise of temperature, unaccompanied by increased tissue metamorphosis, occurs, the condition differs from natural fever by a very important factor. The question last proposed for discussion, namely, Was there presented in Experiment II. a true fever? may now be stated: Did we there have increased-tissue metamorphosis accompanying the rise of temperature? An attempt to answer this question was made in the following experiment:—

EXPERIMENT III.

The experiment extended over four days. During this time one of the writers, who was the subject of the experiment, ate the same kinds and amounts of food each day. The urine was collected every eight hours, measured, and tested for urea. At the beginning of the third day, the experimenter placed himself in a bath at the exact temperature of his body, and remained there for three hours. The whole body, except the head, was immersed. The body temperature soon rose a fraction of a degree, as in Experiments I. and II. The bath was then heated, by adding hot water, to the new body temperature. As fast as the body temperature rose, that of the water was also raised, but the water was never warmer than the body.

The following table will show the course of the experiment:—

TABLE A.

Time.	Temp. of Water.	Temp. of Body.	Pulse.	Resp.
3.30 P. M.	99.1°	99.2°	90	
3.50 "	99.1°	99.4°	98	28
4.10 "	99.3°	99.6°	100	
4.22 "	99.6°	100.2°	102	
4.32 "	99.9°	100.1°	105	
4.45 "	100.0°	100.4°	112	
4.54 "	100.4°	101.2°	116	
5.05 "	101.2°	101.7°	110	40
5.15 "	101.6°	102.2°	120	
5.30 "	101.9°	102.4°	116	
5.40 "	102.5°	102.7°	120	
6.05 "	103.0°	103.5°	132	
6.10 "	98.8°	101.8°	100	

When the temperature was above 100° F., the symptoms of fever were present, intense discomfort and restlessness, flushed face, dry mouth, headache, a state of mind resembling slight vinous intoxication, and at times there was nausea. During and for many hours after the experiment, there was a feeling of great weakness. During the bath two and a half pounds of body weight were lost, the weights before and after

¹ Virch. Archiv, xlviii. p. 268.

the experiment being respectively 159 and 156.5 pounds.

The urea was estimated by Liebig's method with nitrate of mercury. Numerous preliminary tests insured familiarity with the method. In fact, a preliminary experiment, with the same general result as the present one, was made, but not under sufficiently accurate conditions to give it much value. The tests were all made with the same standard solutions, which were those used by Professor E. S. Wood in the laboratory of the Harvard Medical School.

The following table shows the result of the urea tests for the four days of the experiment:—

TABLE B.

		Urine, cc.	Urea, gms.
First Day.	3 P. M.—11 P. M.	310	14.9
	11 P. M.—7 A. M.	293	13.5
	7 A. M.—3 P. M.	408	12.6
	Total,	1017	41.0
Second Day.	3 P. M.—11 P. M.	455	16.2
	11 P. M.—7 A. M.	406	13.8
	7 A. M.—3 P. M.	441	12.8
	Total,	1302	42.8
Third Day.	3 P. M.—11 P. M. ¹	500	20.5
	11 P. M.—7 A. M.	398	17.5
	7 A. M.—3 P. M.	324	14.6
	Total,	1222	52.6
Fourth Day.	3 P. M.—11 P. M.	452	16.7
	11 P. M.—7 A. M.	296	10.0
	7 A. M.—3 P. M.	428	13.7
	Total,	1176	40.4

The average normal excretion of urea per eight hours was 13.8 gms.

It will be seen that for the twenty-four hours including the time of the bath the urea excretion was nearly twenty-five per cent. greater than for any other day of the experiment, and that during the eight hours beginning with the entrance into the bath it was nearly fifty per cent. greater than the average normal excretion for eight hours. The increase lasted for several hours after the experiment. The excretion of urea for the days other than that of the bath was nearly constant.

The amount of urine was not notably affected by the bath, as it commonly is in natural fever; but this is accounted for by the ingestion of large quantities of water, rendered necessary by the extreme thirst, which continued for hours after coming out of the bath. Throughout the experiment water was taken as desired, and not in measured quantities; in this way, it was thought that a constant elimination of urine could be most nearly secured. If constant amounts of water are taken, the variable activity of the sweat glands may cause variations in the elimination of urine, which will, to a slight extent, influence the elimination of urea. It is not the whole amount of water taken which affects the urea elimination, but only that which passes through the kidneys.

The specific gravity of the urine passed just after the bath was 1028, the average specific gravity being 1020.

In the above experiment, none of the characteristic signs or symptoms of fever were absent. The high

pulse and temperature, the rapid respiration, the feeling of heat and restlessness, the cerebral symptoms, the loss of weight, and the increased metamorphosis of tissue, shown by the increased elimination of urea, together constitute a condition which satisfies the most rigid requirements, clinical and pathological, of fever.

The exciting cause of this fever, as we may now call it, was a mere shutting in of heat; but this, though the primary, was not the only cause of the rise of temperature observed. The greatly increased elimination of urea shows that a considerable increase of destructive tissue metamorphosis must have taken place, and this implies an increase in the production of heat. As to how a check of heat elimination causes an increase of heat production, it must be left for the present a matter of conjecture. It is well known that a rise of temperature, which was here initially produced by the shutting in of heat, accelerates almost all chemical processes. Reflex nervous action may also be supposed to play a part, if we admit the existence of trophic nerves. A further discussion of this point would carry us outside the limits of this paper, and we must be content with the fact that, in some unknown way, decrease of heat elimination causes increase of heat production.

We have then, in Experiment III., artificially produced a fever in the same way, in which, according to Traube, natural fever occurs, that is, by shutting in the body heat. This seems to the writers a strong argument in favor of the class of theories to which Traube's belongs, when the fact is considered that it has never been shown that increased heat production can of itself cause fever.

We are now in position to discuss the experiment of Leyden,² which has already been referred to. He showed by a most careful calorimetric experiment on the leg of a fever patient that more heat was given off than from a normal individual. This experiment, it is argued by Leyden, E. Wagner, and others, disposes effectually of Traube's theory, at least as an explanation of the particular fever observed.

It seems to the writers that the experiment is less valuable than has been supposed. Traube's theory assumes a diminution in the function of heat elimination throughout the fever. This implies a lessened giving off of heat at the beginning of the disease. Later, as shown by the increased elimination of urea, much more heat than normal is produced in the body; consequently, though heat elimination is still defective and incompetent to carry off all the superfluous heat, the absolute amount of heat given off may well be greater than normal. To disprove Traube's theory by experiments like that last mentioned, it is therefore necessary to show not only an absolute increase of heat elimination in fever, but also an increase relatively to the new and augmented production of heat. If, in fever, there were constantly a heat elimination less than normal and a heat production greater than normal, it follows at once that there would be a steady rise of temperature without limit. It is not only unnecessary, but absurd, to suppose such a condition of things. It has been shown that at the normal temperature shutting in of heat causes rise of temperature and increased heat production. At the new body temperature there must be, in order to prevent further rise, a sufficiently great increase of heat elimination to carry off the extra heat produced; if increase of heat elimination to a less degree than this occurs, we have

¹ Eight hours, including time of bath. Bath from 3.15 to 6.15 p. m.

² Deutsch. Archiv für klin. Med., v. p. 273.

still essentially a shutting in of heat and a further rise of temperature.

It is not necessary to assume that the tetanus of the arterioles is continuous during fever, which, says one of Traube's opponents, is "contrary to all physiological experience." The temperature of a fever patient is almost always either rising or falling. The disturbance of the heat eliminative system may be supposed to consist in an increased irritation or irritability of the vaso-motor centre, causing temporary tetanus of the arterioles and rise of temperature, followed by partial or temporary relaxation of this tetanus and consequent fall of temperature, as, for example, during the night in typhoid fever. Alternations of tetanus and relaxation explain the rhythmical progress commonly observed in fever. If the onset of the tetanus is rapid, we have a chill, as in intermittent fever; if slow, no chill, as in the diurnal rise of typhoid. If the relaxation of the tetanus is complete or of long duration, the patient returns to a normal temperature; if incomplete or of short duration, a new tetanus occurs, before the refrigerating influence has brought about a return to normal conditions.

As an argument for Traube's theory and its modifications may be mentioned an experiment of Hütter on frogs rendered feverish by the injection of decomposing fluid. In the tongue and mesentery he found, after twenty-four hours, fully one half the capillaries filled with red blood corpuscles, and excluded from the circulation, the heart meantime working with its normal force.

SUMMARY.

To sum up the results of the whole discussion, the following seems to the writers the most probable view of the origin of fever, if further experiments should confirm the results of those described above:—

Through irritation of the vaso-motor centre a tetanus of the smaller superficial arteries occurs, which, by diminishing the circulation in the skin, shuts in heat. The onset is accompanied by a chill or not, according as the tetanus occurs suddenly or gradually. In some unknown way an increased production of heat is caused by the shutting in of heat. This increased heat production must be regarded as of much more importance than it was considered to be by Traube. Throughout the periods of rising temperature there is decreased activity of heat elimination relatively to the new and increased rate of heat production. The elimination of heat may or may not be absolutely decreased. Even with tetanus of the arteries and rising temperature the excessive heat production may be enough to make the absolute amount of heat eliminated greater than normal; but, during the rise, incompetency of the heat-eliminating system, dependent on tetanus of the superficial arterioles, remains a cause of the rise and of the increased heat production. Exhaustion of the tetanus is followed by a more or less gradual increase of heat elimination and fall of temperature, to be followed in turn, if the fever continues, by a second tetanus and rise of temperature.

In favor of this modified form of Traube's theory it may be said:—

(1.) That the fact of greatly diminished circulation in the skin has been shown by Hütter in the septic fever of frogs.

(2.) That this theory only assumes a derangement of a well known physiological function, namely, that

of the vaso-motor centre, while no centre for heat production has been demonstrated.

(3.) That it has been shown in Experiment III. that a fever can be produced by a primary shutting in of heat, while it has not been shown that increased heat production can of itself cause fever.

(4.) That this theory retains all the advantages of Traube's original one in explaining the clinical and pathological phenomena of fever.

(5.) That it is free from the objectionable assumption of Traube that there is in fever patients a tetanus of the arteries, lasting for days and weeks.

(6.) That it is not inconsistent, as Traube's theory is, with the result of Leyden's calorimetric experiments on fever patients.

(7.) That shutting in of heat will, as has been shown in Experiment III., account for the great increase in the elimination of urea which is observed in fever.

With regard to the practical bearing on medicine of the question which has been discussed a few words will be ventured, though not strictly admissible under the subject of the paper.

If increase of heat production is the primary disturbance in fever, treatment by cold baths is apparently of service only by giving comfort to the patient and occasionally preventing those excessively high temperatures which seem to be in themselves dangerous to life. The baths cannot be supposed, if we take this view, to be of any service in checking the production of heat and destruction of tissue.

If, on the other hand, decreased heat elimination is primary to and the cause of the destructive-tissue metamorphosis, as it was shown to be in the artificial fever of Experiment III., then cold baths, by increasing heat elimination, directly tend to remove the primary cause of fever.

SUDDEN AND TRANSIENT SWELLINGS OF THE LIPS.¹

BY T. B. CURTIS, M. D.

THE affection which is the subject of this communication is in itself, I must confess, rather a trivial one. Certain considerations will, however, I trust, suffice to show that it is not altogether devoid of interest to the practitioner and to the student. In the first place, without being really rare, it is sufficiently uncommon to have escaped the observation of many experienced physicians. In the second place, it has not obtained, so far as I have been able to learn, any distinct recognition in medical literature; it has no nosological position; in a word, no name. Hence the necessity of the descriptive, symptomatic designation which serves as the title of my paper. Finally, although invariably of short duration and favorable termination, this little disturbance, by the suddenness of its onset and by the inconvenience and deformity which it occasions, is apt to cause a considerable degree of alarm to the patient. It then becomes very desirable that the physician, when consulted, should be able to recognize at once the nature and harmlessness of the trouble, if only for the sake of reassuring the patient. Relying, then, upon these features of interest, I venture to occupy the attention of the society this evening with a few remarks upon this nondescript and nameless ailment.

¹ Read before the Boston Society for Medical Improvement, April 26, 1880. See JOURNAL May 6th.

The affection which I propose briefly to describe presents for consideration in most cases but one symptom, namely, a sudden and transient, circumscribed, painless swelling of the lip. The onset seems to take place mostly in the night, for nearly all the patients whom I have seen, numbering from twelve to fifteen cases, had first become aware of the existence of the trouble in the morning on awaking. The swelling would then be already fully developed and very considerable; or it might be moderate in degree, and continue for a few hours to increase. All my cases have occurred among the poor, in dispensary or hospital out-patients, in Paris and in this city. The swelling was in most cases very great, occupying the entire upper lip, or the lower lip, or the commissure and the greater part of both upper and lower lips, and gradually fading away, without distinct limit, upon the cheek. The lip so affected is enlarged in every way, greatly thickened and elongated. Its consistency is quite hard and firm. There is little or no tenderness, and pressure does not cause pitting. The swollen lip stands stiffly out, and remains quite motionless when attempts to shut the mouth or to speak are made. As consequences of this state of things, there is a very marked degree of deformity, rendering the sufferer at once hideous and ridiculous. A good deal of inconvenience also exists, resulting from the stiffness of the protruding lip, and the consequent inability of the patient to effect the usual movements of the part. Articulation is thus rendered indistinct, drinking is made difficult, and even the act of swallowing may be hindered, on account of the impossibility of making the necessary vacuum within the mouth. Another uncomfortable result is a continual overflow of saliva. In most cases nothing more is discovered on examination. The patient is alarmed by the suddenness of the attack and by the conspicuous character of the deformity, and he complains only of the feeling of clumsiness, tension, and rigidity of the swollen part, and of the inconveniences resulting from its displacement and immobility. In a few cases, however, there are some additional manifestations. There may be a little pain and tenderness and a trifling degree of redness of the integument; also some increase of warmth. In a word, the characteristic elements of inflammation are present, heat, redness, pain, and swelling. The latter, however, greatly preponderates, and generally constitutes the whole disease.

The trouble from the first and throughout remains purely local in character, and confined to the part in which it originated. I have never seen any sign of general disturbance, such as fever, indigestion, or sickness of any kind. Neither have I observed any complication or sequel. Adenitis, in particular, has always been absent. The course of the affection seems to be invariably the same. The swelling, having attained its fullest development in a few hours, persists for a day or two, and then gradually subsides, disappearing wholly within a total duration of twenty-four, thirty-six, or forty-eight hours.

In all the cases of sudden and transient swelling which I have come across among my own patients, the lip has been the seat of the disturbance. In one case, however, for which I am indebted to Dr. Bradford, who kindly sent the patient to me from the dispensary, a similar painless swelling occupied the right half of the forehead. The appearances were such as to cause Dr. Bradford to suspect erysipelas at first

sight, but the suddenness with which the swelling arose and subsided within forty-eight hours and the absence of other inflammatory and febrile symptoms made him renounce this suspicion in favor of the view that the affection might be of a similar nature with the ephemeral swellings of the lip, of which he had already seen several examples.

With regard to the circumstances which might throw light upon the *etiology* of this affection, I would say, first, that *sex* and *age* play no part in its causation, for I have seen it in children and grown-up people, both male and female. *Season*, however, does seem to exert a distinct influence, if I may trust my own experience. All the cases that I have seen have occurred in the spring or summer months. I have often interrogated patients with a view to discovering some accidental circumstance which might supply a plausible determining cause for the attack. In a few cases exposure to cold, such as might result from the neighborhood of an open window, was incriminated, but the evidence in favor of this agency was generally uncertain. The state of the teeth I have always carefully examined, without finding any connection between the attacks of lip swelling and the existence of caries, alveolar periostitis, or gingivitis. In no instance was toothache complained of, and in some cases the condition of the teeth was faultless. Several patients have attributed the attack of swelling to the bite of a spider, but upon questioning them with care this agency turned out to be purely imaginary.

A few years ago, when attending the surgical out-patients at the Massachusetts General Hospital, several patients presented themselves with swelled lip. One of my assistants having asked under what diagnosis the cases should be recorded, I was obliged to confess that I did not know the name of the disease, and begged him to look it up in his text-books, and inform me of the result. He failed to find any mention of such an affection, and on making researches and inquiries myself I was equally unsuccessful. In the Paris hospitals such lip swellings were called *fluxions*, an old-fashioned term of vague significance, which exists also in English. In Duglison's Dictionary a fluxion is defined as "a flow of blood or other humor towards any organ with greater force than natural." In Littré's edition of Nysten's Dictionary a fluxion is similarly defined as "a determination of a liquid towards a point under the influence of a local exciting cause," and as an example, the phlegmonous swelling of the cheek and gums, attending diseased teeth, is cited. "Often, however," adds Nysten, "fluxions, instead of being of a phlegmonous character, are simply œdematous; they are unattended by pain, and ordinarily are due to the influence of cold and damp air exerted upon more or less decayed teeth, which, however, are not at the time the seat of any pain." Magiot, a well-known French writer upon dental surgery, says that "a simple subacute periostitis may give rise to the œdematous swelling of the face commonly called a fluxion. When acute it occasions a circumscribed or diffuse phlegmon." The word fluxion seems then to designate properly an incipient or aborting cellulitis or phlegmon of the face.

Continuing my researches, I found that the only lip swellings that were generally recognized were, in the first place, the acute inflammatory form which attends furunculus of the lip; and, secondly, the chronic enlargement or so-called *hypertrophy* of the lips, which is

met with in scrofulous children. Both of these are unmistakable affections, having little or no resemblance, save in external appearance, to that which I am now describing. The same may be said of the *cheilitis glandularis apostematosa*, of which several cases have been reported by Volkmann,¹ and of the *chronic hypertrophy of the lips*, described more recently by Dr. R. W. Taylor,² of New York. These, like the strumous enlargement of the lip, are chronic affections, long lasting, if not permanent, and are therefore very different from the fleeting ailment which I have in view. A careful search through special treatises³ yielded only negative results.

My investigations were not, however, wholly fruitless, for I came across several descriptions of an affection not without analogy to that which I was seeking to identify. Several observers have recorded cases of an unusual character, in which patients had been liable for more or less long periods of time, weeks or months in duration, to undergo repeated attacks of sudden, ephemeral, painless swelling, situated upon the face, as well as upon other parts of the body, and occasionally affecting the lips. This form of disease was first described, I believe, by Graves,⁴ in a clinical lecture on gout. The case is related by him as follows:—

"Gout is another disease which occasionally exhibits examples of its peculiar inflammations, attacking various parts and tissues of the body, and that for an extremely short period of time. . . . One of the most remarkable instances of fugitive inflammation affecting various parts of the body which has come under my notice occurred in the person of a gentleman lately under my care. . . . of a gouty habit. . . . After laboring for some time under languor and weakness, accompanied by spasms, pain, and sense of weight in the stomach, the pain of the stomach ceases, and his face begins to swell at various points, generally commencing on the forehead, and involving the cheek and eye, so as to close up the latter. . . . He suddenly perceives a tumor rising on the forehead, which, in the space of half an hour, becomes as large as a pigeon's egg, and, as he expresses it, moves down until it closes the eye. Sometimes it attacks his lips and other parts of his face, but never affects his nose. But what is chiefly remarkable in this case is the singular character of the local affection. The tumors arise, run through their course, and disappear in the space of a few hours, and on the following day there is no trace of their existence. Sometimes the lips, inside of the mouth, palate, and uvula are attacked, giving rise to very considerable inconvenience. Were such tumors to occur in the neighborhood of the glottis, I need not say that they would be pregnant with danger of no ordinary character."

The same unusual form of gouty disturbance was recently described in the following passage from a lecture On the Gouty Vice,⁵ by Dr. W. H. Draper, who may have owed his information on this particular point to Graves:—

"The lesions of the skin, says Dr. Draper, which occur in gouty subjects may be divided into those which depend upon sudden and transient disturbances of the cutaneous circulation, and those which are the consequence of prolonged hyperæmia. Examples of the former class are observed in some of the forms of erythematous lesions, as, for instance, in urticaria, and in that more rare and curious affection of the same fugitive character, which occurs generally about the face, in which sudden swelling takes place in the eyelids, closing the eyes, or in the cheek and lips, or perhaps in the tongue or soft palate, causing marked but transient deformity, and sometimes considerable inconvenience and suffering. In these forms of erythema, the

hyperæmia is temporary, lasting only a few hours, and leaving no trace. It should also be remarked that these lesions in gouty subjects are generally excited by indigestion, and especially by the irritation, either direct or reflex, produced by certain articles of diet, such as certain kinds of fish, or fruits, or wines."

Dr. Draper calls attention in the foregoing passage to the analogy or relationship existing between the sudden and transient swellings of gouty subjects and certain erythematous disturbances of the skin, among which he mentions urticaria. A curious case, which seems to bear out this view, was reported⁶ under the title of Unusual Form of Urticaria, by Mr. J. L. Milton, as follows:—

"The following very unusual case seems to me more clearly connected with urticaria than any other disease of the skin. That it was a neurosis I think admits of no doubt. The singular features in it were the extraordinary size of the swellings and the total absence of all itching. I showed it to several surgeons, but no one recognized the disease except Sir B. Brodie, who had seen one or two instances of it in a very mild form, but confessed himself so entirely puzzled as to its nature that he had not ventured to give it a name. I believe no published account of the disorder is to be found; at any rate, I found none after a long search in the library of the College of Surgeons.

"Case: The patient was a gentleman, aged thirty-five, usually enjoying very good health, though rather below par, owing to overwork. In June, 1855, colicky pains and neuralgia, followed by a series of swellings, sudden and transient, lasting a few hours, situated on the thighs, lips, and over the crest of the ilium. Sometimes two occurred almost simultaneously; on one day there were three. In October the face was attacked. A hard swelling passed slowly over both eyes. . . . It ran its course in about eight hours, and then slowly subsided, but considerable puffiness remained for several days. Each eye in succession was firmly closed by the swelling. A few days after the mouth was assailed, the swelling being much more prominent. One or two swellings also showed themselves on the legs, and one or two small ones on the arms. There was now generally an interval of a day or two between them, and after a few irregular outbreaks the disorder entirely quitted the lower part of the frame, to appear with concentrated violence in the face.

"Here, after three attacks, the disorder fairly reached its climax on the 11th of December. About four A. M. a swelling commenced, with a peculiar sensation of tension and uneasiness in the left cheek, which soon roused him, and prevented further sleep. On grasping it with the hand it felt like a large walnut. It spread with the most astonishing rapidity, and by eight o'clock had reached right across the lower part of the face, which was so swollen as to be visible like a dark, projecting shadow on 'casting down the eyes. The anterior surface of the upper lip was protruded horizontally outwards, and firmly pressed against the nostrils; the mucous membrane of the lips was shining, and so tense as to feel as if it would crack. All attempts at articulation were very imperfect, and though the mouth was not firmly closed, yet nothing could be swallowed, owing to its rigidity and to total loss of control over the movements of the lips."

"Three times the throat was affected, and here the swelling reached its maximum in half an hour. A medical friend, whose aid was sought in one of these attacks, said that the posterior fauces presented much the same appearance as in a bad case of cynanche, the uvula, soft palate, and tonsils being greatly swollen. Saliva was poured out in large quantities, and for some hours the sense of suffocation was almost unbearable. . . . From the 11th of December the number and severity of the attacks steadily declined, and they finally disappeared on the 11th of March.

"At no time were these swellings painful, even on firm pressure, to which, I may here observe, they did not yield. Some of them conveyed a feeling of heat to the hand, but in general the only sensation remarked was one of stiffness and distention. The skin was for the most part unaltered in color. . . . The subsidence of the swelling was never followed by any desquamation or itching. . . . No constitutional disturbance of any kind accompanied either the outbreak or decline of these singular phenomena. . . . Sir B. Brodie considered the affection dependent on disorder of the stomach, remediable by the use of liquor potassæ. . . . None of these swellings ever formed in the afternoon or evening. All those of which I noticed the commence-

⁶ J. L. Milton, Diseases of the Skin, London, 1872, page 182.

⁷ A wood-cut representing the face of the patient with the lips swollen is appended to the report of Mr. Milton's case.

¹ Virchow's Archiv, 1870, page 142.

² The Medical World, November, 1871.

³ See F. Mason, Surgery of the Face, London, 1880. A. Vogel, Diseases of the Lips and Mouth, Ziemssen's Cyclopaedia, American translation, vol. vi. Nouveau Dictionnaire de Médecine et de Chirurgie pratiques, articles Bouche (vol. v.) and Levre (vol. xx.).

⁴ Robert J. Graves, Clinical Lectures, Dublin, 1848, vol. i. p. 462.

⁵ American Clinical Lectures, edited by E. C. Seguin, M. D., New York, 1875, vol. i. p. 310.

ment began between four and ten A. M., and with one exception always reached their utmost height in four hours.*

The disturbances thus described by Mr. Milton were considered by him to be very unusual, as he had himself never seen nor heard of such a case before. Sir B. Brodie, however, had seen one or two instances of a similar nature in a milder form, and probably considered the disorder to be of a gouty character, since he attributed it to a digestive disturbance, likely to be remedied by the use of liquor potassæ.

An affection similar to that observed by Graves and Milton, and consisting in a series of attacks of sudden and transient swelling, painless, and of short duration, occurring successively during a period of several weeks or months, situated in different parts of the body and face, and occasionally affecting the lips, has been described by Perroud,¹ of Lyons, in a paper on Ephemeral Congestive Tumors of the Skin, to which Dr. J. C. White kindly directed my attention quite recently. Perroud's cases, five in number, seem to have been identical in character with those reported by Graves and Milton. In fact, he cites Graves's case of sudden swellings occurring in a gouty subject as one of the observations upon which his description of the disease is based. He considers the disturbance to consist in localized congestions taking place under the predisposing influence of a constitutional vice, and ascribes as the cause in some cases a gouty diathesis, in others scrofula or a "lymphatic temperament." The evidence of constitutional vice was for the most part equivocal, and in one of his cases no such predisposing diathesis could be incriminated.

The individual successive attacks which took place in the cases recorded by Graves, Milton, and Perroud seem to have been very similar to the single attacks which I have observed. In none of my cases, however, was there any repetition of the morbid process, nor has it been possible to recognize any particular constitutional defect as the predisposing cause of the local trouble.

With regard to the nature of the morbid process which occasions these sudden and transient painless swellings we are of course reduced to surmises. The increase of bulk of the affected part recalls that caused in other localities by *œdema*, with this peculiarity, that here pressure does not cause pitting. It may be observed, also, that the lips seldom, or never, participate in *œdema* of the face, being sometimes, in cases of dropsy or erysipelas, the only parts of the face that escape the infiltration. Their exemption from such rapid *œdematous* swelling as takes place in the eyelids and cheeks is perhaps due to their firm texture and to the paucity of connective tissue entering into their structure, the lips being largely composed of muscular fibre closely united with the under surface of the skin.

The process is evidently of an inflammatory character, as is shown by the sudden and acute course, and also by the presence of heat, pain, and redness occasionally accompanying the swelling in moderate degrees. We might perhaps attribute the disturbance to an acute reticular lymphangitis. Chassaigne² has expressed the opinion that the thickening of the lips observed in scrofulous children was due to a reticular lymphangitis, and Dr. Curnow,³ in his recent lectures

on the lymphatic system, says that he is inclined to include with reticular lymphangitis the "acute swelling of the lips and tip of the nose which is so common in strumous people."

The diagnosis of this ailment is readily made, provided only that the practitioner is forewarned of the existence of such an affection. The absence of any disturbance except the swelling itself suffices to set aside the existence of erysipelas, furunculus, or urticaria. The sudden onset and the rapid subsidence of the swelling are incompatible with the idea of a serofulous enlargement of the lip. The acute, gouty swellings of Graves, Draper, and Milton seem to be so similar to the affection which we are considering as to be probably undistinguishable from it, save by the frequent repetition of the process and by the evidences of constitutional disturbance. They are, however, very rarely seen, and may perhaps be considered as highly aggravated and exceptional forms of the same disease.

The prognosis, it is hardly necessary to add, is invariably favorable, since the swellings may be expected to disappear spontaneously in a few hours, or at the latest in a day or two. No treatment, except perhaps the avoidance of exposure to cold, seems to be called for. The sufferer may prefer to keep the house till the very unsightly deformity has subsided. The most important office of the physician consists in dispelling the needless alarm of the patient. That he may be able to render this little service he must be prepared to recognize the affection and to foretell its issue. The object of my remarks upon the subject of ephemeral swellings has been mainly to impart the familiarity which breeds contempt.

Reports of Societies.

SECOND ANNUAL CONVENTION OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

THE second annual convention of the American Laryngological Association was held in New York, May 31st, and June 1st and 2d.

On the first day, in the absence of the president in Europe, Dr. Cohen, of Philadelphia, was called to preside over the meetings of the association. An address of welcome was then delivered by Dr. Leferts, of New York. Dr. Cutter, of Boston, read a paper on

THROAT SYPHILIS AND TUBERCLE,

reiterating his well-known devotion to the theories of Dr. Sansbury. Demonstrations of micro-photographs of the blood in these diseases were given by the aid of the magic-lantern in the evening. The second paper of the morning session was on the treatment of

PHARYNGITIS SICCA,

by Dr. Sharley, of Detroit, for the treatment of which, among other things, he specially recommended the employment of the constant current of electricity. In the afternoon the first paper was by Dr. Leferts, of New York, on

THE USE OF THE LARYNGOSCOPE IN CHILDREN,

claiming that a good view of the larynx could and should be obtained much oftener than it is. He recommended tact and persuasion at first, and when these failed a resort to force. In the discussion which followed, the importance, value, and accuracy of a forced

¹ Annales de Dermatologie, etc., Paris, 1869, page 193.

² Nouveau Dictionnaire de Médecine, etc., article Lymphatique, vol. xxi., p. 39.

³ Lancet, April 12, 1879, page 508.

examination of the child's larynx were well illustrated by a case of Dr. Warren's at the Massachusetts General Hospital, in which Dr. Knight had been able to diagnose paralysis of the posterior crico-arytenoid muscles (as distinguished from spasm), a condition requiring immediate tracheotomy. The correctness of the diagnosis had been established by the fact that the patient had continued to wear the tube, though years had elapsed since the operation. Dr. Lincoln said that he was in the habit of making a laryngoscopic examination of children by holding the head between his knees, direct light from a window being employed. Dr. Beverley Robinson, of New York, read a paper on

THE THERAPEUTICAL VALUE OF REST IN THE TREATMENT OF LARYNGEAL DISEASES.

In the discussion which followed this paper, while there was a general agreement as to the desirability of as complete a rest as possible from localization during acute affections of the larynx, some members were of the opinion that moderate exercise of the voice might not only do no harm, but perhaps be of positive benefit in chronic catarrhal conditions in which there was no evidence of muscular inability. Cases of the latter class might require temporary rest. Dr. Robinson called attention again in this paper to the rapid improvement after tracheotomy in cases of laryngeal perichondritis. Dr. E. W. Cushing, of Boston, exhibited an interesting and rare specimen of

MEMBRANOUS LARYNGITIS,

which had occurred as a complication of typhoid fever.

In the evening an elegant dinner was given by the New York Fellows to their colleagues at Delmonico's. At the morning session of the second day there was a business meeting, at which reports of various committees were disposed of. The committee on nomenclature, in consideration of the extent and important nature of their work, were granted another year in which to make their report.

Several amendments to the constitution were acted upon, one of those accepted providing for a second vice-president and a librarian. Dr. Knight then, as chairman of the nominating committee, reported the following list of officers for the ensuing year: president, J. Solis Cohen, of Philadelphia; vice-presidents, W. C. Glasgow, of St. Louis, and J. O. Roe, of Rochester, N. Y.; secretary and treasurer, G. M. Lettels, of New York; librarian, F. H. Bosworth, of New York; member of the council to fill vacancy, Dr. A. H. Smith, of New York. This committee also recommended Philadelphia as the place of meeting for 1881. On recommendation of the council the following gentlemen were elected active Fellows of the society: Dr. Harrison Allen, of Philadelphia, Dr. C. E. Bean, of Louisville, Dr. E. W. Cushing, of Boston, Dr. W. H. Daly, of Pittsburgh, Pa., Dr. W. Gleitsmann, of Asheville, N. C., Dr. W. C. Jarvis, New York, Dr. S. M. Langmaid, of Boston, Dr. C. E. LaJaux, of Philadelphia. Manuel Garcia, of London, was elected an honorary Fellow of the society.

A letter from the absent president, Dr. Elsberg, written on a sick-bed at Aix-la-Chapelle, was here received and read. The society passed resolutions of sympathy for their president in his sickness, and wishes for his speedy restoration to health.

Dr. Rumhold, of St. Louis, exhibited

A NEW FORCEPS

for removing polypoid growths from the superior respiratory tract.

A letter from Dr. Mandl, of Paris, was read, in which he expressed wishes for the welfare of the society and the specialty, and signified his donation of books to the society's library.

At the afternoon session Dr. Cohen, of Philadelphia, read a paper on

PRIMARY TUBERCULOSIS OF THE LARYNX,

which was illustrated by the large, beautiful microscopic sections of Dr. Seiler. Dr. Cohen, while admitting that primary tuberculosis of the larynx was very rare, and possibly still open to question, said that the case which formed the topic of his paper presented such clinical features as made him feel that the disease began in the throat, the first symptoms being a difficulty in swallowing.

Dr. Knight, while admitting that in this case Dr. Cohen was probably correct in his diagnosis, in this connection warned the society against assuming that there was no pulmonary disease in a given case simply because there were no morbid signs to be detected by auscultation and percussion. He said it must be remembered that only gross pulmonary lesions, or those situated near the surface of the lung, were necessarily evident on physical examination.

Dr. F. H. Bosworth, of New York, read a paper upon

NASAL STENOSIS,

in which he strongly recommended the employment of galvano-cautery in the treatment of hypertrophy of the anterior portion of the lower turbinated bone.

Dr. Daly, of Pittsburgh, while indorsing the use of galvano-cautery, recommended care in its employment, as he had known erysipelas and inflammation of the middle ear to follow its free use. Touching the swollen membrane with the wire at a red heat, without attempting to destroy it, seemed in many cases to suffice by promoting absorption.

On the third day Dr. Seiler, of Philadelphia, read a paper on a case in which a simple papilloma of the larynx seemed to have been irritated into malignancy by injudicious local treatment. Dr. Seiler also exhibited a new laryngeal forceps, capable of being bent and opened in any and every direction, apparently the greatest improvement in laryngeal forceps for many years.

Dr. Roe, of Rochester, read a paper on

FRACTURE OF THE LARYNX,

and showed a specimen. A paper of Dr. Ingals, of Chicago, on The So-Called Swallowing of the Tongue, was read by the secretary. Dr. Langmaid, of Boston, read an exceedingly interesting paper, and one which received the closest attention of the society, on The Treatment of Certain Forms of Vocal Disability by the Application of the Principles of Vocal Culture.

In the afternoon Dr. Daly, of Pittsburgh, read a paper on Nasal Polyps, and Dr. Jarvis, of New York, one on Hypertrophy of the Nasal Mucous Membrane. The latter recommended the removal of the hypertrophied mucous membrane of the posterior ends of the turbinated bones by means of a wire caesarean, fine No. 5 piano wire being used. He showed several large

masses which had been removed in this way from the turbinated bones, with complete relief to the nasal obstruction. After voluntary narration of cases and exhibition of patients by several members, the officers nominated on the previous day were elected and inducted into office, and Philadelphia was accepted as the place of meeting for next year. The convention then adjourned.

The Fellows of the association were guests of the American Medical Association at all the entertainments given by, or provided for, the latter. The meeting was a thoroughly successful one in every respect, whether socially or scientifically considered. It was harmonious, business was dispatched quickly, members were prompt with their papers, which as a rule were excellent, and the discussions were to the point, receiving the compliment from a professor of the University of Pennsylvania of being conducted on a much higher plane than those of the sections of the American Medical Association.

ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION.¹

SURGICAL SECTION. FIRST DAY.

The first paper before the surgical section was that of Dr. Benjamin Lee, of Philadelphia, on Spinal Extension: Its Modes, Means, and Motives.

Extension of the spinal column was stated to be as old as the "Old Man of Cos," who, with his wonderfully acute and profound intellect, was able to appreciate the advantages of mechanical therapeutics, in later times degraded from its true place by the mysticism of the Middle Ages, from which the profession is still struggling to emancipate itself.

The modes of spinal extension were described as three: vertical, inclined, and horizontal. Diagrams of different apparatus from the time of Hippocrates down illustrated the means for carrying out each of these modes. The latest of these was the surgical table of Mr. W. H. Johnstone, of Philadelphia, constructed at the writer's suggestion for the purpose of taking a plaster cast of the trunk in the horizontal position, but susceptible of being employed in the reduction of fractures and dislocations, and in the performance of operations requiring the limb to be firmly fixed. The motives of spinal extension were either direct and immediate, or indirect and mediate. The direct objects were, first, the reduction of dislocations and fractures of the vertebrae; second, the stretching of contracted muscles and ligaments, along the spinal column; and, third, the restoration of tone and contractility to relaxed muscles and ligaments.

The importance of making use of extension, either by suspension or horizontal traction, in every traumatic lesion of the spine of a paralyzing character was especially insisted on, the risks of the operation being asserted to be small in comparison with those attending its neglect. The mode of making use of the table for the purpose of taking a plaster cast in order to produce a mold for making the Powers felt jacket was described with some minuteness.

Dr. Lee thought that while the table of Mr. Johnstone was a very perfect and convenient apparatus for this especial object, as a means of daily exercise it was not likely to produce as good results as the spinal swing.

¹ Continued from page 552.

SECOND DAY.

Morning session. The proceedings opened with a breeze in regard to the admission of the delegates from the United States navy; Dr. Gihon claiming that charges had not been properly placed before the judicial council. On motion of Professor Gross, the representatives of the medical department of the navy were admitted to full membership, in default of any legitimate complaint having been filed against it before the council.

A committee on nominations was appointed as follows:—

W. O. Baldwin, Alabama; E. R. Du Val, Ark.; M. S. Storrs, Conn.; Judson Gilman, Md.; W. S. Tremaine, Kansas; Marshall Sexton, Indiana; J. B. Book, Mich.; Jos. H. Warren, Mass.; E. M. Moore, N. Y.; Duncan Eve, Tenn.; S. D. Gross, Pa.; I. H. Pope, Texas; J. Eliot, D. C.; T. G. Richardson, Louisiana; Dr. Wakefield, Florida; A. T. Woodward, Vt.; H. B. Ransom, Iowa; G. A. Shurtleff, Cal.; F. D. Cunningham, Va.; S. Baruch, S. C.; C. P. Adams, Minn.; M. Campbell, W. Va.; J. G. Thomas, Ga.; William Marshall, Del.; G. W. Nesbitt, Ill.; A. E. Heighway, Ohio; T. G. Robinson, Mo.; R. E. Howard, Miss.; H. A. Hopper, N. J.; G. P. Conn, N. H.; A. Ballou, R. I.; Walter Kempster, Wis.; W. K. Oaks, Me.; J. A. Oetzel, Ky.; J. S. Billings, U. S. A.; and J. Rufus Tryon, U. S. N.

Dr. Brodie, one of the delegates to the Canada Medical Association, reported their attendance upon the meeting of the Canada Medical Association, and their flattering reception by the members. The report was accepted.

The propositions contained in Dr. Chaille's address of last year were reported upon unfavorably by the committee appointed at Atlanta. In regard to the propriety and expediency of the publication of the Transactions in periodical form, the committee were divided; but this subject will be further considered.

A letter from Dr. N. S. Davis, of Chicago, was read, regretting his enforced absence, and recommending that for the purposes of the investigations of the committee on ozone this committee be authorized to purchase instruments of precision, whose value shall not exceed \$200. On motion of Professor White, of Buffalo, the committee was continued and the appropriation made.

The address of the chairman of the section on Practice of Medicine, Dr. J. S. Lynch, of Baltimore, was listened to with much interest. He reviewed some of the points in regard to yellow fever, and concluded that it could not be destroyed by cold. Moreover, when first discharged from the system by the excretions, the poison is in a potential state, but after a certain period of about sixty days it is found to have undergone some change, rendering it active and capable of imparting the disease. He insisted upon the necessity of prophylaxis and prompt disinfection, thorough in its application. The lecturer called attention to the great mortality from consumption, and insisted that the observations of Professor Bowditch and others had indicated the proper method to pursue in order to reduce its ravages. Scarlatina and diphtheria are also preventable diseases, and demand our attention. More fatal cases occur annually from the preceding diseases than during the yellow-fever epidemic of 1878, and they excite comparatively little public interest. He referred also to the cinchona alkaloids and salicylic

and carbolic acids as antipyretics, and to the physiological action of aconite in explaining its influence upon febrile conditions.

In the report of the chairman of the section on Surgery, Dr. W. T. Briggs, of Nashville, discussed particularly the subject of trephining, especially as a preventive, or as a precautionary measure in severe traumatism of the head, where it was feared that extravasation of blood, inflammation, or other bad results may follow. Of forty-two cases trephined by him, thirty-eight recovered. His conclusions were as follows:—

(1.) Extensive comminuted depressed fractures of the skull were almost invariably fatal without operative measures; (2.) curative operations were but little better than the expectant plan of treatment; and (3.) preventive trephining offered the best chances for a successful operation. Dr. Briggs then discussed the question of the treatment of punctured and simple fractures of the skull, fractures of the external and of the internal table, and stated as the essentials to success: (1) full antiseptic precautions; (2) the use of the conical trephine; (3) entire removal of all loose fragments of bone; (4) special attention for the purpose of securing perfect drainage, the open-wound treatment being his favorite method.

The following important amendment relating to prize essays was adopted:—

(a.) There shall be four annual prizes of two hundred and fifty dollars each, which shall be awarded at the close of the second year after announcement, as hereinafter explained, for strictly original contributions to medical and surgical progress.

(b.) It shall be the duty of the chairman of each of the following four sections—(1) Practical Medicine, Materia Medica, and Physiology; (2) Obstetrics and Diseases of Women and Children; (3) Surgery and Anatomy; (4) State Medicine and Public Hygiene—to appoint annually, before the adjournment of the meeting of the Association, three members of ability and good judgment, who shall constitute a committee of selection, and who shall, within thirty days thereafter, select and publicly announce for competitive investigation and report a subject belonging to one or other of the branches of medicine included in the title of the section.

(c.) It shall also be the duty of the chairman of each of the sections mentioned to appoint annually a committee of award, consisting of three experts, who shall carefully examine the essays offered for competition, and if any one shall be found worthy of the prize as a substantial contribution to medical knowledge to recommend the same to the Association.

(d.) All essays placed by their authors for competition shall be in the hands of the chairman of the respective committees of award on or before the first day of January preceding the meeting of the Association at which the reports of the committee are required to be made.

(e.) All prize essays are considered as the property of the Association.

(f.) The names of the authors of the competing essays shall be kept secret from the committees by such means as the latter may provide.

(g.) Membership in either of the two committees shall not declare from membership in the other; nor shall membership in the committee of selection exclude a member from the privilege of offering a competitive essay.

IN THE SECTIONS.

Section of Practice of Medicine, Materia Medica, and Physiology. Dr. H. R. Hopkins, of Buffalo, N. Y., read a paper on Sphygmograms and Notes of Autopsies, in which he gave the results of a number of cases where the diagnosis had been aided by a modification of Pond's sphygmograph.

Dr. Robt. N. Taylor, of New York, read an essay On the Use of Chrysophanic Acid in the Treatment of Skin Disease. The manner of using this remedy was by combining it with simple ointment (gr. x. to $\mathfrak{z}\text{i}$.), which in certain skin diseases is a specific, especially those of a scaly nature. Sycosis, ringworm of the body, and the papular or scaly syphilides are each benefited, but in psoriasis it has achieved its best results.

A paper to be read by Dr. J. Solis Cohen for W. T. Gadbury, of Yazoo City on Artificial Inflation as a Remedial Agent in Diseases of the Lungs, was read by title.

Dr. William Pepper presented a further contribution to the local treatment of pulmonary cavities, in which he called attention to the benefit of injections directly into vomica. In one case, after forty-eight injections inside of a period of fourteen months, the cavity became obliterated. The patient died subsequently of Bright's disease, when the lungs were examined, with the above results. Seventeen other cases were referred to, in which two hundred and ninety-one injections had been made, but without as striking results as in the first case. Lugol's solution (\mathfrak{M} x. to $\mathfrak{z}\text{i}$. to $\mathfrak{z}\text{i}$. water) and carbolic acid were used, through an extra large hypodermic syringe.

In the discussion following the paper Dr. Pepper said that very few cavities ever heal spontaneously; and the supposed cicatrices of such healed cavities are in reality areas of exudation. He said that he would hesitate about recommending this procedure for general adoption, as he did not think its value was yet entirely established. Dr. Bennett, Dr. Wilson, and others said that they regarded the constitutional treatment as more important than any local treatment.

The Treatment of Scrofulous Diseases of the Skin was the title of a paper read by Dr. John V. Shoemaker, in which he extolled the effects of chlorate of potash given in doses of two to four grains four times a day; and stated that he believed it to be the only effective remedy in many cases of scrofuloderma. The views of the author were opposed by Dr. Ulrich, of Pennsylvania, Drs. Taylor and L. Duncan Bulkley, of New York, and Dr. Sherwood, of Brooklyn.

A paper was next presented by Dr. J. R. Uhler, of Baltimore, on Restorative Remedies, who exhibited specimens of cod-liver oil with bread, cod-liver oil in cheese, several preparations of malt extract, and preparations of pepsine. For the preservation of pepsine he had devised a process in which the fresh gastric mucous membrane was cooled with gypsum, and this, when it became hardened, was pulled off and ground up, ready to be dispensed to any one who would take it, or sold to any one who would buy it.

Section II. On Surgery, etc. The subject of puncture of the joints, recommended yesterday by Dr. Pancoast, was made the subject of general discussion, in which early aspiration was advised. Dr. Pancoast, in reply to a criticism, repeated the statement that the value of extension in treating articular affections is explained by the relief it affords the inflamed synovial membrane.

Dr. James L. Little, of New York, presented a paper on Compound Complicated Hare-Lip, with three cases in which the "inter-maxillary bone" was distinct from the superior maxilla, and projected. Hard and soft palates were both cleft. Several partial operations were required, before the complete result was obtained. These three cases were brothers; in the same family five other children, all girls, exhibited no such malformation. Photographs and casts were shown, demonstrating the results of operation.

Dr. Atlee, of Lancaster, Pa., among other cases in his own practice spoke of one family which contained seventeen members afflicted with hare-lip. Early operation is advisable. Dr. Sayre, of New York, said that he had operated upon a child only four hours old; and Dr. Hamilton, of New York, said that he had operated as early as twelve hours after birth. The best time to operate, according to Dr. Sayre, was before the lips were actively occupied in suckling.

Dr. D. H. Goodwillie, of New York, exhibited a series of models of an abnormal position of the inferior turbinated bones; and spoke of the influence exerted by the erectile (?) tissue covering these bones, in the production of disease.

A paper on Torticollis cured by open division of the sternal and clavicular origins of the sterno-cleido-mastoid muscle, followed by elastic traction, was read by title by Dr. A. C. Post, of New York; as was also one by Dr. Jos. C. Hutchison, of Brooklyn, describing a New Ether Inhaler, and a New Form of Transfusion Apparatus.

Dr. Goodwillie exhibited an apparatus for the administration of laughing-gas mixed with air.

Drs. DeForrest Willard and E. O. Shakespeare, of Philadelphia, presented a paper on Hip-Joint Disease, accompanied by microscopic sections of the parts taken from a case of death in the early stage of the disease. Dr. Willard's splint, made upon a plaster-cast model of the limb, was also exhibited.

Dr. John B. Roberts, of Philadelphia, read a paper giving the history and statistics of the operation of tapping the pericardial sac, in which he stated that the canula might be left *in situ*, and the sac washed out with antiseptic solutions.

This paper was followed by one from Dr. C. A. Leale, of New York, upon thoracentesis, which advocated the operation and urged its more frequent performance.

Dr. Robert F. Weir, of New York, in a clinical paper upon Cystotomy for Cystitis in the Male gave the results of forty-seven cases thus operated upon, the statistics of which had been collected by the lecturer. He recommended a free incision into the bladder by the lateral perineal incision, and that the wound should be kept open as long as possible by the frequent introduction of a glass tube. After ten days the tube can generally be permanently allowed to remain. In senile cystitis he advised the removal at the time of the operation, of part of the hypertrophied prostate gland.

Dr. Gouley, in discussing the paper, said that no patient would be relieved by the operation unless a free division of the urethro-vesical orifice had been secured.

An important resolution was here offered by Dr. Dawson, of Ohio, that a committee be appointed to report what steps it would be necessary to take, in order to permit members to publish their papers, either in abstract or entire, before the appearance of the annual

volume of Transactions. This resolution was adopted and a committee of three appointed.

Dr. Laurence Turnbull, of Philadelphia, read a paper on Skin Grafting. Dr. Burchard, of New York, reported a case where five hundred grafts had been taken from an amputated thigh and placed upon an ulcerated breast, with good results. He said that to Van Wagenen belongs the credit of originally suggesting this procedure.

A paper by Dr. M. Bass, of Philadelphia, describing a new inhaler, was read by title.

Dr. Wm. A. Byrd reported a case of intestinal obstruction, where laparotomy and colotomy were successfully performed.

Dr. Gouley agreed with the lecturer concerning the danger of delay, but sufficient time should be taken to confirm the diagnosis. He insisted that laparotomy, to be successful, must be performed before peritonitis has set in. Dr. Jewett, of Massachusetts, strongly recommended the introduction of a long rubber tube and large warm water injections previous to operation. Dr. Weist, of Indiana, said that in several cases in his experience the let-alone policy had been very successful.

A new apparatus for the treatment of club-foot and other deformities was next exhibited by Dr. Doyle, of Syracuse, N. Y.

Section III. On Obstetrics and Diseases of Women. The Management of the Third Stage of Abortion, with Retention of Placenta and Membranes, was the subject of a communication from Dr. J. T. Johnson, of Washington, in which he emphasized the fact that the patient was not free from danger until the uterus had been entirely emptied.

Dr. Morris, of Baltimore, Dr. S. T. Hubbard, of New York, and Dr. Trenholme, of Montreal, discouraged middlemen interference with the curette, and advised the tampon to check the hemorrhage, and carbolized-water injections. Many cases of abortion being caused by uterine tumors, which the curette cannot remove, there is little need of operative procedure under ordinary circumstances. The opposite opinion was expressed by Dr. Marey, of Massachusetts, and Dr. Hanks, of New York, who urged prompt dilatation of the cervix and removal of the portions of placenta or membranes.

Gastro-Hysterectomy: Being Remarks on and Exhibition of a Full-Term Uterus removed by Laparotomy, was the title of a paper by Dr. I. E. Taylor, of New York. The patient had been delivered five years before by laparotomy, on account of a kyphotic pelvis. In the present operation two ligatures had been placed around the cervix, after delivery of the child by Cesarean section, and the uterus removed by cutting between the ligatures. On the twenty-seventh day, after an attack of phlegmasia alba dolens, the patient died of cardiac thrombosis. Out of fifty cases now on record, twenty-one had recovered where gastro-hysterectomy had been performed in cases with deformed pelvis.

Dr. H. O. Marey presented an elastic uterine dilator, which could also be used for a repositr in cases with inverted uterus.

Dr. T. G. Thomas, of New York, read a paper which he had entitled Clinical Contributions to the Subject of Removal of the Uterus in Whole or in Part by the Extirpation of Tumors connected with that Organ. The paper was based upon seven cases (five

of entire ablation, one of the fundus, and one of the whole body): four of these recovered; the three fatal cases were all operated upon for large solid tumors. A tumor susceptible of diminution in size by tapping is not so dangerous, therefore, for operation as one which, being solid, involves the necessity for a long abdominal incision. In this connection Dr. Gilman Kimball's cases of extirpation of the uterus were referred to, in which only five deaths occurred in thirteen cases.

Section of Diseases of Children. A temporary section was organized for the consideration of pediatric medicine. On motion of Dr. A. Jacobi, of New York, Dr. S. C. Busey, of Washington, was elected chairman, and Dr. F. Woodbury, of Philadelphia, secretary.

Dr. A. Jacobi presented, in a very interesting address, the claims of the pathology of children for distinct consideration, and concluded by offering an amendment to the by-laws of the American Medical Association, establishing a permanent section on diseases of children. This resolution was adopted, and directed to be presented at the general session.

Dr. S. C. Busey read a paper on Bright's Disease in Children caused by Malaria, and cited three cases in which the malarial cachexia was followed by renal disease with the usual symptoms. He also reviewed the therapeutics of this disorder.

Dr. Jacobi suggested that malaria might cause nephritis in two ways: in the first place, from debility of the circulation leading to thrombosis and inflammation; and, secondly, the destruction of the red-blood cells and presence of pyriant may lead to embolism. Griesinger and Rosenstein both speak of kidney disease caused by malaria.

A Case of Congenital Lymphæctasia was reported by Dr. James L. Green, of Elizabeth, N. J., in which injections of iodine appeared to have some effect in reducing one of the large tumors.

Section IV. On State Medicine, etc. Resolutions in which the present centralized and imperial National Board of Health was condemned, and Congress petitioned to abolish it and to have another board substituted, having been referred by the general session to this section for consideration, it was resolved that the passage of such a bill would be impracticable and unadvisable, and also that the present national board is satisfactory in its working and organization.

The Temperature of Living-Rooms was read by the secretary, for Dr. R. C. Kozlie, of Michigan.

Dr. A. C. Carroll, of New York, read an essay upon The Personal Factor in the Ætiology of Preventable Disease, in which the susceptibility of the patient was considered.

Hot-Air Bathing as a Means of promoting Health and preventing Disease was considered in a paper by Dr. E. C. Angell.

Microscopical sections from cases of disease of the brain and spinal cord were presented by Drs. Charles K. Mills and Carl Seiler, of Philadelphia, including posterior spinal sclerosis, hydrocephalus, two of epilepsy, and one from hydrophobia.

Section V. On Ophthalmology, Otology, and Laryngology. Dr. W. H. Daly described the Therapeutic Value of the Galvano Cautery in Diseases of the Naso-Pharynx, in a number of cases, to destroy adenoid growths, etc.

A very interesting scientific dissertation by Dr. Knapp, of New York, illustrated by models, to dem-

onstrate the principles of The Refraction of Light by Asymmetrical Surfaces, particularly considered the subject of the physics of astigmatism. Dr. Knapp does not correct an astigmatism less than $\frac{1}{2}$, as the physiological astigmatism is from $\frac{1}{6}$ to $\frac{1}{10}$.

Dr. S. S. Jones, of Chicago, volunteered a paper on the Introduction of Liquids into the Eustachian Tubes and Middle Ear, in which the injection, without force, of weak saline solutions (at 60°) in dry, chronic non-suppurative inflammation of the middle ear was highly recommended. Considerable discussion was excited by this paper, Dr. Knapp opposing the procedure, and Dr. Reynolds limiting it to chronic perforation of the membrana tympani. Dr. Holcombe, of New York, said that he had abandoned such injections, but still uses iodine vapor.

Dr. E. C. Gruening volunteered a paper on Wickersheimer's preservative fluid for animal substances, which was bought and published by the Prussian government, as follows: To three thousand parts of boiling water put one hundred parts of alum, twenty-five parts of common salt, twelve parts of saltpetre, sixty parts of carbonate of potash, ten parts of arsenious acid. Cool and filter, and add to ten parts of this solution four parts of glycerin and one part of methylic alcohol. Specimens were presented which had been preserved in this fluid, notably some eyes, which had even retained the transparency of the cornea, and appeared fresh and not shrunken.

ENTERTAINMENT.

In the evening the delegates attended a representation of Othello at Booth's Theatre.

THIRD DAY: GENERAL SESSION.

The report of the Committee on Nominations was received, which was unanimously adopted, as follows:

President, Dr. John T. Hodgen, of St. Louis, Mo. First Vice-President, Dr. W. H. Anderson, Alabama; Second Vice-President, Dr. Levi G. Hill, Alabama; Third Vice-President, Dr. Henry T. Holton, Vermont; Fourth Vice-President, Dr. Carpenter, Oregon. Permanent Secretary, Dr. William B. Atkinson, Philadelphia, Pa.; Treasurer, Dr. Robley J. Dunglison, Philadelphia, Pa.; Librarian, Dr. William Lee, Washington, D. C.

Judicial Council: Drs. J. K. Bartlett, Missouri; F. Staples, Minnesota; D. R. Wallace, Texas; J. G. Thomas, Georgia; J. S. Billings, United States Army, Washington, D. C.; J. H. Warren, Massachusetts; A. T. T. Woodward, Vermont.

Section of Medicine: President, Dr. Wm. Pepper, Philadelphia; Secretary, Dr. T. A. Ashby, Maryland.

Section of Surgery: President, Dr. Hunter McGuire, Virginia; Secretary, Dr. Duncan A. Eve, Tennessee.

Section of Medical Jurisprudence: President, Dr. J. T. Reeve, Wisconsin; Secretary, Dr. R. G. Jennings, Arkansas.

Section of Obstetrics: President, Dr. Jas. R. Chadwick, Massachusetts; Secretary, Dr. Joseph Taber Johnson, District of Columbia.

Section of Ophthalmology: President, Dr. D. S. Reynolds, Kentucky; Secretary, Dr. S. M. Barnett, District of Columbia.

Section of Diseases of Children: President, Dr. A. Jacobi, New York city; Secretary, Dr. William Bradford.

Committee on Prize Essay: S. E. Chaillé, New Orleans, La.; J. L. Cabell, Richmond, Va.; A. N. Bell, Garden City, N. Y.

The next meeting to be held in Richmond, Va., on the first Tue-day in May, 1881. Assistant Secretary, Dr. J. L. Cabell, Va.

Dr. Denison, of Colorado, being unable to attend and fill the duties of chairman of section on Practical Medicine, his resignation was accepted.

Dr. Bronson, of Massachusetts, offered the following, which was adopted:—

Whereas, The published proceedings of various sections of this Association does not receive the practical expression desired, and does not represent the labors of its members; and

Whereas, The members of the Association have long felt that the present mode of introducing the Transactions to the profession has been unsatisfactory to all concerned in the advancement of medical science; therefore, be it

Resolved, That a committee of five be appointed by the chair to report at the next session regarding the propriety of formulating all the proceedings in journalistic form, as recommended by the president in his annual address.

The committee is constituted as follows: Drs. W. W. Dawson, Ohio; J. R. Bronson, Massachusetts; W. H. Pancoast, Pennsylvania; N. C. Husted, New York; J. S. Green, New Jersey.

The report on National Sanitaria was read by title, being presented by Prof. H. I. Bowditch, of Massachusetts, and referred to section on State Medicine.

Dr. J. C. Billings reported upon the Catalogue of the National Library, that Congress had made provisions for the publication of the volumes, the first of which will appear in July, 1880, and the second in 1881.

The following amendments to the constitution, proposed by John H. Rauch, were adopted: Art. II., second paragraph, after "Army and Navy," insert "and the Marine Hospital Service of the United States."

Art. II., fourth paragraph, at the end, insert "the Marine Hospital Service of the United States shall be entitled to one delegate."

Dr. S. C. Bussey offered an amendment to the by-laws, making provision for a new section, to be denominated Section VI., On Diseases of Children. This was also adopted.

The report of the Metric Executive Committee was read by the secretary, who moved its adoption. After a warm discussion it was adopted as follows:—

The American Medical Association (1) recommends the teaching and practice of the metric system in medical colleges, clinics, dispensaries, etc.;

(2) Charge its Metric Executive Committee with the duty to report annually on the above institutions which teach, and those which do not teach, the metric system;

(3) Authorizes said committee to enter in communication with the Metric Committee of the British Medical Association, in order to concert such plans as may render the use of the metric system simultaneous and uniform in both countries.

Dr. Reynolds, of Louisville, offered a resolution requesting Congress to favor the experiment of building a refrigerating ship, which was, on motion, laid upon the table.

Dr. W. M. Beach, of Ohio, moved that the president appoint a committee to secure for the medical staff of the army and navy a social position equal with that of similar grades in other departments of the service. Carried.

The Judicial Council reported that the Hannibal Medical Society of Missouri is not entitled to representation in the American Medical Association, because it is not in affiliation with its own State Medical Society.

Dr. James F. Hibberd, chairman of the section on State Medicine, in presenting his annual address referred with commendation to the increased interest shown in this department of medicine. In taking up special subjects, he condemned the barbarous method of hanging criminals, and recommended prussic acid, electricity, or other equally painless methods; he also referred to the late investigations in brain function, and their relation to psychology. Proceeding to the care of the insane, he spoke of the duties of the state towards this class; and of intemperance and heredity as a cause of crime.

The report of the Committee on Necrology was read by the chairman, Dr. J. M. Toner, and referred to the Committee on Publication.

Delegates were appointed as follows: To the Canada Medical Association, Drs. C. N. Brush, Buffalo, N. Y.; Jas. R. Leaming, N. Y.; D. H. Goodwillie, N. Y.; Wm. Brodie, Detroit, Mich.; W. B. Ulrich, Chester, Pa. To European medical societies: Drs. R. Beverley Cole, San Francisco, Cal.; Benjamin Lee, Philadelphia, M. A. Pullen, New York, and L. D. Bulkley, New York.

The report of the librarian was received and entered upon the minutes; it stated that there was 3258 volumes. Two hundred dollars were appropriated for the library.

The following committee was appointed to consider the recommendations contained in the president's address. Drs. Chaillé, La.; S. D. Gross, Pa.; J. S. Weatherly, Ala.; J. R. Bronson, Mass.; and W. R. Gillette, N. Y., to report in 1881.

(To be concluded.)

CONNECTICUT MEDICAL SOCIETY: EIGHTY-NINTH ANNUAL CONVENTION.

THE president and Fellows of the Connecticut Medical Society held their eighty-ninth annual convention in the common council chamber, City Hall, New Haven, Wednesday afternoon, May 26th, commencing at three o'clock. The Fellows correspond very nearly to the councilors of the Massachusetts Society, and transact the business of the society for the most part. Any member, however, who has once been a Fellow has all the privileges of the floor for the introduction of business or its discussion, but not for voting. The attendance was not large, but thirty out of a possible fifty-two. For some reason the sessions at Hartford call out a much larger attendance. Last year there were forty-eight Fellows, and about a hundred and fifty on the second day, when the general exercises are held, while here there were at no time a hundred present. The session was, however, an extremely interesting one. All parts of the State were represented, and the papers were valuable and elicited much more than the usual amount of discussion. Owing to the

recent recovery of the president from a severe attack of basilar meningitis, he gave no address, except the customary *résumé* of matters which required the attention of the convention. This contained a reference to the important sanitary relations the society bore the State, and pointed to highly valuable work the society had done for the State in the past; a part of this work being the shaping of sanitary legislation for the protection of the powerless and the development of the weak-minded, and another part being the origin and promotion of legislation regarding the collection of vital statistics. No foreign interference was needed until its incompetency was clearly demonstrated. The State Board of Health was complimented, and the gratifying progress of sanitary science referred to. Every safeguard should be placed around the sale of poison, so as to prevent its disposal for criminal or suicidal purposes. Preventive medicines, like conservative surgery, will be considered in the near future as affording the highest possible illustration of professional skill. Allusion was made to the careless manner in which records of vital statistics were kept in certain towns. "The present status of medical expert testimony is a reproach to the profession, and it is high time some steps were taken to remedy the most glaring evils connected with this subject. Either consciously or unconsciously the expert becomes the medical advocate of the person by whom he is called, instead of an impartial witness of the facts as best known to medical jurisprudence, and it is to be feared that too often the fee is made contingent upon the amount of damages secured through the testimony of the expert. Men are too often summoned as experts who have no special fitness, either by position or acquirements, to pronounce upon facts that require the devotion of a life work to comprehend and elucidate, much more to decide *ex cathedra*."

The address in its concluding pages asked attention to the "indiscriminate practice of medicine by the ignorant and unqualified," terms applied to impostors and uneducated persons, in regard to which a bill was before a recent legislative body, and which it was thought would have passed had it been suitably amended; and then paid a tribute to the departed members of the society for the past year.—Drs. H. M. Knight of the School for Imbeciles, Lakeville, ex-President B. H. Catlin of Meriden, and A. B. Haile of Norwich. The address was ordered incorporated in the proceedings of the society.

On motion of Dr. Russell, of Hartford, that portion of the president's address relating to expert medical testimony was referred to a committee of three, to be appointed by the chair, and Drs. G. W. Russell of Hartford, S. G. Hubbard of New Haven, and William Denning of Litchfield were appointed to report to the next convention what measures should be recommended to the legislature to remove the reproach now resting upon the medical profession and to advance the cause of justice in the courts.

Professor L. J. Sanford moved a similar committee on new and enlarged powers to be given the State Board of Health, with reference to preserving the records of vital statistics in the several towns in a proper manner. The motion was carried, and Drs. M. C. White of New Haven, W. A. M. Wainwright of Hartford, and A. M. Shaw of Middletown, were appointed.

The next business in order was the report of committees appointed last year on recommendations in

President Carleton's paper. The committee on the metric system reported a series of resolutions recommending that it be adopted by the society, required in all essays hereafter read at its conventions, used in the medical department of Yale College, and recommended for all hospitals and dispensaries; and that physicians should familiarize themselves with it and assist druggists to understand its practical use. The last resolution alone was accepted; the others were rejected. It was urged that physicians were not yet familiar enough with the metric system to authorize any such action by this society; for that reason the last resolution was passed encouraging its study by physicians. The report elicited considerable discussion on both sides, and the reasons for its acceptance were very fairly presented; theoretically, the system found many friends but these were not ready yet to advocate any compulsory use.

The committee on the medical examiner system of Massachusetts and its adaptability and desirability for Connecticut reported unanimously in favor of the system as superior to the antiquated coroner system, but on consulting the records of the courts there did not appear to have been any glaring instances of abuse in this State, our population being considerably different from that of Massachusetts (not so many large manufacturing cities). Moreover, we never had been accustomed to more than one coroner in a city, however large, with perhaps one assistant, while in the towns the first selectman or a justice of the peace acted in that capacity. On consultation with some of the most eminent lawyers in the State, their opinion was invariably that the system, although an admirable one, was not required in this State, and could not be engrafted on to our legal system without very many and great changes.

Dr. A. N. Bell, of Garden City, L. I., Dr. E. C. Seguin, of New York, were elected honorary members of the Connecticut Medical Society. These names were proposed last year, but by rule lie over one year for action. Dr. Bell has been identified with the State in many ways, receiving the degree of A. M. from Trinity College in 1855. Dr. Seguin was connected for several years with the State Institution for the Insane, at Middletown. Both were elected by unanimous vote.

The treasurer's report showed a very prosperous condition. Less than fifty dollars of the tax laid in 1879 remained uncollected,—an unprecedented condition of affairs. The most backward portions of the State, and those almost invariably in arrears heretofore, now presented almost a clean bill. This was due to the energy and skill of Drs. F. M. Wilson, of Bridgeport, and C. W. Gaylord, of Branford, clerks in their respective counties. The prosperity of the society depends to a very great degree upon the county clerks, who are the only executive officers in these societies which together make up the state society. It is to be hoped that these gentlemen will long be retained in the offices they honor.

Last year a series of resolutions was introduced, requesting that a committee be appointed to urge upon the legislature the appointment of commissioners in lunacy, and defining their power; also, that a change should be made in the law which requires the sworn statement of one reputable physician only for the commitment of any person to a lunatic asylum. The whole matter was, however, referred to a committee

to report to this convention. The committee reported as follows:—

Whereas, we consider that our information upon the questions involved in the resolutions referred to us is not sufficiently extensive to enable us to recommend decided action at present, we submit the following resolution:—

Resolved, That a committee of three, conversant with the history of insanity, should be appointed by the state convention to investigate the subject of lunacy commissions in other States, as well as in foreign countries:—their history, aims, and results,—for the information of the next annual convention.

MOSES C. WHITE,
N. NICKERSON,
GORDON W. RUSSELL,
C. W. CHAMBERLAIN,
C. A. LANDSLY,

Committee.

The report was accepted, and the president appointed as members of this committee A. M. Shew, superintendent of the State Asylum for the Insane, Middletown; H. P. Stearns, superintendent of Retreat for Insane, Hartford; and D. A. Cleveland, Middletown.

The following officers were elected for the ensuing year: President, G. L. Platt, Waterbury; Vice-President, Wm. Deming, Litchfield; Treasurer, F. D. Edgerton, Middletown; Secretary, C. W. Chamberlain, Hartford; Committee on Matters of Professional Interest, W. A. M. Wainwright, L. S. Wilcox, Hartford, L. W. Bradley, New Haven; Delegates to Massachusetts Medical Society, N. Nickerson, Meriden, F. M. Wilson, Bridgeport.

After the usual routine business, the convention adjourned.

SECOND DAY.

The society met at half past nine A. M., at the same place, the president, A. R. Goodrich, in the chair. The first business in order was the reading of the secretary's report. This showed a year of marked prosperity, in spite of a loss of fifteen by death, removals, and otherwise. There was a net gain of twenty, thirty-five new members, ten deaths. The society now numbers 440. There has been an annual death-rate of ten for the last five years; but in spite of that, there has been during this time a gain of sixty-five in membership. Judging by appearances, this time-honored society has never been so flourishing as at present.

Dr. Wainwright followed with a short report, as the year had been an unusually healthy one, with no epidemics, general or localized, but little material for a report was at hand. Several cases of interest from the various counties were referred to the committee of publication.

Dr. Brown presented a patient, a boy of twelve, with extensive burn from hip to knee, where skin grafting had been tried. Two thousand grafts had been used, the greater portion successfully. Healing resulted without cicatrization or contraction. There was at the centre an opportunity to see how healing spread from the small autaneous graft.

Dr. J. L. Miller, of Sheffield, Mass., a delegate from the Massachusetts Medical Society, was presented to the society, and in a brief address gave the greetings and kind wishes of the society he represented.

Dr. Frank H. Hamilton, of New York, an honorary member of the society, was then introduced by Dr. St. John, and on invitation of the president presented a short address treating briefly of Colles's fracture. He advocated light dressings; one splint underneath, so padded that there was nothing directly underneath the fragments; bandaging loosely, leaving the hand entirely free; and where the patient could be trusted removing all dressings at the end of the third week.

A telegram was read from Dr. J. M. Sims, regretting his inability to be present, and conveying his kind wishes.

Dr. Carmalt, professor of ophthalmology at Yale, presented, with full descriptions, a perimeter which he had devised for measuring the limits of the visual field; it was to take the place of the more expensive instruments, and won universal approbation at the convention of the American Ophthalmological Society at Newport, where it was exhibited.

The annual dissertation was then given by Professor Carmalt, on *Some Limits in the Use of the Ophthalmoscope*. The design was to save the instrument from its injudicious friends, who were claiming too much for it, so as to throw discredit upon its just claims. While of inestimable value in the diagnosis of ocular troubles, it could not enable us to diagnosticate the intra-cranial circulation, whether congested or the reverse, nor to determine cerebral disease.

Dr. H. P. Stearns, of Hartford, read a very interesting and instructive essay on the *Border Land between Sanity and Insanity*.

Dr. J. B. Kent, of Putnam, followed with an essay on *Functional Derangements of the Nervous System*.

Dr. John P. C. Foster read a very interesting essay on *The Hereditary Transmission of Syphilis*, in which he presented a *résumé* of the modern views on that subject, among other points claiming that the child might be inoculated without the mother becoming syphilitic during gestation.

Dr. C. J. Fox, of Willimantic, read a paper on *Chrysophanic Acid in Skin Disease*, advocating its use in psoriasis, eczema, and herpes.

Many other interesting papers would have been read had time permitted.

—The *Medical Times and Gazette* tells the following story: A poor Hungarian widow, living in a garret at Limehouse with her deaf and dumb son, was overtaken by hard times, and fell ill. Some kind people went to her aid. They found the room wretchedly furnished, but covered all over with colored prints and engravings. Looking over these, a hundred-pound note was discovered pasted between a cut from the *Illustrated London News* and a business card. The discoverers doubted their eyes, and the doctor, who had been sent for, coming in at the time, was made aware of the circumstance. An attempt to detach the engraving from the wainscot failed, and by direction of the medical man the piece of panel was cut out, taken to the Bank of England, and cashed, when the doctor explained that the proceeds would be lodged to the credit of the old lady. It seems that she had picked up the note two years ago, and seeing in it only a picture fixed it on the wall of her room, where it remained an unsuspected treasure.

Medical and Surgical Journal.

THURSDAY, JUNE 10, 1880.

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ANNUAL MEETINGS.

THE return of June brings the recurring annual meetings of national associations and state societies, with a pressure upon our columns to which, although greatly extended, they are hardly adequate, and other matters yield to this summing up, as it were, of the year's medical work; but readers have enjoyed very full accounts of the meeting of the National Association in New York, which are nearly completed in the present issue. The thirty-first annual meeting of this association has been in almost every particular a very successful one, and reflects much credit upon its manager. The difficulties attendant upon a plethora of papers, many of doubtful value, and of much unprofitable discussion have not been less apparent than at other times. These drawbacks, however, are inherent to the present organization of the association, and to any large body which meets to talk. There is promise for the future in their recognition, and in the fact that suggestions for the correction of such disadvantages are made and temperately considered. The proposal of the president, Dr. Sayre, that the association establish its own journal, in which its transactions should be promptly published, instead of keeping them for a bulky and tardy volume, was not favorably reported upon by the committee on state medical societies and medical journals, to which it was referred. The report, prepared by Dr. S. D. Gross, of Philadelphia, expresses the opinion that the time for the establishment of such a weekly journal as was recommended in the address has not yet arrived. The history of the *British Medical Journal* in its connection with the British Medical Association is certainly very striking, and it is probable that at no distant date the desirability of some similar arrangement for the publication of its transactions and the increase of its influence and usefulness will be generally recognized by the members of the American Association. The entertainments offered to those attending the meeting were of that varied and extensive character which hardly another city in the country except New York could afford, and could have been secured there only by a very energetic and enthusiastic committee of arrangements.

Between Booth's lagoon and an excursion around the harbor, with Coney Island included, there was a wide range of choice for individual tastes, and he must have been a dull member who could not find much to amuse and instruct the mind. The bodily wants seem to have been nowhere neglected.

This week the quieter and simpler, but to us no less

interesting and important, transactions and festivities of the annual meeting of the Massachusetts Medical Society claim attention. The programme of papers and proceedings is a strong indication of an unusually successful meeting, and the composition of the committee of arrangements, together with the experience of the anniversary chairman, give every security that the closing exercises in Music Hall will be satisfactorily conducted. Referring again to the suggestion of a journal in connection with the American Medical Association, it may not be amiss to remind members of our state society, and especially those in the country, of the possible advantages of a more cordial support of their home journal.

The society will learn, among other things, that England, not content with taking our wheat and beef, has carried off our Boylston prize this year. It is true, she has paid for it in a very excellent essay; but exportation, as well as importation, may be carried much too far, and we hope some enterprising member of the society will make it his duty to restore the balance of trade.

Among other losses which the profession in Massachusetts has suffered during the year is that of two physicians, lately deceased, whose ripe years and faithful services demand the respect and will repay the attention of younger men. Dr. Edward Flint, of Leicester, recently died, aged ninety and one half years. He was a native of the town, and rarely left it, except for a brief visit to Boston or Worcester. He withdrew from active practice only a few years ago. His father, Dr. Austin Flint, preceded him in practice in the same town, and was a surgeon in the revolutionary army. His grandfather was also a doctor.

Dr. George Choate, for many years a successful practitioner in Salem, has also been taken away at the age of eighty. His good example and sterling qualities have borne fruit in sons distinguished both in medicine and the law.

These two men were both types of all that was sound and good and reliable in the old-time New England practitioner. The memories of such should be cherished as their presence among us becomes more and more rare. It may well be questioned whether the increased extent of knowledge and of facilities for its acquisition are not sometimes inimical to that steadiness of character so often found in preceding generations.

MEDICAL NOTES.

—The New Hampshire Medical Society will hold its ninetieth annual meeting in Phenix Hall, Concord, on June 15th and 16th.

—At the monthly meeting of the State Board of Health, Lunacy, and Charity, held June 5th, an order was passed requiring Messrs. Clark, Gleason, Fiske, Travis, Pebbles, and Johnson, of the town of Natick, to desist and cease from further pollution of Pegan Brook, a tributary of Lake Cochituate, the water supply of Boston, on and after July 15th. This is the first case which has come before the board under the

recent law forbidding the pollution of water supplies, and the decision given must have a wide influence in purifying streams and ponds used for domestic purposes throughout the State.

— A case of varioloid, papular stage, was recently discovered by Dr. F. Winsor, in Winchester, the patient, a boy of eleven years, having come to New York with other English emigrants. There being a case of small-pox on board the steamer, the health officers vaccinated the passengers "by the hundred." It is stated that this boy was considered too feeble, in consequence of prolonged seasickness, to be vaccinated. He bears the scar of an early vaccination on his arm.

— The New York State Board of Health has organized by electing the following officers: president, Dr. E. M. Moore, of Rochester; secretary, Dr. Elisha Harris, of New York. The president is also the health officer of Rochester; the secretary is one of the best known sanitary organizers and publicists in the country. The personnel of the board is as follows: state commissioners for three years, Hon. Erastus Brooks, Staten Island, Elisha Harris, M. D., New York city, D. J. S. Delavan, Albany; commissioners "who," as the law provides, "must be members of existing city boards," E. M. Moore, M. D., Rochester, James G. Hunt, M. D., Utica, C. F. Chandler, M. D., New York city: ex-officio members, Dr. W. M. Smith, health officer of the port of New York, Hamilton Ward, Esq., attorney-general, James S. Gardiner, Esq., director of the state survey. The head-quarters of the board will be in Albany.

— The *Medical and Surgical Reporter* publishes this interesting item:—

At a late meeting of the London Obstetrical Society a paper, by Dr. Robert P. Harris (Philadelphia), entitled *A Complete and Authoritative Refutation of the Marvelous Account given by Professor Claude M. Gardien, of Paris, in 1816, to the Effect that the Princess Pauline de Schwartzberg was delivered of a Living Fetus some Hours after she was burned to Death*, was read. The author said the story told by Professor Gardien was that the princess perished from the effects of burns received at a fête given in the house of the Austrian ambassador, her brother-in-law, on July 1, 1810; that she was pregnant, and the infant was found alive, although she was not opened until the day after the accident. From research among contemporary authorities the author found that the ball was given in a large temporary wooden building, and the fire broke out soon after dancing commenced. The princess escaped with others, but rushed back to seek for her daughter, and so perished. In the morning the disfigured remains were recognized as hers by a piece of gold jewelry. Madame Junot writes that "her body, with the exception of her bosom and part of one arm, was burned to a cinder." The *Court Journal* of July 3, 1810, states that the princess was *four months* pregnant. No mention is made of the case in the medical journals of the time. This story, therefore, which was repeated by Gardien in his third edition, quoted by

Veuplean, and has attained general notoriety, is absolutely without foundation.

— The *Boston Journal of Chemistry* says that George the Third had three physicians, whose names have been made the subject of rhyme in the following epigram, which lately appeared in the *London Medical Times and Gazette*:—

The King employed three doctors daily —
Willis, Heberden, and Baillie —
All exceedingly skilful men,
Baillie, Willis, and Heberden;
But doubtful which most sure to kill is,
Baillie, Heberden, or Willis.

— The June number of *The North American Review* contains Popular Fallacies about Russia, by E. W. Stoughton, ex-Minister to Russia; Divorees in New England, by Dr. Nathan Allen; McClellan's Last Service to the Republic, by George Ticknor Curtis; Has the Southern Pulpit Failed? by Rev. Dr. F. A. Shoup; Caste at West Point, by P. S. Michie, Professor of Philosophy at West Point; and Some Interesting Publications, by M. W. Hazeltine. This number closes the one hundred and thirtieth volume and sixty-fifth year of the *Review*. During the last few years this magazine has made a most remarkable advance in popular favor. Many of its numbers have passed through several editions, and its permanent circulation has increased more than sixfold.

NEW YORK.

— The New York Flower Charity has now resumed its work for the season, and on every Monday and Thursday until the first of November the ladies may be seen starting out from the head-quarters of the society, at the corner of Fourth Avenue and Twentieth Street, laden with their pleasant offerings to the suffering and destitute. Since the organization of the society more than a million bouquets have been distributed by it in the various hospitals and asylums, and among the sick poor in the tenement-houses.

— On the 6th of May — Ascension Day — the Ladies' Association of the House of Rest for Consumptives held their fifth annual reception at that excellent institution, which is situated at Tremont, on the Harlem Railroad. As one might suppose from the name, its object is to furnish such comforts and such freedom from the anxieties of life as would otherwise be quite impossible among the class of patients which it is designed to relieve; and the good work which it thus accomplishes is abundantly shown in those whose descent to the grave is deprived of much of its bitterness and suffering, in those whose lives are greatly prolonged by the kind care that they receive, and in those who through this instrumentality are restored once more to active usefulness in society. In order properly to carry out the work of the institution a new wing is necessary in the building, the cost of which will be about five thousand dollars.

— It is not often that a case of actual starvation takes place in a community like this, but such an instance was lately reported to the bureau of vital statistics by Dr. E. B. Daley, of Harlem. The patient was an Irishwoman, twenty-eight years of age, whose husband had been out of employment for a long time.

She was taken sick a couple of months before, and since that time had received neither proper medical treatment nor proper nourishment. Her children were also much emaciated when the case was discovered. There were three other families living in the same house.

PHILADELPHIA.

— Dr. Joseph W. Taylor, of Burlington, N. J., formerly a resident of this city, who died a short time ago, left a will which contained many public bequests, and under its provisions the residuary estate, amounting to nearly nine hundred thousand dollars, was confided to trustees for the purpose of building and endowing a college for the education of women. The trustees of this legacy have now received authority, by act of incorporation, to accept the trust. Dr. Taylor, during his life, purchased a tract of thirty acres near Bryn Mawr as a site for the projected college, and had laid the foundations of two of the principal buildings, which will now be rapidly pushed forward, and it is believed they will be ready for occupancy in 1883. The college will be under the control of the Orthodox Friends.

— The trustees of the State Hospital for the Insane at Norristown have elected Dr. Robert H. Chase, of Washington, D. C., as resident physician at a salary of \$2000. Dr. Chase was born in 1845, and received the degree of A. B. at Haverford College. He graduated in medicine at the University of Pennsylvania, and for several years held the position of first assistant physician at the Government Hospital for the Insane at Washington.

— In Philadelphia, on May 27th, the thermometer was 95° F. in the shade, a condition which has not been equaled in ten years. Several fatal cases of sunstroke have already been reported.

— A death from ethyl bromide occurred on the 26th inst. under the following circumstances: A young man suffering with stone in the bladder had been for several months in the Jefferson College Hospital, waiting to get into proper condition for operation. He had cystitis, though not to a high degree; there was also cough and emaciation, although no evidence of heart or kidney disease. His friends had become tired of the delay, and had decided upon removing him to his home, where he evidently would soon succumb. Under the circumstances Dr. Levis decided to give him his only chance for recovery, and to operate upon him in spite of his poor condition. Having everything ready for the operation, about a drachm of ethyl bromide was poured upon a cloth and held over the mouth and nose. The patient took a few inspirations, and then quietly stopped breathing, and died before lithotomy had commenced. Artificial respiration was unsuccessful. At the autopsy the lungs were found to be in an advanced state of pulmonary phthisis, and the bronchi were filled with mucus, forced into them during the attempts at artificial respiration. Nothing special was observed in the other organs, which were, however, given to the pathologist for a careful examination, and will hereafter be made the subject of a special report.

Disseclany.

ANNUAL MEETING OF THE MASSACHUSETTS MEDICAL SOCIETY.

THE ninety-ninth annual meeting of the Massachusetts Medical Society, held on Wednesday of this week, was preceded by the customary initial gathering on Tuesday, on which day the society was called to order by Vice-President David P. Smith promptly at twelve o'clock, in Horticultural Hall.

During the forenoon the Fellows were entertained at the Massachusetts General Hospital, City Hospital, Carney Hospital, and the Lying-In Hospital by operations, ward visits, and exhibition of patients. At the Massachusetts General, Dr. Porter excised a sarcomatous testicle; showed two cases of radical cure of hernia, which consisted in taking a portion of the sac, folding it upon itself, and stitching it into the ring by means of strong carbolized catgut sutures, thus causing it to act as a retentive plug; also exhibited a case of ununited fracture of the radius and ulna, which had been operated upon by the wire treatment after the Bigelow method, and a second case of fracture of both bones of the fore-arm, which were uniting by means of the same treatment.

At the City Hospital Dr. H. W. Williams operated on three cases of strabismus; Dr. Thorndike on a case of hemorrhoids; Dr. Charles D. Homan dissected an epithelioma from the left ala of the nose of a man; Dr. Gay showed a lip on which he had operated on an immense nevus, involving lower lip, chin, and cheek; Dr. Ingalls exhibited an ingeniously arranged ambulatory extension for a leg ulcerated on the point of the stump.

Immediately upon calling the preliminary meeting to order, Dr. Smith introduced the reader of the first paper of the programme for this day, Charles D. Hunking, M. D., of Haverhill. Subject, Pneumonitis. The essay was interesting, and was followed by a most wholesome discussion; many Fellows expressing their views, and asking questions with a readiness which greatly added to the interest of the occasion, and which promises to grow into a most attractive feature of the annual gathering.

The second paper, subject, Pyæmia of Doubtful Origin, apparently Spontaneous, was read by its author, Charles H. Cook, M. D., of Natick. This paper likewise elicited remarks.

The closing essay of the morning session, by Arthur T. Cabot, M. D., of Boston, had for its subject, Antiseptic Treatment of Empyema. It received and deserved close attention. The meeting adjourned at two o'clock P. M. At three o'clock the reading of papers was resumed. An essay on Edema of the Lungs, with illustrative cases, was read by Henry F. Borden, M. D., of Brockton.

Additional interest was imparted by charts and discussion to a paper on the Relation of Bacteria to Disease, by William F. Whitney, M. D., of Boston. The closing paper, on Ambulatory Treatment of Hip Disease, by Charles P. Putnam, M. D., of Boston, was illustrated by numerous cases, among them patients kindly shown by Dr. E. H. Bradford.

The meeting then adjourned.

During the afternoon the Warren Museum at the Harvard Medical Department, the Warren Museum

of Natural History, on Chestnut Street, Children's Hospital, and the Museum of the Natural History Society were visited by Fellows of the society.

The annual meeting of the councilors of the society was called to order in the hall of the Medical Library Building at seven o'clock by the president, Dr. Geo. H. Lyman.

The secretary, Dr. F. W. Goss, read the record of the last meeting and the names of new and deceased Fellows, the number of the latter being thirty-three.

The treasurer, Dr. F. W. Draper, then read his report, in which he stated that the invested funds of the society, \$31,420.17, remained as at the last meeting. Receipts for 1879, \$8136.89; expenditures, \$6892.94; balance to new account, \$1243.95. The treasurer stated that a safe had been procured and placed in the Library Building. It now protects all the valuable documents and archives of the society.

The reports of standing committees were next presented.

That of the auditing committee, Dr. Stedman, chairman, was read by Dr. Gerry. It announced that the treasurer's report was correct in all respects, and that the securities were safely deposited. Dr. Draper's report was then accepted.

The brief report of the committee on finance, Dr. Charles Homaus, chairman, was next read. It recommended that twelve hundred dollars of the surplus in the treasurer's hand be distributed among the several district societies; that legal means be adopted to secure the payment of dues from a delinquent Fellow, etc. The report was accepted, and the recommendations were affirmed.

Committee on memberships and resignations, Dr. J. Ayer, chairman, presented names of Fellows to be allowed to resign, of others to go upon the retired list, and of others who are to relinquish membership because of absence from the State and for non-payment of dues. Report accepted and recommendations affirmed.

The name of an expelled member was brought forward with a petition for restoration to membership. The committee had considered his case, and had no reason to see why expelled members should be restored to membership. They could merely recommend him to the censors and the regular course. The wish of the committee was to establish a precedent for future cases of a similar nature, and which are constantly recurring. The matter gave rise to considerable discussion. A Fellow from the Worcester Society said the member in question had been an eclectic, but had repented, and wished to be restored.

Dr. How, of Haverhill, asked whether the action of the society in expelling a member means anything. If so, how can such a man be readmitted?

The question being raised as to how the person under discussion had been expelled, the reply of the secretary was that he had been dismissed by the board of trial for non-ethical conduct, and that this procedure was confirmed by the society at large.

Dr. Martin, of Worcester, thought such action should be final.

Dr. Jewett said the petitioner was a near neighbor of his, and hoped he would be readmitted, but in the regular way, — through the censors.

Dr. How again remarked that he could not see how an expelled member could be readmitted except by vote of the whole society, and moved that the matter

be indefinitely postponed. The motion was seconded and voted upon in the affirmative.

The next report was that of the committee on publication, Dr. G. C. Shattuck, chairman. The committee have received only two prize essays, and voted that no dissertation fully worthy of the prize had been sent in. But while regretting the necessity of this decision, they deem the essay on *Infantile Digestion* and that on *Experiments on Iron and Digitalis* deserving of praise.

In regard to exchanging *Braithwaite's Retrospect* for the *Boston Medical and Surgical Journal*, Dr. Shattuck announced that circulars asking the wishes of the Fellows had been sent out. Eight hundred replies had been received. Of these two hundred and ninety-nine preferred the *JOURNAL*, four hundred and ninety-four chose *Braithwaite*, the remainder were indifferent. The committee therefore recommends that the change be not made.

The report of the committee on by-laws and district societies, Dr. Hosmer, chairman, was read and accepted. Likewise the report of the committee on the library, Dr. Wadsworth, chairman.

The report of the nominating committee was next presented by Dr. Fisk, chairman, who said that, appreciating the importance of the next annual meeting, and realizing that the society is one of the largest and oldest in the world, and that it has contributed to science and humanity as much as any other medical society, referring especially to the great gift of anesthesia, the committee felt that the coming annual meeting, as the centennial gathering of the society, should be characterized as much by oratory and social enjoyments as by scientific papers. They consequently thought the officers for the next year should be largely chosen from Boston Fellows, through whose efforts the occasion would undoubtedly be made more enjoyable than if the society were officered by members out of the city. The committee therefore unanimously nominated the following gentlemen, with the belief that they would enable us to have a centennial of which the Fellows would be proud:—

H. W. Williams, Boston, President.

Asa Millett, East Bridgewater, Vice-President.

F. W. Draper, Boston, Treasurer.

Charles W. Swan, Boston, Corresponding Secretary.

F. W. Goss, Roxbury, Recording Secretary.

David H. Hayden, Boston, Librarian.

The ballots gave eighty-three votes, eighty-one of which were for Dr. Williams, and two for Dr. D. H. Storer as president. The remainder of the ticket was unanimously elected.

Dr. Fisk then said that, although the nominating committee found no by-law authorizing them to appoint the orator and anniversary chairman, they thought it not best to depart from the usual custom, and therefore recommended—

Dr. J. Collins Warren as orator.

Dr. Henry J. Bigelow as anniversary chairman.

These gentlemen were unanimously elected.

Dr. Bigelow, not being present until a later period, resigned his office so soon as notified of his election. The nominating committee retired, and upon their return presented the name of Dr. J. C. White as their candidate for the office of anniversary chairman. Dr. White was elected with warm approval. The time and place of the next annual meeting were then appointed, namely, Boston, second Wednesday in June, 1881.

The president then announced the standing committees for 1880-81.

With the exception of Dr. E. H. Bradford, appointed on the committee of arrangements *vice* Dr. Robert Amory, and of Dr. R. H. Fitz on the committee to procure scientific papers, *vice* Dr. H. W. Williams (now president elect), these committees remain as they were for the previous year.

Petitions for the restoration of former Fellows were referred to the proper committees.

Dr. B. Joy Jeffries moved that the council recommend to the committee of arrangements for 1881 the consideration of the exhibition, at the next annual meeting, of such instruments as have been invented by Fellows or such as have been invented by others and modified by them. This is a custom at the annual meetings of the British Medical Association, and in no way interferes with our customary exhibit of surgical instruments. The motion was seconded, and received an affirmative vote.

Dr. Draper then presented a proposition from the publisher of *Braithwaite's Retrospect*, Mr. Townsend, of New York, to supply a retrospect of American medicine in place of the British publication at half rates. Seven hundred sample copies were presented to the Fellows.

Previous to the adjournment President Lyman gracefully introduced the president elect, Dr. Williams, who, in an impressive manner, thanked the council for this new expression of their kind feeling toward him.

By invitation of Dr. Lyman the councilors then adjourned to his house.

On Wednesday A. M., at nine o'clock, the ninety-ninth annual meeting of the society was opened by President George H. Lyman. The recording secretary, treasurer, and committees read their records and reports, as already mentioned in connection with the councilors' meeting.

The next business being the reading of papers and communications, the president introduced J. Orne Green, M. D., of Boston, who read an essay on the Importance of Early Recognition of Ear Disease. He was followed by Peter Pineo, M. D., of Hyannis, in a paper on Cape Cod as a Health Resort, and some Remarks pertaining to Sanitary Science. These papers gave rise to interesting remarks.

The next paper called was that by Dr. H. J. Bigelow on Litholapaxy. Dr. Bigelow, however, did not read, but extemporized a description of his operation, previously giving a brief historical sketch of the growth of lithotomy, exhibiting the various instruments in their development from the primitive to the modern, ingenious, and more useful form, mentioning their advantages and disadvantages, and thus reaching his own instrument and litholapaxy, which he fully demonstrated and described.

Delegates from other societies and visitors from various cities out of the State were then introduced.

Dr. Bronson, of Attleboro', then moved that when the meeting adjourned it should be to four o'clock on the afternoon of the Tuesday preceding the next annual meeting. The motion gave rise to some discussion. Dr. Bronson's reason for his motion being asked, he replied that he wished to bring up a question, now on the table, for discussion in general society at the next annual meeting, and since it was necessary that the question should first be called up at an adjourned meeting, in order to bring it before the society at the

next following meeting, therefore he made his motion. A vote being called for, the motion was decided in the affirmative.

At twelve o'clock the orator of the day, Dr. Thomas H. Gage, delivered his oration. It was marked by eloquence and suggestive good sense.

THE ANNUAL DINNER.

At one o'clock P. M., the Fellows in a body marched to Music Hall, and took their seats at well-spread tables without confusion or loss of time.

The anniversary chairman, Dr. J. Collins Warren, called upon the Rev. William W. Newton to pronounce grace, after which the company attacked the excellent repast. An hour was thus occupied. Dr. Warren then called the society to order, and delivered the following address:—

MR. PRESIDENT, YOUR EXCELLENCY, AND GENTLEMEN OF THE MASSACHUSETTS MEDICAL SOCIETY.—The closing exercises of our annual meeting, which it is now my privilege to conduct, have to-day an unusual significance, for they are those which usher in the one hundredth year of our venerable society. In rising to welcome and to ask you to join with me in the toasts of the day, it is impossible not to be impressed with the scene before me, with a sense of the great power, vigor, and prosperity of our society. During the past few years it has been my business to keep a pretty accurate account of the doings of similar bodies in various parts of the globe. I have watched the proceedings of that marvelously growing association of Great Britain; of the interesting gathering last summer on the continent of Europe known as the International Congress, where men whose names are almost household words to us all composed the rank and file of the meeting; and, lastly, the work of our own national association, whose meeting last week was conducted under the unusually favorable auspices which the talent and hospitality of the great metropolis were able to extend to it; and, Sir, I will venture to say that nowhere in the medical world can so large, harmonious, and enthusiastic a gathering be found as the one which assembles yearly in this hall to do honor to the Massachusetts Medical Society. Our numbers have exceeded for many years those of which any of the societies to which I have referred have been able to boast.

It is an interesting fact and a matter for congratulation that our Alma Mater, though so venerable, was never so vigorous, and never had so large and united a flock as she has to-day. Her career has been a remarkably prosperous one, checkered with but few unfavorable vicissitudes. A champion of liberal views in science and of common sense in practice, she has been looked up to by the better portion of the community as a guide and instructor; and although she has occasionally found it necessary to withhold her assent to some of the many new doctrines which it is the tendency of the day and of this little corner of the world to devise, she has in no way dimmed her prestige or diminished her influence. The venerated founders of our society, were they with us to-day, could not but regard with unmingled satisfaction this gay scene. To what cause is this degree of prosperity due? Mainly, Sir, in my opinion, to two: The men who gathered together, ninety-nine years ago, to form this society were among the most prominent of our patriots, our scientific men, and our citizens. They put their

stamp upon the society, and its impress has endured to the present day.

We have also a machinery in our organization which works nearly to perfection, and this result is mainly due to the public spirit which has actuated our leading members, who have given up a large share of their time to the interests of the society. In a word, there has been always a powerful *esprit de corps*.

In looking into the future, let us hope that no Eve may tempt us to hasty action, that no apple of discord will be thrown into the ranks, and, however radical the changes contemplated may be, that harmony always will prevail. With such sentiments to guide us we can feel authorized in hoping that the past is but a preparation for a future full of influence upon, of promise and usefulness to, the community and the profession.

Dr. Warren then called upon Dr. Williams, president elect, to respond to a toast to "the future of the Massachusetts Medical Society."

Dr. Williams said: I should indeed be unappreciative did I not feel deeply moved, as well as greatly cheered, by this kind reception.

You have made it my privilege to lead the advance in that bright path of honor and usefulness from which this society has never wandered. This present welcome tells me that your hearts have gone with your ballots, and promises a cordial aid in whatever may be done or attempted towards fulfilling the high purposes for which our organization was founded.

It is no empty boast to declare that the beneficent acts of the Massachusetts Medical Society, during almost a hundred years, entitle it and its Fellows to a conspicuous place among those who have deserved well of their country, to such a recognition as no enactment can confer, but which comes as a willing and grateful tribute from the community they have so faithfully served.

Its Fellows are not associated for their own aggrandizement or preferment, but in order that by unselfish coöperation, and by comparison of opinions and experience, they may enlarge their power to benefit humanity.

Devoted to such aims as these, educated as they are not only from the rich stores of knowledge patiently gathered and heedfully culled by wise predecessors, but, moreover, trained in the school of responsibility, that thorough master in the art of teaching, beside whom books and theories sink into insignificance, the earnest, thoughtful men whom I see around me have a title to leadership and a right to speak with authority in matters which concern the public health,—a title and a right not to be challenged by the slave of any narrow dogma, or by the empiric who dares to treat diseases, the nature of which is unknown to him, with drugs, with the effects of which he is unacquainted. It is our privilege to maintain and increase the reputation of our ancient and beloved society; to make its Fellowship not only an honor to be prized and sought for, but a passport which shall be everywhere and always accepted as a title to confidence and respect, because always a guaranty of ample qualification and high character.

The chairman then introduced the retiring president, Dr. George H. Lyman, as one of those prominent men who have made the *esprit de corps* of the society what it is by their active interest.

Dr. Lyman facetiously apologized for the character

of his remarks by saying that in old times the Fellows of the society could fortify themselves at dinner with anaesthetics, which, as you all know, have a charming influence in loosening the tongue; but nowadays we are confined to feed water, a paralyzing drink, especially in hot weather. It is often said that we so-called regulars are dying out. Well, of course, all our skill does not exempt us from the common lot of humanity. But if it be meant that as a society we are decreasing in numbers or in influence, we have only to appeal to the records to show how much mistaken our kind friends are. With them the wish is doubtless father to the thought. The number of well-educated men who yearly seek admission to our ranks certainly show that there is a large demand, and our hard-headed, common-sense New Englanders are not apt to demand, certainly not to pay for, that of which they have no need. And we must not forget, either, that this membership becomes yearly more and more difficult, as the standard of acquirement is made to keep pace with scientific discovery. I am confident that there are very few of us past middle age who would care to undergo the ordeal of an examination such as is required to-day by the Harvard Medical School of its young men. This, after all, is our surest guaranty for the future. The best educated physician will, other things being equal, be the most successful for himself, and the most respected and sought after by the community in which he lives. Who will undertake to estimate the influence of such a large body of men for good, if rightly directed, over the men, the women, and the children of this commonwealth, with whom they alone are brought into such constant and intimate relations? We are standing upon the very limit of the first century of our existence,—a century which has witnessed such a wonderful transformation in relation to the arts and sciences as the world has never before seen. In this progress the American medical profession can justly claim no inconsiderable share. With education for our guide, and the cultivation of every honorable and charitable instinct of our ethics, we may with unhesitating confidence trust our craft upon the unknown seas of the century to come. Let me, in conclusion, hope that every one of us may be present at its inauguration.

Alluding to the absence of the orator of the day, the chairman asked the society to join him in thanking Dr. Gage for his eloquent and sensible address.

He then said, "We are indorsed by the presence of our chief executive. Our State could not be more gracefully represented than in the person of our governor, the Hon. John D. Long."

In responding, Governor Long paid a tribute to the society as one of the most ancient and dignified of the commonwealth, and to the profession of medicine as distinguished by a sense of honor and by the sentiments of benevolence and courage in the discharge of the great responsibilities that rest upon its members, some of whom in every great epidemic have devoted themselves to the necessities of those stricken by disease, with a heroism as true as that exhibited by those who have gone down to the battle-front and sacrificed their lives for their country. He characterized the profession as one devoted in the studies which it pursues to an ardent, straightforward, and conscientious search for the truth. Having alluded to the tender and sympathetic relations into which all at one time or another are brought with the family

physician, he closed with a word of commendation of the wisdom shown in the recent action of the legislature on the bill to regulate and restrict the practice of medicine, saying that the feeling was that it were best to let the medical profession stand where it may well stand.—upon its own merits; that it needed no artificial prop; and that, so far as the profession in Massachusetts was concerned, it had, independent of all adventitious aids, a future before it not less distinguished than its past.

In response to the next sentiment, Dr. Fordyce Barker, of New York, who received a most hearty welcome, made an excellent speech, which sparkled with witty fancies, but was far too lengthy for our space. He complimented the society upon its character, its work, its code of ethics; congratulated the Harvard Medical School upon its successful leadership in advanced system of education. In regard to homeopathy, he said, There is something in human nature which revolts at everything apparently unjust. When the public see men whose honesty of purpose, whose education and scientific attainments they regard as unquestionable, denounced as dishonest, as quacks or knaves, excluded by those whom they consider as belonging to the same guild from not merely professional but social intercourse, is it surprising that their sympathy and even support should be given to what we believe and know to be false in science and futile in practice? I ask if it be not true that at the present day most of us see that, by this mistake in judgment on the part of the profession as a body, a school of medicine has been created and perpetuated for nearly half a century, and supported by a respectable and cultivated minority of society? Is there any one who believes that if the truths which this pseudo school has unquestionably developed had been frankly accepted, its errors kindly exposed, and its individual supporters treated with that wise charity due from a liberal profession, it now would have an existence in the estimation of the public as an antagonistic school?

In reference to women practitioners, he said, I think it is regarded outside the profession as a question of feeling rather than of reason, and that the general sentiment is that if there be those of the fair sex who feel it to be their mission to become healers of the sick, if they demonstrate their fitness for the vocation by the possession of brains and the requisite professional knowledge, they should have the right of trial. Now I will ask whether it will not effectively aid in placing the profession in such public estimation as is its due from its high aims, its importance to the community and to the well-being of society, if we can show to the world that we fear no competition from any quarter, and are ready heartily and gracefully to concede that those who win the epaulettes shall wear them?

The Rev. W. W. Newton responded for the clergy, and vindicated the three professions of medicine, law, and divinity as of equal dignity and necessity, and all of which in their administration call for a conservative regard for great fundamental truths. He felt that each profession had cause for gratitude in the standards and restraints which long experience has established. If charlatanism is abroad, it is not because there is charlatanism in the profession, but because of the imperfection of human nature. There is an element of charity in every man of which he needs to be watch-

ful and against which he should guard himself, and hence is to be inferred the utility of a high standard and a conservative spirit in all the professions.

J. Lewis Stackpole, Esq., responded for the legal profession. He thought it might yet prove practicable to legislate in favor of the scientific practice of medicine by making practitioners somewhat more responsible for the consequences of their acts, either in the way of a penalty imposed or civil damages recoverable. He also suggested that a modification of law in respect to expert testimony would be well, in providing that the expert should be called by the court, and not by the counsel, so that more weight would be attached to such testimony than at present.

Other speeches were made by Dr. John Dillon, as representing the profession in Ireland, Clark Bell, Esq., of New York city, and Dr. Ellis Cole, of San Francisco.

During the two days' meeting Dr. B. Joy Jeffries, with unflinching patience, made use of this new opportunity to test a body of individuals, and having tested two hundred and seventy of the Fellows found sixteen color-blind. Six were incompletely color-blind and ten completely red-blind. The method employed was that of Professor Holmgren, which has been adopted by the United States Army, Navy, and Marine Hospital Service.

In the lower hall of Horticultural Building was an exhibit of surgical instruments, pharmaceutical preparations, and medical books in rather larger than the customary profusion.

It must be said that the dearth of members at the opening meeting and during the early hours of the second day apparently is a sad confession of lack of interest in the papers which are prepared with such care for every yearly gathering of the society. It is a source of mortification to the readers, who, when obliged to read essays, to which they have devoted many studious hours, to a mere handful of listeners, feel not only a sense of stinging neglect, but a thoroughly earnest wish that they had never put pen to paper in such a cause. These essays are not only full of valuable information, but to members who have no opportunity for large reading are pregnant with valuable suggestions. Since Dr. Lyman's inauguration of discussion last year, these papers have called forth remarks of increasing freedom and earnestness. The opportunity for exchange of thought and opinion is so unusual that members should take advantage of it, and spend less time in desultory conversation and in aimless wanderings among the fascinations of instrumental exhibits and of pharmaceutical almoners.

In all other respects this meeting was enjoyable and successful. Probably, however, there have been few councilors' meetings in the history of the Massachusetts Medical Society which were so amiably placid as that of Tuesday evening.

LETTER FROM NEW YORK.

THE AMERICAN MEDICAL ASSOCIATION.

MR. EDITOR, — The meeting of the American Medical Association was a great success in every respect; the attendance being exceedingly large, the scientific proceedings of interest and value, and the social festivities in connection with it all that could be desired. Then the weather behaved in the most charming man-

ner; and it would certainly have been most exhausting to go through the fatigues of such a session in the midst of a sweltering temperature like that which prevailed the week previous. It is true that the morning of the first day was sufficiently hot, and the woes of the unhappy delegates closely packed in the suffocating atmosphere of the registration-room, or waiting in a long line in the broiling sun to get into the place, are not to be underrated; but in the afternoon there was a delightful shower, and from that time forth the weather was simply perfect for such a gathering.

To those of the members who arrived the day before there was quite a treat in the superb Decoration Day street parade, which was the finest ever seen in New York, since, in addition to the entire militia of the city, the Fire Department, and a large turn-out of the Grand Army of the Republic, there was a considerable number of military and other organizations from Philadelphia, Providence, Troy, and other cities in line. The indefatigable permanent secretary of the association, Dr. Atkinson, was on hand on the afternoon of that day, and had nearly two hundred delegates registered before six p. m. The next morning there was a very busy scene at the corner of Fourth Avenue and Twenty-Third Street. "From windows and doorways," to quote from one of the daily newspapers, "placards set forth the virtues of new remedies, the superior advantages of surgical instruments of certain makes, and the trustworthiness of editions of medical works published by particular houses. Messenger-boys hurried to and fro, trucks unloaded tons of books in front of the building, small boys and large men handed out circulars advertising medicines and specimen copies of medical journals, and the passers-by wondered." At eight o'clock the work of registration was resumed, and although by no means completed at the hour of eleven, when the association was to be called to order, an efficient working organization, comprising several hundred names, had been enrolled.

The address of welcome by Professor Thomas, chairman of the committee of arrangements, was conspicuous for the elegance and gracefulness of its style, and the equal grace with which it was delivered. He elicited a tremendous burst of well-deserved applause when he hurled metaphorical anathemas upon those who were accustomed to inveigh against the inefficiency and defects of the association and did all they could to throw obstacles in the way of its advance, and said that if all the best men would only enter its wide-open doors and take an active interest in its welfare it would no longer be heard that it was the representative body of the profession of America only in name.

Professor Sayre presided with much dignity and in a most able manner. He had almost entirely recovered from the serious illness from which he was suffering at the time of his son's death and subsequently to that sad event, and was looking very much better (after a complete rest of some weeks in the enjoyment of the refreshing breezes of Long Island Sound) than his friends had ventured to hope. His excellent address was printed in last week's *JOURNAL*.

Among the distinguished men on the platform at the time of the delivery of the president's address were Dr. S. D. Gross, of Philadelphia, Dr. R. Beverly Cole, of San Francisco, Dr. Hunter McGuire, of Richmond, Dr. T. G. Richardson, of New Orleans, Dr. John L. Atlee, of Lancaster, Pa., Dr. John M. Toner, of Washington, and Drs. J. Marion Sims and T. Gaillard

Thomas, of New York. One very touching incident in the first day's proceedings was the proposal by Professor Gross, in his inimitable manner, of a resolution of sympathy with the president and his bereaved family on account of the untimely death of Dr. Charles H. H. Sayre, and the pronouncing of a brief eulogy upon the deceased. In accordance with the suggestion of Dr. Gross, the resolution was passed by the rising to their feet of the entire association, instead of in the ordinary way of voting.

The proceedings in general session were characterized by harmony and good feeling, and much good work was accomplished in the various sections; nearly one hundred papers being read in these. In the section of Obstetrics and Diseases of Women, Professor Thomas was announced to read an important paper on Ablation of the Uterus for Non-Malignant Tumors, at four o'clock on the second day; but forgetting the hour at which he was to read, he had made an appointment with a number of distinguished gentlemen to perform an ovariectomy at the Woman's Hospital, at half past three. Nevertheless, within five or six minutes after four the operation had been completed, and he was in his place in the section, although the hospital is nearly a mile and a half distant from Association Hall. It was learned afterwards that the ovariectomy had occupied just seventeen minutes altogether; but any one who is acquainted with Dr. Thomas and his way of doing things will not need to be informed that the operation was none the less thorough in every detail on account of the pressure for time than it would otherwise have been. An interesting feature of the proceedings was the establishment of a temporary section on Diseases of Children, with the prospect of its becoming a permanent part of the organization of the association, through the exertions of Professor Abram Jacobi, of New York, who made an appropriate address on the Claims of Pediatric Medicine before the section.

Of course, there was a vast amount of private entertaining on the part of the profession in New York during the session, but the public entertainments were also fully worthy of the occasion. The reception at the Academy of Music, with its delightful promenade concert by Grafulla and the unlimited resources of Delmonico at the disposal of the guests present, was a very brilliant affair, and the superb performance by Mr. Booth of Iago, which is generally acknowledged by the critics to be his most perfect rôle, afforded extreme pleasure to the vast audience which filled the theatre to its utmost capacity. So, too, the receptions at the Academy of Music, by Drs. Barker and Thomas, and at the elegant residences of Mayor Cooper and Mr. Belmont, were most enjoyable, though at times, perhaps, a little too crowded for entire comfort. In the Belmont gallery was afforded an opportunity to the members of the association and their lady friends to see one of the finest private collections of paintings in America.

Finally, the festivities were brought to a close by the delightful excursion up the Hudson and down to Coney Island, provided by Messrs. William Wood and Company, on the mammoth steamboat, *Grand Republic*, with Gilmore's band on board to enliven the sail.

In this connection it may be mentioned that the editor and publishers of the *Record* showed commendable energy in getting out a daily edition of the journal, with reports of all the sections, as well as the general

session of the association, during the meeting. There were twelve hundred delegates in attendance altogether, and it may safely be affirmed that each one of the entire number returned to the ordinary duties of life a happier if not a wiser man. The success of the meeting and its accompanying attractions was largely due to the special efforts of the president, Dr. Sayre, the secretary, Dr. Atkinson, the chairman of the committee of arrangements, Dr. Thomas, the secretary of the same, Dr. Gillette, the chairman of the business committee, Dr. Pallen, and the chairman of the entertainment committee, Dr. Pardee.

THE MEDICAL PROFESSION.

WE fully appreciate the kindly and sympathetic editorial which follows, and which we clip from the *Boston Daily Advertiser* of this morning:—

The ninety-ninth annual meeting of the Massachusetts Medical Society brought together, as usual, a distinguished company of professors, authors, specialists, practitioners, and invited guests. Some pleasant preparations are being made for the centennial celebration; but it is not necessary to wait another year to recognize in the society the twofold element of historic traditions and professional spirit. There were gentlemen present who represent the third and fourth generation of high medical or surgical rank in one and the same family; some gentlemen spoke whose names are honored wherever the art of healing or the science of health has reached its highest development. It is difficult to name all men of eminence, because even the professional associate is overwhelmed by their number and the weight of their names. Meanwhile, the names of Bigelow, Williams, Warren, Shattuck, Lyman, Barker, Bowditch, Chadwick, and others are honored wherever skill and knowledge are held in esteem. And not the least interesting or important fact connected with such an assembly is the observation that the places vacated by retiring gentlemen are filled by worthy successors.

The Massachusetts Medical Society is one of the largest, one of the strongest, and one of the most influential scientific associations in existence. It has always been exclusive in the professional sense of the term; it has always measured its members by a severe standard; it has always watched over public health with caution and prudence; and the statute book of the commonwealth is indebted to it for many enactments which have proved a public protection and a blessing. In medical education Massachusetts has always been a leader, relatively and absolutely, and its medical society has seen to it that the achievements of the profession in other ages and other countries are properly utilized by the profession at home. It has been free from false liberalism, preferring to err, if at all, on the safe side. Meanwhile, the path of the profession, while seemingly narrow and thorny to the common mind, has been pursued steadily and nobly, leading safely into and out of many mysteries, and leaving safe guides behind for future generations. For next to healing or relieving the sick the profession means to make sure of what has been safely established.

It is due to the younger generation to recognize its scientific spirit. More minds than ever are now en-

gaged in the discovery of medical knowledge for its own sake, fondly trusting that a real discovery of scientific value will enrich the profession and enhance the efficiency of its art. Massachusetts has enlarged the domain of accurate and professional medicine. Its medical gentlemen have kept abreast of their profession, and it would be rash indeed to ask of them less learning or less strictness in adhering to the narrow path. Those professions which tried to be liberal, as the alluring phrase is, have not gained in consequence. The world honors the conservative bank; it does not complain when universities draw sharp lines; it declines to respect the judge who disregards the law that some side may be pleased; it reverts the professional man who is loyal to his vocation. Men can be treated liberally and forgivingly; but truth and science abhor easy-going votaries. A problem in mathematics wants to be solved, not patronized or liked. A stern profession wants close disciples, or none. All honor, then, to the Massachusetts Medical Society, now in its centennial year.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM MAY 29, 1880, TO JUNE 4, 1880.

VOLLUM, E. P., major and surgeon. Having reported in person at these headquarters, is assigned to duty at Fort Hamilton, New York harbor. S. O. 84, Department of the East, June 1, 1880.

IRWIN, B. J. D., major and surgeon. To be relieved from duty at Fort Meade upon return to that post of Assistant Surgeon Breechenin, and then to report in person to commanding officer, Fort Snelling, Minn., for duty as post surgeon. S. O. 63, Department of Dakota, May 27, 1880.

HAYESSETT, J. C. G., major and surgeon. Granted leave of absence for three months, to take effect when relieved from duty in Department of the East. S. O. 118, A. G. O., May 28, 1880.

BYRNE, C. B., captain and assistant surgeon. Assigned to duty at Fort Johnston, North Carolina, relieving Assistant Surgeon V. Hatvard, who will comply with S. G. 74, C. S., A. G. O., S. O. 65, Department of South, June 1, 1880.

HALL, WILLIAM R., first lieutenant and assistant surgeon. To proceed to Fort Hays, Kansas, and report to Major Noyes, Fourth Cavalry, for duty with troops ordered to New Mexico. S. O. 113, Department of the Missouri, May 26, 1880.

WEISEL, D., captain and assistant surgeon. Granted leave of absence for four months. S. O. 122, A. G. O., June 3, 1880.

NORFOLK DISTRICT MEDICAL SOCIETY.—At the annual meeting of the Norfolk District Medical Society, held on May 11, 1880, the following officers were elected for the ensuing year: President, Robert Anory, M. D.; Vice-President, W. C. B. Field, M. D.; Secretary, Librarian, and Recorder, Walter Channing, M. D.; Treasurer, Norman Call, M. D.; Committee on Trials, James Morion, M. D.; Censors, J. W. Chase, M. D., E. D. Peters, M. D., O. F. Rogers, M. D., G. K. Sabine, M. D., E. T. Williams, M. D.; Councilors, W. S. Everett, M. D., A. R. Holmes, M. D., T. H. Denning, M. D., S. E. Stone, M. D., J. H. Gilbert, M. D., G. W. Fay, M. D., P. O. Edson, M. D., J. H. Streeter, M. D., D. D. Gilbert, M. D., C. E. Stedman, M. D., W. P. Bolles, M. D., J. S. Flint, M. D., D. S. Fogg, M. D., H. P. Bowditch, M. D.; Nominating Councilor, W. P. Bolles, M. D.

BOOKS AND PAMPHLETS RECEIVED.—On the Relations of the Medical Profession to the Trade Interests of the Materia Medica. By Edward R. Squibb, M. D. (Reprint.)

Contributions to the Physiology and Pathology of the Nervous System. Part II. By Isaac Ott, M. D., and J. C. Schlegel, M. D. Pathogenetic Outlines of Homoeopathic Drugs. By Dr. Carl Heineke, of Leipzig. Translated by Emil Tietze, M. D., of Philadelphia. New York and Philadelphia: Boericke and Tafel, 1880.

The Diagnosis of Diseases of the Spinal Cord. By W. R. Gowers, M. D., F. R. C. P. London: J. and A. Churchill, 1880.

Lectures.

CLINICAL LECTURES ON ORTHOPÆDIC SURGERY.¹

DELIVERED AT BELLEVUE HOSPITAL, NEW YORK.

BY LEWIS A. SAYRE, M. D.,

Professor of Orthopædic Surgery and Clinical Surgery in Bellevue Hospital Medical College.

VI. CHRONIC DISEASE OF THE WRIST-JOINT.

GENTLEMEN, — I have to-day an interesting case of disease of the wrist-joint, which I wish to present to you and to make the text for a few general remarks. The patient is a man thirty-six years of age, a carpenter by occupation, and has been brought to me by his physician from New Jersey. The trouble from which he is suffering is the result of a blow that he received more than two years and a half ago, previous to which time he always enjoyed good health. While engaged in his usual avocations he was struck with a hammer on the external radial surface of the wrist-joint. He continued to work for two months after the accident, which occurred in June, 1877; but as the injured wrist kept growing worse all the time, he was finally obliged to abandon his occupation altogether. To relieve the existing inflammation poultices were applied, and at length an abscess opened on the internal aspect of the wrist. The part was then blistered with iodine, and to such an extent that we find the cicatrices that resulted still remaining.

Now what we have here to-day is simply the result of inflammation of the wrist-joint, which was set up by an ordinary blow, and which was not properly attended to at the time when it commenced. In consequence of the neglect at first and the subsequent mismanagement to which it was subjected, the inflammatory process has gone on until, as you see, it has produced subluxation of the joint, with the hand flexed permanently at an angle of about a hundred and eighty degrees, and the ulna, which is completely dislocated backwards, projecting fully half an inch. And not only do we find this well-marked deformity, but also great suffering, and the pain becomes most agonizing if by any means the surfaces entering into the composition of the joint are crowded together. Here, then, is an excellent specimen of chronic disease of the wrist-joint, resulting in disintegration from absorption of the articulating surfaces, and consequent deformity; all of which might have been avoided if the original trouble had been treated by continued extension. This, I learn, has never been applied in the case. Now disease of any joint which continues for a few months will inevitably produce reflex muscular contractions, which not only aggravate the affection by assisting absorption of the articulating surfaces in consequence of the pressure which they uninterruptedly keep up, but also finally result in such deformity as you see here, which is regulated in extent by the muscles concerned. The flexor muscles are of course much more powerful than the extensor ones, and hence the resistance of the latter is gradually overcome by the force of the former. If these two sets of muscles were equal in power, in such a case as this, instead of the kind of deformity which exists here, we should have the hand simply drawn

upward, with disintegration of the bones and cartilages of the joint under the continued pressure.

The special character of the deformity that is here present, therefore, is due to the superior power of the flexor muscles of the fore-arm. In order that the effect of treatment may be fully appreciated in such a case, a plaster cast of the joint should always be taken before commencing it, as this exhibits the real condition of the parts in a much more perfect manner than any photograph or drawing can possibly do.

Now let me show you what the effect of extension, made in the proper direction, will be even at this late stage of the disease. The doctor making firm resistance at the bend of the elbow, I take the man's fingers and thumb in my hands and make extension at the same time that I practice supination. By this simple procedure you observe that I at once diminish the deformity to a considerable extent, and not only does this cause no pain, but it makes the inflamed parts absolutely comfortable, as you can readily see by the relieved expression of his countenance. In the course of a few hours I have no doubt that I could in this way completely straighten out this deformed condition; which, indeed, should never have been allowed to occur.

From the above facts I think none of you can fail to appreciate the important lesson that is to be gathered from a case like this. With all the earnestness that I can possibly command, I beg of you never to forget that unless some interference is made chronic disease of the joints inevitably produces reflex muscular contractions, and that these contractions just as surely aggravate the disease and result in deformity, such as is seen in the case before you. This is half the lesson. The other half is that all the bad effects of these muscular contractions can be successfully overcome by keeping up proper extension during the acute stages of the disease.

For instance, if in the present case I could sit here indefinitely, holding the patient's hand in the manner that I do now, it would be the best method of treatment that could possibly be resorted to, because there is no instrument or apparatus that can at all equal the human hand in delicacy and applicability; but as this is manifestly out of the question, we shall have to adopt instead the best means at our command for the purpose. Now let me convince you that the plan of treatment by extension, of which I have spoken to you, is the only correct one in these cases. While I held the patient's hand in the manner described he is, as I have said, perfectly at ease; but the moment I let go an instantaneous spasm is produced by the impact of the diseased surfaces, in consequence of the muscular contraction, and the man jumps to his feet with the pain. If, now, any pressure, however slight, should be used to crowd the surfaces still more closely together, it would increase the pain a hundred fold, while if motion should be made in the joint, with the parts in this condition, he would suffer the most inexpressible agony.

Is it any wonder, then, that a patient with one of his joints in this condition, which causes him uninterrupted and intense suffering, and keeps up a constant strain upon the whole system, should eventually suffer marked constitutional disturbance in consequence? When these constitutional results occur, he is supposed to be suffering from *serofidous* disease of the joint, although there may not be, and in the vast ma-

¹ Reported for the JOURNAL.

pority of instances there is not, the slightest scrofulous element about the case. The trouble is that the original injury is usually of such a trifling nature that it is allowed to pass almost unheeded, and the patient goes about his ordinary business without thinking it worth while to do anything for it. If this man had had his hand almost half cut off, he would have been all right long ago, because he would have gone at once to a surgeon and had it properly attended to; but the seeming "Libernianism," that "the less you are hurt the worse it is for you," often comes true in point of fact, on account of the time that is lost and the suffering that is endured before one finally recovers from the effects of an injury trivial in itself. The principles here laid down are applicable to all diseases of the joints. Only get a correct comprehension of the pathology in any case that may come under your care, and then, and then only, will you be able to treat it to advantage.

But now as to the treatment to be adopted here. The muscles and tendons may have remained so long contracted in this case that they have become *contractured*, as it is called, or, in other words, structurally shortened. Such a marked deformity cannot be reduced in a moment, and in treating it the important question first comes up, Can the contraction of the muscles and tendons be overcome by gradual traction, or will it be necessary to cut any of them? On making joint-pressure here while the muscles are on the stretch, I find that no reflex contractions are produced by it, and this at once convinces me that with the aid of gradual traction, maintained for a sufficient length of time, they can be fully restored to their original position; whereas, if reflex contractions had thus been caused, such gradual traction would have been of no service whatever, and we should have been obliged to use the knife. What we have to do, then, is to maintain extension and counter-extension, and at the same time keep the parts perfectly at rest. This can be most easily done by means of a piece of sole-leather about the width of half the circumference of the limb, and sufficiently long to reach from the upper part of the fore-arm to the extremities of the fingers, molded to the surface, and properly secured to the limb. Having cut the sole-leather the required shape, we dip it in cold water, and mold it accurately to the part, while the hand is extended in the position that overcomes the deformity to the greatest extent, after which we secure it by means of a roller. When the latter has been put on we should look carefully at the circulation of the finger ends, which should be left exposed, and if this is at all interfered with the bandage should immediately be taken off and reapplied. This dressing having now been properly adjusted, we find that the patient is entirely free from pain. To-morrow, when the leather splint has become perfectly hard, it will be taken off, lined with adhesive plaster, which should lap a couple of inches or more, and then bound again to the limb (extended as before), with the plaster against the fore-arm.

In this way permanent extension and counter-extension will be maintained, and the diseased surfaces of the joint consequently kept from coming in contact with each other. In a few days later, when the deformity has become to a certain extent reduced, the splint can be taken off and remolded to the part; and this can be repeated as often as necessary, until a cure has been effected.

Original Articles.

THE COMMITMENT AND CERTIFICATION OF THE INSANE.

BY THEO. W. FISHER, M. D. HARV.

A YEAR has passed since the Board of Health, Lunacy, and Charity was established, and the new law relating to the commitment of the insane enacted. Some comments and suggestions relating to the operation of these measures may not be premature at the present time. There had been for several years a certain pressure in favor of a lunacy commission to which should be given the functions of the old Board of State Charities, relating to lunacy, with such new powers as might seem desirable. There had also been in 1878 a legislative attempt to consolidate the management of the state institutions of all kinds under one central board, for convenience and economy. In 1879 the political pressure for economical administration was great, and any measure likely to result in a saving of expense was welcome in the legislature.

I am assured, however, that the union of the Board of Charities and the Board of Health with new functions relating to lunacy was advocated by Governor Talbot on purely administrative grounds, without any reference whatever to politics. It was believed that the Board of Health had accomplished a good work in the community at large in our own State, and an important missionary work in other States, and that it might now be properly called on to attend to the health interests of the state institutions. It was thought desirable that affairs relating to public health and public charities, which run so nearly parallel, should be under the supervision of a single board, thus avoiding complications and possible conflict of authority. A separate commission of lunacy could also be avoided by giving this board the supervision of the insane. The result was our tripartite Board of Health, Lunacy, and Charity.

Many physicians, who had been proud of the good work achieved by our State Board of Health, regretted the loss of identity which seemed to result from its immersion in the new board. They also shared the fears of Dr. Bowditch in respect to its future usefulness. It is necessary, however, to accept this consolidation as an accomplished fact, and make the best of it. Time will prove or disprove the wisdom of the change. Meanwhile, the new board should have the cordial support of all physicians who desire to promote social and sanitary reform. If a separate or supplementary health report be annually issued, it will stand as evidence of the comparative independence and efficiency of the health department.

Of the composition of the board I should not speak, except for the petition recently circulated to appoint one or more women in the place of two members of the lunacy department, whose terms soon expire. The functions of this department particularly should be exercised in the most purely judicial manner, and it should have the unquestioning confidence of the whole community and of the managers of our insane asylums also. It should no more be suspected of a hypercritical or hostile attitude towards asylums than of undue partiality towards them. Its action should always be based on the longest experience and most scientific information obtainable. If extremists are to be considered eligible to appointment, opposites should

be chosen, the most conservative as well as the most radical. I would willingly see a woman of the right sort appointed, and would also like to see upon the board some ex-superintendent who has made a life-long study of insanity from the inside.

The general powers in relation to the insane given the new board are contained in the Acts of 1879, Chapter 291, Section 3, and are as follows:—

"Said board shall act as commissioners of lunacy, with power to investigate the question of the insanity and condition of any person committed to any lunatic hospital, public or private, or restrained of his liberty by reason of alleged insanity at any place within this commonwealth, and shall discharge any person so committed or restrained if, in their opinion, such person is not insane, or can be cared for after such discharge without danger to others and with benefit to such person. And the members of said board, in person or by agents, shall visit and inspect every private asylum or receptacle for the insane within the commonwealth at least once in every six months."

Under this authority it is to be presumed that in the present full condition of all the state hospitals the policy of removing proper cases to town and state almshouses, or of discharging them to friends, will be frequently exercised. Every physician should therefore carefully consider before certifying in any case of lunacy whether a hospital is, under all the circumstances, the best and only proper place for the patient. His action, if the patient is committed, will be subject to examination by the board or its agent, and possibly to revision by a discharge to friends or transfer to an almshouse. While hospitals remain uncrowded it is desirable to care for as many harmless chronic insane as their accommodations will allow, but this class ought not to be permitted to crowd out cases more urgently demanding treatment and custody.

The new law in relation to the commitment of the insane remains, at the close of another legislative session, unaltered. It was the product, in part, of a popular demand, not entirely spontaneous, and based on exaggerated fears and unreasonable prejudices. It should, however, be considered impartially, and judged by its practical working. In Suffolk County the law has, I believe, been carried out faithfully, and even stringently in most of its provisions. The presence of the insane person in court has usually been required, and some judges have visited the patient out of court when his condition demanded it. The instances in which the personal appearance of the patient has been dispensed with, and reasons therefor given by the judge, have, in my experience, been very few. Great physical debility, with extreme excitement, in an undoubted case of insanity, has furnished the usual excuse. In a large number of cases the patient is willing to go to the hospital, but if able he is expected to come into court and tell the judge so. I remember one lady who considered the hospital a second home, and, having taken up her residence there, sent a polite request to the judge to be excused from attendance, which was granted.

I am not aware that the new law has diminished the number of commitments, or has proved much of a safeguard against fraud or improper certification. It was framed to meet an imaginary evil, and to guard against danger almost wholly chimerical. The result has been to put patients, their friends and physicians, to considerable trouble and annoyance without other

adequate compensation than the satisfaction of popular clamor, and in this direction the result does seem to have been satisfactory so far. In certain cases the effect on the patient of appearing in court has been disturbing, and in some degree, no doubt, harmful. Melancholy patients, believing they have done some great wrong or committed some enormous crime, and, full of apprehensions of impending evil, are very apt to think the judicial process of commitment relates to their punishment. It confirms their delusions, strengthens their apprehensions, and sends them to the hospital under the burden of an imaginary sentence of death. Occasionally a patient falls on her knees in court in prayer, or piteously begs for mercy. The exhibition of these and other deplorable insane conditions even before the few attendants in a probate court room is sometimes a painful one. The English law does not require the patient's presence in court.

It should be observed that this feature tends to render the admission to hospital of certain cases difficult until the disease has reached a stage of chronicity in which treatment is of little avail. Patients and their friends shrink from this additional publicity, and fear an aggravation of the disease instead of its removal. Some cases of undoubted insanity, of the emotional or moral type,—dangerous, it may be, and at least very destructive of family and public peace,—are likely to be refused commitment, because the judge cannot discover the insanity. Such patients are more likely hereafter to go on to the commission of some act, for which they may be punished, or which requires an elaborate defense on the ground of insanity. Insane drunkards are allowed full swing, under the new law, unless they consent to their own confinement. The State should at least legislate upon this last rather frequent form of insanity.

The whole tendency of recent legislation and of lunacy reform, as known to the public, is to remove the insane person from family and medical control, and place him in the hands of the law. The physician's opinion of insanity must be supported by such facts as would satisfy a non-professional observer that the person was insane. The judge must be able to discover the insanity, either in the evidence or the patient's condition. Any lawyer may visit his insane client by order of the judge who committed him. No physician connected with any insane asylum, however experienced, can certify in any case of insanity, although his testimony as an expert will be taken in court. His opinion may determine the disposal of an estate, and the life of an insane homicide is often in his hands, but he cannot certify a demented patient from his own hospital into another. He really stands as family physician to many of his patients, but he cannot certify in any obscure case, although his testimony may be absolutely necessary to its proper disposal. In consequence of a law passed last winter the same discrimination holds in the matter of fees. The physician, whose reputation is at stake and whose practice may suffer through an error, who takes the chief risk of suits, in revenge or on speculation, who perhaps has visited the lunatic under circumstances of great personal risk, and without whose certificate no action can be inaugurated and no arrest made, gets two dollars and mileage. The justice, who sits in his chair and devotes five minutes to the case, gets three dollars, and a dollar extra if he visits the patient.

Aside from the absurdly inadequate fee, and the in-

creased trouble of getting the patient and all his friends into court at a time convenient to him, the physician ought, on some accounts, to be pleased with the new law. It is a great protection, though not a perfect safeguard, against suits for false certification, fraud, and conspiracy, to bring the patient into court and let him have his hearing once for all. It also divides the responsibility to have his friends appear with him. There is less chance that some impetuous and unscrupulous lawyer will conspire with the discharged but still irresponsible lunatic to put respectable physicians on their defense for fraud and perjury "on speculation." In many cases also it is a benefit to the patient to feel that he is judicially committed to an asylum, and that he need not waste valuable time in trying to get out, when he should be trying to get well. Superintendents are not so likely to be importuned for immediate discharge on the ground of hasty and unjust commitment.

The feature of the law requiring the physician to be a graduate of some legally organized medical college is of course a good one. The other requirement, that the certifying physicians shall specify the facts on which their opinion is founded, is, I fear, not generally understood. Many physicians, to my knowledge, still seem to consider the opinion that the patient is insane and a fit subject for hospital treatment as the important part of their certificate. They answer the questions attached to the Suffolk County blanks at least in a brief way, or not at all, and do not attempt to give the facts on which their opinion is based. One certificate, recently, contained only such information as could be derived from the single word "violent." It must be borne in mind that the physician is no longer the judge of the patient's insanity. He must so fortify his opinion with facts that the judge or justice shall be able to infer the existence of insanity. Unless this is done his certificate is not legal in form or substance.

Physicians should also remember that all their certificates now pass a critical examination, by order of the Board of Health, Lunacy, and Charity. Under English law, if not in accordance with the law, their certificates are returned to them for correction. Mr. F. B. Sanborn, inspector of charities, is charged with this duty, and he informs me that large numbers of certificates are wanting in the necessary specification of facts. It should be a matter of professional pride, as well as of obedience to law to make such a statement in every case as will justify the physician's opinion. This will be done when its necessity is generally understood. Certification in cases of persons arrested by the police, or otherwise brought to the notice of the proper authorities for summary disposal, is sometimes difficult. There may be entire lack of information, except what can be gathered from a stupid, demented, intoxicated, delirious, or incoherent person himself, and little time to obtain it. But this excuse will seldom apply to the certificates of physicians, who see patients in their homes, where delay is possible and all the facts are at hand.

Facts of hearsay as well as of observation may be given in the certificate, but they should be carefully distinguished. The two physicians should also specify any facts they may have separately observed. For instance, the one most familiar with the case may say, "Dr. A. observed," etc., and "was informed by the patient's wife that he," etc. Dr. B., if his information is identical, can say so over his own initials or signature.

If not, he can add his facts in the same manner as Dr. A. The questions on some certificate blanks may be answered thus indirectly, and not in a categorical manner, as they are also answered on the statement required by law.

It requires some knowledge of insanity and some experience in certifying to make a perfectly correct certificate, with nothing superfluous, and complete in all respects. Any physician, however, who has come to the conclusion that a person is insane ought to be able to state clearly the facts which led him to this opinion. A careful setting forth of his reasons in the certificate will not only give clearness to his own ideas on the subject, but will prevent hasty action in doubtful or obscure cases. Although the English law differs somewhat from ours in its requirements, Dr. Brushfield's recent article *On Medical Certificates of Insanity*¹ will prove a useful guide to those desirous of perfecting themselves in the art of certificate-making. Our law does not particularize as to the form of the medical portion of the certificate, and makes no distinction between public and private patients. The English law requires but one certificate in the case of paupers, and most of the restrictions and safeguards seem to apply especially to private patients.

Dr. Brushfield considers the certificate as containing two distinct parts,—the statutory and the medical. In the case of private patients the two physicians must separately examine the patient and form an opinion, each independently of the other. Their certificates must be on separate sheets of paper, and neither must see that of the other or know its contents. The statement as to medical qualifications must be full, showing that the medical man is a licensed practitioner, and that he is in actual practice. The time and place of examination must be designated. It should be noted that in neither the English certificate nor ours is it necessary to state that the patient is dangerous. The words "and is a proper person to be taken charge of and detained under care and treatment" are equivalent to "is a proper subject for treatment in an insane hospital" of our certificate. This point should be insisted on, as lawyers and judges in some cases with us seem to think the element of danger the only important one in disputed cases. In the case of *Notridge v. Ripley* the judge appeared to be of opinion that no insane person not dangerous to himself or others ought to be confined in an asylum. The English commissioners of lunacy, in reference to this case, wrote to the lord chancellor as follows: "The object of these acts is not, as your lordship is aware, so much to confine lunatics as to restore to a healthy state of mind such of them as are curable, and to afford comfort and protection to the rest."²

This opinion should be our guide in certifying, since the difficulty of ascertaining dangerous proclivities is great, and their detection may require prolonged observation. It is not necessary to wait till a patient has committed some violent act before certifying, as the non-existence of dangerous symptoms is not a reason against removal to an asylum, whether the patient is private or public. The patient, under English law, must go to an asylum within seven days of his examination by the physicians. With us this is discretionary with the judge. Our certificates must have been made within five days of the examination. The hear-

¹ London Lancet, April 24th, May 1st and 8th, et seq.

² Jurisprudence of Insanity, Brown, page 30.

ing is usually within a day or two, and the patient is sent to the asylum at once. Now and then a delay of a day or two unavoidably occurs. One other requirement, that the patient must not be examined in the asylum where he is to remain, is occasionally disregarded with us.

Dr. Brushfield thinks the greatest modern improvement in the lunacy law is that portion which requires physicians to state the reasons or "grounds" for their opinion that a person is insane in detail. It is no doubt a great improvement, but here physicians conversant with insanity always have stated their reasons more or less in detail, and supposed they were testifying to them under oath. It is well to have the law made clear on this point, and the practice should conform to it. Under the old law it was my aim in certifying to present as clear an idea of the form of insanity in each case as possible, under the headings of cause, duration, previous attacks, disposition, habits in regard to temperance, etc. This is now superfluous, or at least subordinate to the presentation of facts proving the insanity. These may by some ingenuity still be arranged so as to show that the physician knows what form of mental disease he is observing, but he must at any rate show by his facts that the party is insane. He is still supposed to give a medical opinion, but if his facts do not justify his opinion in the mind of a non-professional justice it will be without weight.

I am not sure of the advantages of some other requirements of the English law: that, for instance, confining the physician, however familiar with the case, to a statement of facts observed on some particular day, to the exclusion of all others, and that forbidding consultation between the certifying physicians. Why should the medical man about to certify be deprived of the experience of the family physician in forming his opinion? To be of any value it should be based on all the facts of the case obtainable, and not on the chance developments of an hour's examination. Why not set up some legal test of honesty and capacity, and then let physicians consult as in case of any other disease? Public examiners who could be trusted might better be appointed than to hamper the physician in search for the truth with too many restrictions. The English law seems designed to hold in check a set of medical villains who are desperately conspiring for money to put sane people into the licensed houses of other base physicians for their pecuniary profit.

The provision that no asylum superintendent shall certify a patient into his own hospital is so eminently proper, and the act so little likely to occur, as hardly to require legislation. Our legislature has, however, gone a step beyond this feature of the English law, and forbids an asylum physician to certify a patient into any hospital. He may neither be peculiarly interested in his own nor any other asylum, but he is not to be trusted. The reason for this provision in our law was not, I believe, pecuniary. It was said that persons of long hospital experience with the insane knew too much about insanity, and could easily snap up a demented legislator or a crazy lobbyist, and consign him or her to the Bastille at Somerville! This would be laughable if it were not insulting to a body of as intelligent and trustworthy servants of the State as any to be found in our legislative halls.

This English legislation, which we have in part copied, grew out of a state of things never existing here. Until recently no private asylums were to be found

here, and there is no probability that the small houses for private patients kept by physicians for their own profit will ever become so numerous as to require a special method of certification. Our law has the good feature of treating rich and poor alike. The safeguards against improper commitments protect one class as much as the other. In England a single certificate only is required in case of a pauper. If he be in an almshouse the certificate of the medical officer and an order from a justice, a relieving officer, or an officiating clergyman is sufficient.¹

Upon the medical portion of the certificate Dr. Brushfield remarks that the physician should always bear in mind that he may have to defend his certificate in court. If the symptoms on the day of examination are obscure he must not certify, no matter how dangerous to himself or others the lunatic may have been. In epileptic mania, homicidal impulse, or suicidal mania the symptoms are very likely to be in abeyance at the time of examination; but the friends must be warned and the certificate refused, however strong the hearsay evidence may be.

All the chief symptoms should be detailed briefly, without comment or repetition. Statements represented as delusions which might by any possibility be true should be carefully investigated. Dr. Brushfield relates the case of an engineer whose claim of having made plans for tunneling the English Channel was supposed to be a delusion, but proved true. I remember a sea-captain who died of general paralysis, and who claimed to have discovered an island of solid gum in the Pacific Ocean, which was named after him. This supposed hallucination proved true. I also recently met with a physician who was willing to certify that a discharged lunatic was still insane, because he still claimed to own a silver mine and to have had in his pocket specimens of the ore, which claims were true.

Such physical conditions as blindness, deafness, paralysis, malformations, or loss of teeth, causing defects of speech, infirmities of temper, peculiarities of gesture, eccentricities in conduct, may sometimes make a person seem at first sight insane or demented, and should be allowed for. Change in habit, conversation, affection, disposition, dress, or conduct is more important than peculiarity. Coarse and violent language may indicate insanity in a person of refinement, but not in one of less culture. Care should be taken to use proper terms in describing these symptoms. *Manner*, for instance, is not *incoherent*, nor *conversation* *illusory*. The great difficulty for most physicians in certifying is due to imperfect knowledge of insanity and doubt as to which are the chief symptoms in a given case. Insanity is protean, and no two cases are exactly alike. The peculiarities of each case should be carefully described.

Dr. Brushfield would have the patient's appearance, speech, and conduct observed and described in their order. The attitude and movements as well as facial expression should be described. Occasionally obdurate silence on the part of the patient is an obstacle to certification. This may occur from simple inability, as in fright or shock, but is willful in most cases. Conversation may fail in general inertness, in fatuity, hysteria, melancholia, or from perversity. Try to ascertain the cause, and state it as hearsay if necessary. It has always been my habit to tell such patients that their silence may result in sending them to an asylum, or to

¹ Bucknill and Tuke, 4th edition, page 7.

ask them if they have any objections to going to an asylum.

Delusion is the chief symptom in most cases of insanity, and is accepted as conclusive evidence in courts. Some judges have ruled that without it there is no insanity, which is not in accordance with medical experience. False belief, not arising in cerebro-mental diseases, is of course no proof of insanity; but false beliefs are sometimes contagious, and may produce actual insanity. Hallucination and illusion should be described if they exist. I am aware that physicians often neglect to state the fact of "false hearing," which is an extremely common and a dangerous symptom, sometimes because they do not recognize it as the true explanation of the patient's conduct. Evanescent, extravagant statements, such as general paralytics make, are not properly delusions, as they are not fixed, but are of the nature of delirium. Incoherence is a frequent symptom, and should be carefully observed and noted. It may extend to words, or be limited to a confusion of ideas. It is found in acute mania from a too rapid flow of ideas, and in dementia from loss of control and failure of the thinking powers. Defects of memory are also important and common.

It is not necessary to follow Dr. Brushfield's analysis further. He treats at some length of the method of describing the various symptoms in insanity, and gives many examples of errors in certification. He refers to Dr. Millar's book¹ for further information. I have thus called the attention of the profession in Massachusetts to the present requirements of our law, and have no doubt model certificates in all cases will be the result. It may be said that we are not under English law, and that if the certificate, with the oral testimony of the physicians and the patient's friends, and the presence of the patient himself satisfy the committing magistrate it is enough. I still think that a fair interpretation of the words "and he shall specify the facts on which his opinions are founded" require that the physician shall state facts enough to justify his opinion, to his own mind at least.

THE LEATHER JACKET IN THE TREATMENT OF SPINAL CURVATURE.

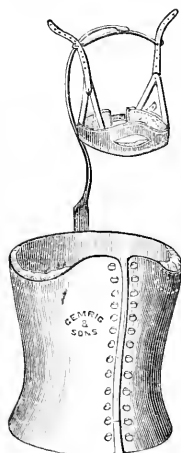
BY C. T. HUNTER, M. D.,

Demonstrator of Surgery in the University of Pennsylvania.

DURING the summer of 1878, while on duty in the surgical wards of the Pennsylvania Hospital, I had two cases of ununited fracture of the leg under my charge, which I treated successfully by means of leather splints. The use of this splint was suggested to me by Professor Agnew, who had tried it in similar cases. The leather used was the ordinary sole-leather, which was cut of a size sufficient to envelop the foot and leg; it was softened in water, then applied to the limb, and secured by a bandage. As soon as it had become dry it was removed, both surfaces varnished, several perforations made in it for the purpose of ventilation, and the edges provided with shoe-hooks. Thus prepared, it was applied to the leg, protected by a stocking, and laced up like a shoe, when the patient was permitted to move about on his feet with the aid of crutches.

Soon afterwards I was called in consultation in the case of a young girl, aged twelve, who was supposed to have anterior-posterior curvature of the spine. A care-

ful examination of her back revealed a slight prominence in the mid-lumbar region. As the disease appeared to have made but little progress, it occurred to me that this case would be a suitable one for the use of the sole-leather jacket, prepared as the splints had been which I had previously used for ununited fracture of the leg. To obviate the necessity of fitting the sole-leather on the patient, it was essential that I should first get a cast of her body. To do this I applied a plaster-of-Paris bandage in the usual way, and this, after fifteen or twenty minutes, was removed by cutting it down the front. This plaster jacket was sent to our instrument-maker, Mr. Genrig, who had a cast made from it that corresponded exactly to the body of the patient. On the plaster cast the sole-leather was fashioned, which, when dry, was prepared in the same way as the splint, described above. To prevent excoriation of the integuments covering the folds of the axillæ, the upper margin of the jacket was cut out on each side and faced with buckskin. Thus



fitted, the jacket was applied to our patient August 22d, 1878, and without further alteration was worn by her for a considerable time, with entire relief of the symptoms consequent upon the disease of the vertebrae. Since then this jacket or corset has been extensively used by Professor Agnew in his practice, and by myself in a proportionate extent in my own, with the greatest satisfaction. When the disease is situated in the upper dorsal or cervical region, and it is found necessary to support the head, Professor Sayre's "jury-mast" can be easily attached to the back of the leather splint. In order to make the jacket a little more finished in appearance, Mr. Genrig covers its entire surface with a flesh-colored enamel similar to that used for the same purpose by manufacturers of artificial limbs. At first, these corsets were lined with buckskin or light flannel; but this was found to be superfluous, and added somewhat to the weight of the jacket, because a woolen or cotton under-shirt worn by the patient fulfilled the purposes of a lining.

I do not insist upon the superiority of the leather jacket over the plaster-of-Paris or the silicate-of-sodium corset in all cases of spinal curvature. It is, however, specially advantageous in cases of Pott's disease that are convalescing, and likewise in those of lateral curvature in the early stage, before there is any great amount of lateral deviation of the spine from the perpendicular. In all instances in which a continuous bandage is not specially indicated, the leather jacket is manifestly the best in use. It is fully as firm as the plaster-of-Paris corset, and is not open to the annoyance that frequently arises from plaster which crumbles off and works in between the jacket and the skin of the patient; it is lighter and stronger than the silicate-of-sodium jacket, and is far more durable than either. For the attachment of a head-piece or "jury-mast," I am convinced that the leather jacket far surpasses every other jacket or brace in use.

¹ Hints on Insanity, 2d edition.

THE PROPER USE OF THE HOT VAGINAL DOUCHE.

BY CLIFTON E. WING, M. D.

THE use of hot-water vaginal injections in uterine affections has now become pretty general, but it is evident from the testimony of patients who have followed the directions of their physicians in using them that many practitioners who order them fail to understand the principle of their action, and consequently do not impress upon their patients the proper method of taking them. As often employed they are calculated to do more harm than good.

The great object which they are intended to accomplish is the driving of the blood from the local parts, thus reducing the weight of the uterus and its appendages, removing tenderness due to congestion, and, when inflammation is present, "starving it out by cutting off its nourishment;" for without active congestion active inflammation cannot exist. Moreover, when properly taken, they assist the absorption of products of inflammation, and forward the restoration of the normal mobility and elasticity to the tissues of the parts. In short, they act as does a poultice properly applied to any tender or inflamed external portion of the body.

The effect produced upon the circulation of a part by the application of water varies with the temperature of the water and with the length of time the application lasts. This can be clearly understood if we call to mind its effect upon our hands. If we dip them into *cold water*, during the time they remain in the water—be it longer or shorter—the blood is driven from them and their circulation is diminished; but as soon as they are withdrawn reaction sets in, the hands become red from increased circulation, and this secondary congestion lasts for a considerable time. This effect of temporary cold in producing subsequent congestion is clearly shown in the red hands of the child who has been playing with snow. Were it possible for a patient to employ the vaginal douche constantly for hours and days without intermission, doubtless the uterine circulation could be controlled by such use of cold water; but of course this cannot be carried out in practice, and when employed, as it usually is, for a few minutes only the real effect of the cold-water injection is to produce congestion instead of correcting it.

If the hands are placed in water which is *warm* (not hot) the blood is drawn to them at the time, and they remain more or less red after their withdrawal. Water simply *warm*, then, will not answer the purpose of the vaginal douche in correcting congestion.

If the water is *hot* (as hot as can be borne) and the hands are immersed only for a few moments, again congestion is the result; but if one's hands are kept for a long time in hot water, as in the case of the washerwoman or the kitchen-maid engaged in washing dishes, on removal they are found to be *white, shrunk, and shriveled*, and they do not regain their usual condition perhaps for hours. In brief, by the prolonged application of hot (not warm) water to a part the supply of blood to that part is decidedly lessened, and, moreover, the full circulation is not quickly reestablished when the application ceases. This is exactly what the hot-water vaginal douche is intended to do, and what it will do if the proper precautions are observed in its use.

In the first place, the water used must be hot, and not

warm, as can be readily understood from the foregoing. It is safe to tell the patient to have the water "just as hot as she can bear it without being scalded," for it will burn the skin as it returns from the vagina before it will do any harm to the mucous membrane of the internal parts. After a few times the woman will find herself using water at 110° to 120° Fahrenheit. Occasionally an enthusiastic patient will reason, like the Irishman, that "if some is good more is better," and helped by hot water will try hotter, until some irritation of the parts is the result of her overdoing the matter; but this, if it happens, is a temporary trouble, which, the fault removed, will take care of itself, and generally the error is committed of not having the water hot enough. *Care must always be taken that the water does not get cool before the douche is finished. To guard against this, a very little hot water may be added from time to time to the water used.*

Secondly. *The douche must be used at least twenty minutes (better half an hour or more) at a time. If used for a few minutes only it will, as explained above, cause congestion instead of correcting it. The quantity of water necessary for continuing the injection the proper length of time is not a few pints or quarts, but a number of gallons. It is not the quantity of water used that is of importance, but it is essential that during the whole time of the douche the temperature of the water in the vagina should be kept up, that the parts may be constantly bathed in water considerably higher than the normal temperature of the body.*

The constant flow of hot water is the easiest means of gaining the point.

Thirdly. *The patient should never take the douche in the sitting position, with the body erect, but should always lie flat upon her back, with the hips higher than the rest of the body. If this precaution is not taken the water flows from the end of the injection tube, and at once returns out from the vagina without coming in contact with the womb and upper parts of the vagina, where its effect is wanted. Whereas with the woman on her back, with the hips raised, the womb and what was in the erect posture of the body the upper part of the vagina are now lower than the vaginal outlet; consequently the vagina remains filled with the hot water up to the level of its external opening, and the womb and the adjacent parts get the full benefit of the application.*

Dr. Emmet, to whom full credit is due for introducing the hot vaginal douches, prefers to have them given in all cases by a nurse, and states "a steady stream is never as serviceable as the interrupted current from a Davidson syringe." I cannot agree with this opinion. I believe I have seen fully as good results from the douche where the steady current of a "fountain syringe" or its equivalent was used as where the Davidson syringe was employed by the most skillful nurse; and I had ample opportunity of watching the latter method when an *interne* at the Woman's Hospital in New York, a number of years ago. Furthermore, I feel sure that with many uterine patients it is better to dispense with the services of a nurse, for the constant presence of one who can be called on at any moment for whatever is needed seems in some cases to remove that stimulus for self exertion which is at times such an important adjuvant in the cure. The Davidson syringe cannot be used to advantage by the patient herself. Indeed, it is enough to tire a man's arm to

pump any amount of water through it. The "fountain syringe," as sold in the shops, is of very little value for our purpose, from the fact that its reservoir is altogether too small to hold the requisite amount of water. If used, it must be refilled a number of times. I usually tell my patients to get a common-sized wooden water-pail (which will hold water enough, and can be obtained for very little), to have a hole bored in its side near the bottom, and a small faucet inserted; to attach to this a piece of rubber tubing (such as can be bought at any rubber store) of about the size commonly used on syringes, and from four to six feet long, and to the end of this tubing to attach a vaginal nozzle, such as comes with any common family syringe. This part of the apparatus is then ready. A spring catch may be used upon the tubing further to control the flow of water, if desired.

As stated above, the douche must be taken with the patient lying on her back, with the hips somewhat raised. This can be accomplished in several ways. It can be used while the patient is taking a warm bath; if there is a set bath in the house, the pail filled with hot water being placed upon a stand, or suspended at such a height that the water will flow freely from the tube introduced into the vagina; or the woman can lie crosswise upon a bed, with her hips at the edge and her feet resting upon chairs, a rubber sheet being placed under her in such a way that it will convey the escaping water into a tub placed upon the floor to catch it, and at the same time protect the bed from getting wet.

The best way, however, is to employ a proper bed-pan to receive the water, and use the douche while lying in bed. The common crockery bed-pans hold so little that they require to be emptied several times during the process, and are therefore very inconvenient where the patient takes the injection herself. A nurse can manage better to remove, empty, and replace the pan, or can empty it when full without removing it by employing the syringe for that purpose, but it is troublesome. The shape of the common bed-pan, which is such that it can be readily slid under a patient, is, however, an advantage in some cases of serious inflammation, where it is desirable to avoid lifting or moving the patient more than is absolutely necessary. Some pans are made of this same shape, but with a tube attached, through which the water is drawn off into a proper receptacle placed upon the floor. This does very well if care is taken that the escape of water through the tube does not become stopped, but if this happens a drenched bed is apt to be the result. Ordinarily (especially where the patient manages the douche herself), it is most convenient to make use of a pan which is of sufficient size to hold all the water which is to be used, and which need not be emptied until the douche is ended. With such a pan and a rubber sheet the bed never need be wetted.

The patient should avoid becoming chilled at the time of taking the injection by being sufficiently covered, and should be careful about going out in the cold immediately afterwards unless well wrapped up.

In ordinary cases these injections should be employed twice daily, — in the evening on retiring, and in the morning before getting up. In some cases of severe inflammation they may be used oftener with advantage. It is best to continue them long after the symptoms for which they were used have disappeared rather than omit them too soon, and it is well

to discontinue them by using them at longer and longer intervals, until they are finally omitted, rather than to omit them at once. If the old symptoms return they should be resumed.

In certain cases the amount of comfort afforded is remarkable. I have seen some patients who were "used up" with uterine symptoms, — dysmenorrhœa, backache, inability to walk any distance or stand any length of time without suffering, pain through the hips, etc., — who, when the pelvic congestion was relieved in this way, felt so perfectly well that they required nothing further in the way of treatment.

In closing I cannot do better than quote the following paragraph from an excellent article by Dr. E. C. Dudley, published in the *Chicago Medical Gazette* some months since: "In uterine therapeutics the value of the hot-water vaginal douche is perhaps greater than that of all other topical applications combined; its use is perhaps more nearly universal, yet so inefficiently is it ordinarily applied that in the large majority of cases it does little or no good."

Hospital Practice and Clinical Memoranda.

A FATAL CASE OF FATTY EMBOLISM.

BY MARSHALL L. BROWN, M. D., BRIGHTON, MASS.

W. S., a lad sixteen, had diabetes mellitus, from November, 1869, to March, 1880. The specific gravity of his urine ranged from 1042 at highest down to 1025, the lowest, which last was at the week of his death, with a corresponding diminution in the amount of sugar. The greatest quantity of urine passed any one day during his illness was thirteen quarts. The last month of his life it had considerably diminished. His general condition and appearance did not indicate any settled organic disease or cachexia. His physical strength and vigor of body had seemingly increased. His appetite and digestion had improved, and he was eating a greater variety of food. The second or third day before his death he walked several miles and dined out. On the morning of the day of his death he made arrangements to go into town to see his attending physician; but, as the morning advanced, feeling an uneasiness and uncomfortable sensation in his stomach and bowels, he concluded to have him come out and visit him. On arriving at noon, he found his patient suffering from a diarrhœa which had come on during the forenoon, attended with considerable pain and quickened heart's action.

During the afternoon the pain and diarrhœa increasing, a physician near at hand was called in, who prescribed Squibb's liq. opii comp., in small, frequently repeated doses. In the course of a few hours, "the pain suddenly moved up from the stomach and bowels to the chest," to the cardiac region. He immediately asked to be fanned and to have the windows opened. The pain and dyspnoea constantly increasing, the physician near at hand was called again, who, on his arrival, found the patient in a dying condition. The dyspnoea rapidly increased, and he became as rapidly cyanotic, and died.

At the partial autopsy, forty-eight hours after death, portions of the stomach and bowels were found considerably injected, indicating the location of the abdomi-

nal pains. The liver was somewhat enlarged, and slightly more friable than usual; the kidneys and spleen were also enlarged, but otherwise normal in appearance. Upon applying a diluted solution of tincture of iodine to freshly cut surfaces of each of these organs we did not get the usual reaction which indicates the presence of fatty degeneration. The lungs were generally edematous. The heart appeared normal in size; its color was much paler than usual; the walls of the right ventricle were somewhat thinned, and the right auricle and ventricle were filled with black, tarry masses of blood intermixed with coagulated masses of a white substance, resembling in consistency the curdled milk vomited by a nursing child, and in color the white substance of the brain. These masses varied in size from that of a large pin head to that of a large pea. A collection of it, two to five inches long, was found completely filling the pulmonary artery, and seemed more adherent and firmer than that found in the heart. A portion of this mass was examined under the microscope by one of the physicians present, and found to consist wholly of fat.

The thoracic duct, unfortunately, was not examined. It would have been a matter of great interest to have ascertained whether this fatty matter was coagulated in the thoracic duct or after the chyle and lymph had been intermingled with the blood in the superior vena cava.

The article on Fatty Embolism, in Recent Progress in Pathology and Pathological Anatomy, vol. cii., No. 21, of the JOURNAL, is the only source I have yet found which makes clear and helps to interpret this case. In the light of the facts contained in this article, this would seem to be a clear case of fatty embolism.

Reports of Societies.

ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION.¹

SECTIONS.

Section I. Practical Medicine. The electrical treatment of exophthalmic goitre was recommended by Dr. A. D. Rockwell, of New York, using galvanic currents.

Dr. J. Solis Cohen's paper on Artificial Inflation of the Lungs in Catarrhal Pulmonary Diseases was read for him by Dr. Bulkley.

Dr. L. Duncan Bulkley next presented a paper On the Use of Sulphur and its Compounds in Diseases of the Skin, both internally and externally. This paper was generally discussed.

The Strong Galvanic Current in the Treatment of Sciatica was the title of a paper by Dr. V. P. Gilney, of New York, in which the stable current, as strong as the patient will bear it, is to be used. The descending current was preferred.

Dr. L. Turnbull read a paper on Hydrobromic Ether, which he considered as a very safe and efficient anæsthetic for operations not exceeding forty minutes.

A paper by Dr. J. J. Caldwell, of Baltimore, on The Study of Special Nerve Centres, and one by Dr. E. Cutter, of Boston, on The Salisbury Method of treating Consumption, were referred to the publication committee.

Section II. Dr. F. N. Otis, of New York, read an essay upon Syphilis, especially in reference to its treatment.

Dr. H. O. Marey, of Massachusetts, described the Development of the Osseous Callus, and illustrated it by micro-photographs beautifully colored.

Dr. Piffard, of St. Louis, explained the pathology of Lupus, and considered it as a scrofulous affection. The histological characteristics of three grades of lupus were shown by the magic lantern. Local treatment by the scoop, with subsequent application of the actual cautery, was recommended.

Dr. Hutchinson, of Brooklyn, presented a communication from Dr. Charles R. Drysdale, of London, England, on The Treatment of Syphilis at the Commencement and End of the Nineteenth Century.

In this paper the non-mercurial treatment of the initial lesion was advised. Where iodine is used, syphilis is generally mild. The dose of mercury ought to be small, and is best in the form of iodide of mercury; but tertiary syphilis is treated by large doses of potassium iodide, using mercury when this fails.

Dr. Martin, of Boston, being invited to speak on the elastic bandage, explained its application.

Dr. H. F. Campbell, of Georgia, gave an abstract of his paper On the Radical Cure of Inflammation by the Ligation of Vessels of Supply. Seven cases of the lower and eight of the upper extremity had been thus treated during inflammation, with surprising results.

Dr. W. D. Hooper, of Liberty, Va., read a paper on Fractures, which had been previously published; and exhibited his appliance for the treatment of fractures.

The following papers were read by title only: A Method of treating Spinal Disease, by E. H. Coover, Pennsylvania; Treatment of Fractures of Long Bones involving the Joints, by James S. Green, of Elizabeth, N. J.; On the Present Standing of the Doctrine of Inflammation, by Dr. C. Heitzmann, New York.

Section III. On Obstetrics and Diseases of Women. Dr. Addinell Hewson read a volunteer paper on the Treatment of Fibroids of the Uterus by Dry Earth. Fifty cases had been treated in this way, with great relief to the swelling and tenderness and reduction in size of the growth.

Dr. B. F. Dawson, of New York, presented a clinical report on a Modified Operation for Cystocele, in which the redundant anterior wall of the vagina was folded into the bladder.

Dr. Robert Battey, of Rome, Ga., reported a case of still-birth, with resuscitation after two hours and five minutes. It was a breech presentation, and greatly cyanosed. After one hour's artificial respiration it took the first breath, but was not resuscitated fully until the time named. The child died shortly afterward.

Dr. Palmer, on behalf of Dr. T. G. Thomas, presented a very fine dermoid cyst of the ovary, removed a few days before.

Dr. K. Tauszky, of New York, read a paper entitled Rest after Delivery, and the Treatment of Peritonitis, in which he deprecated too early rising after delivery.

Dr. R. Beverly Cole, of San Francisco, made some Remarks upon Sponge Tents, in which he described his method of preparing them. Taking fine cap-sponge perfectly free from grit, he dips it in melted wax and subjects it to pressure. From this the tents may be cut of any desired shape.

Dr. Battey exhibited a soft rubber catheter attached

¹ Continued from page 565.

to a long piece of ordinary rubber tubing, so as to carry the urine outside of the bed.

Section IV. State Medicine. Dr. Wines, of the Census Bureau, by invitation, explained the blanks upon which the present census is taken. Dr. Billings offered the following resolution which was adopted:—

"Resolved, That this Association approves of the plans proposed by the superintendent of the tenth census for the collection of data with regard to the insane and idiots of the United States, and that it urges upon physicians that they should aid in this work as far as possible by carefully replying to the schedule of queries on this subject which will be sent them from the census office."

Dr. Chas. W. Page, of Hartford, Conn., read a paper on the Moral Treatment of the Insane.

The report of the committee appointed at Buffalo to consider the Intervention of the Physician in Education discussed very fully the unhygienic condition of the ventilation, sewage, etc., of public schools.

The report upon Sanitaria stated that the committee considered it inexpedient to recommend any particular sanitarium.

Dr. Bell offered the following resolution, which was adopted:—

"Resolved, That a general sanitary organization is a necessity of every enlightened commercial nation, and the service of the National Board of Health of the United States, since its organization, has been such as to impress us that both in its personnel and organization it is entitled to the confidence of the government and the people; and we join the American Public Health Association and the National Academy of Sciences in earnestly recommending to Congress that the suggestions and estimates of the board receive their legal sanction, believing that the money asked for is necessary to the work of the board, and will be a most judicious expenditure of money."

Dr. A. L. Carroll, of New Brighton, N. Y., offered a resolution requesting the establishment of a chair of Public or State Medicine as an essential part of its curriculum, which was adopted.

Dr. Quimby, of Jersey City, read a paper on the Criminal use of Chloroform, which supported the view that this agent might be given during sleep, without awaking the subject.¹

Dr. W. H. Lathrop spoke about the proper construction of almshouses.

Dr. Antisell, of Washington, D. C., advocated the appointment of a medical analyst to act in conjunction with the coroner, in cases of suspected poisoning; and Dr. W. F. Thoms offered some considerations on Humane Societies.

Section V. Dr. B. Joy Jeffries read a very instructive and suggestive paper on Color-Blindness, in which the importance of the subject was dwelt upon, and the great preponderance of the disorder in males noticed.

Dr. David Hunt, of Boston, read a paper on the Variability of the Human Eye.

Dr. Richard C. Brandeis read a paper entitled 'The Probable Cause of some Forms of Globus Hystericus, which he thought might be due to the temporary incarceration of the epiglottis by the enlarged papilla: circumvallata. Treatment by caustics and cautery of these glands was recommended.

Dr. E. Gruening, New York, exhibited a magnet for the removal of particles of iron from the eye.

Dr. H. L. Knapp made some remarks upon Perichondritis Auriculae, in which relief was afforded by pressure.

Dr. T. R. Pooley presented a paper On the Detection of the Presence and Location of Pieces of Steel and Iron in the Eye by the Indication of a Magnetic Needle. The magnet being suspended by a silk thread, the foreign body is made a magnet by induction, and the needle is then brought in its vicinity.

Dr. S. D. Risley volunteered a paper on Ear Troubles, and reported a case of trephining of the mastoid for inflammation of the mastoid cells.

Dr. E. S. Peck presented a case of Primary Conjunctival Lupus.

Dr. W. F. Holcombe, of New York, presented the following papers, which were read by title: Removal of Secretions from the Tympanic Cavity and Mastoid Cells. Causes and Relief of Tinnitus Aurium, A Treatment suggested for Sabacuta and Chronic Otitis Media.

The paper of Dr. L. Turnbull, entitled Observations, with Cases, of Aural and Auditory Vertigo, was read by title, and also referred.

Section VI. Dr. A. Jacobi presented a specimen and read a report of a case of Congenital Atrophy of the Liver, which he considered to be of syphilitic origin.

Dr. Jacobi also reported a case of supra-pubic lithotomy, with the specimen. The operation was followed by peritonitis and abscess, and it was feared that this method of operating was unfitted for such cases.

The sections adjourned *sine die*.

Receptions were given at the residences of Mayor Cooper and Mr. August Belmont, and by Drs. Thomas and Barker at the Academy of Medicine.

FOURTH DAY. FINAL SESSION.

After the presentation of the names of a number of additional members by invitation, a communication was received by Dr. Stillmann, of New Jersey, resigning a patent right to the Association, which was laid upon the table. One from Dr. Frederick Horner, M. D., U. S. N., on the establishment of a committee of benevolence, was also received.

On motion of Dr. Oesterlony, of St. Louis, it was pronounced derogatory to medical editors to have their journals widely and persistently distributed among the laity.

A communication was also read from Dr. Lee, of Philadelphia, recommending searching investigation into the merits of applications for charitable relief at dispensaries.

The treasurer reported receipts amounting to \$5052 during the year, and a balance on hand of \$570.59.

Upon motion the Farmers and Mechanics National Bank of Philadelphia was made the depository of the Association's funds.

Dr. Pratt, of Michigan, offered a resolution instructing the committee of arrangements to present on the first morning of the meeting a complete programme for the business meeting. He also made a motion that the proposed alteration in the code of ethics be made the special order for the second day of the meeting, at 10.30 A. M., and remain the special order until disposed of, which was adopted.

Dr. Keller, of Arkansas, renewed the amendment offered at Atlanta, in regard to choice of officers from the members present.

¹ For details, see page 592 of this number of JOURNAL.

The resolutions offered at the section on State Medicine, last evening, were now brought before the general session and adopted.

On motion of Dr. Marcy, amended by Dr. Pallen, a thousand dollars was appropriated to the permanent secretary for his valuable services.

Dr. Billings's resolution, already mentioned in the report on the section of State Medicine, in regard to the census, was adopted.

The customary vote of thanks was passed, and the president elect, Dr. Holgen, of St. Louis, escorted to the platform amidst much applause.

In the afternoon, by invitation of William Wood & Co., the members of the Association were taken on a delightful trip up the East and North rivers and to Coney Island.

NEW YORK ACADEMY OF MEDICINE.

THE PROPHYLACTIC USE OF COD-LIVER OIL.

At a meeting of the Academy, held May 20th, Dr. Charles H. Alden, of the United States Army, was elected a corresponding Fellow, and Dr. Laurence Johnson presented the report of the delegates of the Academy to the late Decennial Pharmaceutical Convention, at Washington.

Dr. William H. Thomson, professor of materia medica and therapeutics in the medical department of the University of the City of New York, read a suggestive paper on The Prophylactic Use of Cod Liver Oil. After some introductory remarks, he spoke at considerable length of the constitution and character of the red corpuscles of the blood, and claimed that, as they contained twice as much fat as iron, the administration of fat in some form was more strongly indicated in any state of the system where the red globules were diminished than even iron itself; both these substances acting directly as food for these bodies. With our present views in regard to protoplasm, the young blood corpuscle was rightly considered the highest type of life and activity; and it was stated that of all substances with which we are acquainted, fat, which enters so largely into the composition of the blood globule, holds the greatest amount of stored-up energy. A pound of coal, therefore, really gave rise to much more force than a pound of gunpowder; although, on account of the unstable equilibrium of the latter, its action was more concentrated and evanescent. Hence, it could easily be seen what the business was of the fat in the red blood globule. In the embryo was found the greatest proportion of fat, and this substance was needful, not only for growth, but for the work which the tissues perform.

In this connection the writer inquired where in the body was lodged the most fat or oil; and the answer was, In the brain and nervous system. The critical period of life was the five years between the end of lactation and the close of the sixth year. During this period the growth of the brain was incomparably more rapid than that of any other tissue at any time of life whatever, with the exception of the pregnant uterus; so that at the age of seven years it was nearly the size of that of the adult. But not only was the brain increasing in size at this extraordinary rate during this period, the activity of nerve function was also far greater than at any other season of life. Countless new ideas were

daily being grasped, language was acquired, and the factors for the whole future work of life had to be stored away. The physical result of all this brain growth and brain work was that, unless great care was taken with the child, the energies of the rest of the body were sacrificed to the activity of the nervous system; and it was a fact that even under the best conditions the number of red blood corpuscles was maintained at a lower figure at this period than at any other, not even excepting old age. It was, in short, a period of natural anemia; and it was not to be wondered at, therefore, that a very large proportion of children were not able to survive such a critical era. No matter how much the remainder of the system suffered, the brain had to be nourished at all hazards.

Thus, in the affection known as scrofula, the brain was the last part to become diseased. The first tissues to yield were the cartilaginous, and ordinarily the first lesion apparent to the observer was an ulceration of the cornea; so that whenever this made its appearance it was very significant of future trouble. The skin and hair, and not infrequently the joints also, then became affected. Presently the epithelium of the mucous membranes became involved, and then, as a result of this, followed the numerous catarrhs which were so prominent a feature of the affection. The glandular complications of scrofula had frequently been a puzzle to investigators, and much care and ingenuity had been expended in order to account for them satisfactorily; but the writer was of the opinion that the connection between the adenitis and the mucous catarrh was just as simple and direct as that of the bubo with the primary lesion of syphilis.

If these views were correct, cod-liver oil, which by universal experience had been found to be the agent best adapted for conveying fat into the system, was not only the great remedy for scrofula and similar affections when they had once made their appearance, but was also to be regarded as one of the best prophylactics against them. It was unnecessary to claim it as a specific; its action was abundantly explained by the fact that it had the power of artificially relieving the existing anemia, by supplying the needed pabulum directly to the blood globules. We should not, therefore, be content to wait until the corneal ulcer made its appearance before commencing its administration; for the experienced and watchful physician could detect long before this when the brain was growing at the expense of the rest of the body. Whenever this first pronounced evidence of trouble appeared, the system had already become undermined to a considerable extent.

One strong argument in favor of the use of cod-liver oil during the early years of life was the fact that, although, as a rule, it was excessively disagreeable to adults, children had a natural liking for it, and generally took it with great avidity. This seemed to show that there was a necessity for the kind of nutritive material which it supplied; and the writer thought that it should be regarded rather as a food than a medicine, as it commonly is viewed. If this were the case, and it were employed as largely as it should be, he had no doubt that the lives of thousands of children might annually be saved, which are now sacrificed. In many of the families under his care he made use of it in this prophylactic way; giving directions that so long as it was well borne it should be given four times daily during the whole period of early childhood.

MISSOURI STATE MEDICAL ASSOCIATION.

THE Missouri State Medical Association met at Carthage, in the southwestern part of the State, on the 18th of May. The delegation from St. Louis was not large, for the reason that Carthage is about fifteen hours' ride by rail from this city, and because the Illinois State Medical Association was held at the same time at Belleville, only fifteen miles from us, and accordingly took a good many of our physicians from their own association.

Altogether there were about one hundred members present. The officers for the coming year are: President, Dr. Allen, Liberty. Vice-Presidents, Drs. T. U. Flanner, Springfield; T. B. Loyd, —; L. I. Matthews, Carthage; A. B. Sloan, —; and A. W. Smith, —. Recording Secretaries, Drs. A. J. Steele and F. J. Lutz, St. Louis. Corresponding Secretary, H. H. Mudd, M. D., St. Louis.

The programme was as follows:—

Report of a Case of Deformity of the Wrist, by Dr. A. J. Steele, St. Louis.

A paper on the Dangers of Uterine Manipulations and Examinations, by Dr. George Engelmann, St. Louis.

Report of Two Cases of Facial Neuralgia relieved by Operation, by Dr. Halley, Kansas City.

A paper on Lithotomy and Lithopraxy, by Dr. H. H. Mudd, St. Louis. This paper contained the reports of some very interesting experiments concerning the relative danger of cutting and tearing the prostate gland.

A paper on Mind and Matter, by Dr. Allen.

Operations involving the Peritoneum, by Dr. Lutz, St. Louis.

A paper on the Dangers of Sewer Gases, by Dr. Teft, Springfield.

A paper on the Treatment of Conjunctivitis, by Dr. John Green.

Medical Education, by Dr. Laws, Columbia.

A paper on the Progress of Medicine, by Dr. Alleyne, St. Louis, and a paper on the Dry Treatment of Otorrhoea were read by their titles, and referred to the committee on publication.

A very pleasant feature of the meeting was the banquet given on the evening of the 19th, at which the doctors' wives, as well as the doctors, were present. The responses to the toasts were very happy, several of them very witty.

The toasts were as follows: Our Guests, responded to by Colonel Williams, of Carthage. Doctors' Poetry, responded to in verse by Dr. T. U. Flanner, of Springfield. The Southwest, responded to by J. P. Tracy, editor of the principal local paper. The Cross-Roads Doctor, responded to by Dr. Allen, of Liberty. The Specialist, responded to by Dr. Johnson, of Kansas City. The General Practitioner, responded to by Dr. J. Green, of St. Louis. The Ladies, responded to by Dr. G. M. B. Maughis, of St. Louis. On General Principles, responded to by Dr. King, of Sedalia, the wit of the Missouri medical profession. The last toast was of the Medical Press, responded to by Dr. F. J. Lutz, of St. Louis.

Mexico was selected for the next meeting of the association.

The meeting was a very successful one, and was calculated to elevate the character of the profession in that portion of the State, as well as to inspire confidence in the practice of medicine among the people.

Recent Literature.

Aids to Materia Medica and Therapeutics. Part II. (Double Part.) The Vegetable and Animal Substances. By C. E. ARMAND SEMPLE, R. A., M. B. Cantab., M. R. C. P. Lond. New York: G. P. Putnam's Sons. 1880. 32mo, pp. 152.

This little book is an abridgment of the British Pharmacopœia, containing, in addition, some short therapeutic memoranda, and is designed to aid the student "in acquiring some preliminary knowledge of materia medica and therapeutics."

If one may judge from the average quality of those put upon the market, pocket manuals must be the most difficult of all books to prepare. Our author, it seems to us, has not been free from bad judgment and carelessness in the one before us. What advantage, for instance, can be found in mixing the alphabet and natural relations as he has done? The simple alphabet of the Pharmacopœia is certainly convenient, and the natural classification, if correct, is instructive, but this is neither; by taking the classes and subclasses naturally, the orders alphabetically in the classes, and the genera after the same fashion in the orders, he has succeeded in introducing nearly fifty alphabets, and ruining the natural arrangement besides. But when, in addition, ergot is placed among the grasses, pepsine "from the pig" among the ruminantia, and glycerin in "nat. ord. oleacea" (!), we confess ourselves bewildered.

W. P. B.

The Hysterical Element in Orthopaedic Surgery. By NEWTON M. SHAFFER, M. D.

Dr. Shaffer's monograph touches upon a matter of great interest to the profession, and one as yet rather neglected in medical literature. It is perhaps for this reason that in the treatment of many of these cases the quack, with the boldness of ignorance, is much more likely to succeed than the general practitioner, who may be weighted by his knowledge and misled by the simulated symptoms. The subject is one which it is difficult to present to the reader, as the diagnosis in many cases rests upon points which may be clear to the writer, but are not easily formulated for the use of the reader. Dr. Shaffer relates a number of interesting cases where he was able to form a diagnosis, and where the result substantiated the opinion: in a few instances, however, the impression left on the reader's mind is that further facts, or a more detailed report of them, are needed to warrant the recognition of the disease.

Dr. Shaffer justly lays stress on the importance in true joint affections (that is, involving inflammation of the bone) of the symptoms, limitation of the extremes of motion, atrophy, and a diminution of the electrical muscular contractility. These symptoms are wanting in the hysterical joint affections, although some atrophy may occur from bandaging or disuse. The condition of the electrical reaction is a symptom concerning which more clinical investigation is needed before it can be relied upon in a diagnosis by exclusion. Some contradictory evidence has recently been offered,¹ and we believe that the symptom has not yet been studied, in the rare cases mentioned by Volkmann, of inflammation of the epiphysis threatening but not involving the

¹ Berry, New York Medical Record, January 31, 1880.

joint. Although the chances are against encountering such an affection, in recognizing hysteria all possible pathological changes must first be considered.

The book is handsomely published. One mistake justifies a protest. "Diagonized" (page 32) ought not to escape attention. "Diagnose" is bad enough, although unfortunately it is generally used; but "diagonize" is certainly no improvement.

Inflammation of bone is invariably spoken of as "osteitis." Both "osteitis" and "ostitis" are sanctioned in English. The French use the word *osteite*, and the Germans "ostitis." If we write periostitis, why is it not better to adopt the neater word "ostitis"?

The monograph is one which will interest both the general practitioner and the surgeon, and the author deserves thanks for bringing the subject to general attention.

Common Mind Troubles, and the Secret of a Clear Head. By J. MORTIMER GRANVILLE, M. D. Edited, with additions, by an American physician. Philadelphia: D. G. Brinton. 1880. 8vo, pp. 185.

The author of this little book on the lesser forms of mental disturbance was selected by the proprietors of the *Lancet* to make a series of investigations on the management and organization of the English lunatic asylums. His reports to the *Lancet* were subsequently printed in book form, and entitled *The Care and Cure of the Insane*. The present volume is intended as a manual of instruction in mental hygiene. Dr. Granville thinks the will is able to overcome most of the common mental troubles in their early or formative stage. Every alienist knows the importance of stimulating the will in all the stages of mental disease, and habitually practices on this knowledge. It is a necessary and important part of all moral treatment. In the insane the will is often at fault, and, in fact, is usually radically weak by inheritance or constitution, and it is too often defective beyond repair in adult life. No doubt self-training or instruction in self-control at an early age is a great preventive of future insanity in a weak mind. We think Dr. Granville is rather too sanguine of success, even in the lighter shades of mental disorder when developed in the adult. It is very much like lifting one's self by the boot straps for the enfeebled mind to reassume control of its operations by sheer force of will. Diversion, occupation, presentation of new ideas, by means of new surroundings, will often better accomplish the end in view.

We have just seen a young man of thirty suffering from a recurrent attack of mild depression in consequence of his vacillation of purpose in respect to a profession, marriage, and other minor matters. He has some morbid fears in moderation, and is physically in good health and able-bodied. For eighteen months he has striven with all his might, as he says, "to build himself up" mentally, and by subjective processes to regain his self-control, and fit himself to commence a career in life. This effort has been exhausting in the extreme, keeping his attention painfully fixed on his morbid mental operations, and has been without the least degree of success. He was informed that he was beginning at the end of his task. His muscles were under the control of his will if his thoughts were not, and he was directed to engage immediately in

some active business, requiring little brain work at first, but likely to become absorbing and profitable after a time. This advice was followed at once, with prompt relief of depression and a fair prospect of permanent recovery of self-control.

Some of the mind troubles considered by Dr. Granville are defects of memory, confusion of thought, sleeplessness from thought, low spirits, tempers, good and bad. The chapters on mental languor and listlessness and morbid fear are by the unknown American editor, and are among the best in the book. The secret of a clear head is discussed under the titles, Temperature, Habit, Time, Pleasure, Self-Importance, Consistency, and Simplicity. T. W. F.

— Dr. Hans Chiari, prosecutor at the Rudolf's Hospital, Vienna (*Wiener med. Wochenschrift*, No. 44, 1880), has lately met with a case of absence of the parietal pericardium, a rare congenital condition. The subject of it was a man of forty-six, who died from cirrhosis of the liver and tubercular peritonitis secondary to old lung disease. During life the only symptom observed connected with the heart was accentuation of the second sound over the pulmonary artery. At the post mortem, on removing the sternum, the heart was found lying quite free in the left pleural cavity, in immediate contact with the left lung, and apparently in its normal relation to the walls of the thorax. The organ itself, covered by the visceral pericardium, was of normal size, and in all respects healthy. The chief peculiarity observed, apart from the absence of the parietal pericardium, was that the left phrenic nerve lay in front of the heart. In this respect Chiari's case resembles those of Baly (*London Medical Gazette*, July, 1851) and Weissbach (*Wien. med. Wochenschrift*, No. 69, 1868), in both of which the heart also occupied the left pleural cavity. In Chiari's case the upper lobe of both lungs had an accessory lobule. The exact details of the derangement of the mediastina, etc., will be found in the original report. In spite of its rarity, the above condition is not one of great interest, as its presence has never been detected during life. It probably originates before the second month of fetal existence.

— From the *Chicago Medical Gazette* we clip this historical sketch of the total extirpation of the uterus: The first extirpation of the carcinomatous uterus was made by Andreas a Cruce, in 1650. In 1812 Guthrielet operated through the abdominal walls. Langenbeck and Delpech operated by this method, the latter successfully. Langenbeck and Sauter, in 1822, operated through the vagina. Sauter's operation was successful. In 1828 Blondell operated successfully per vaginam. Récamier, in 1829, modified the operation per vaginam by ligature *en masse* of the lower part of the broad ligament by means of a curved needle. Delpech, in 1830, proposed a combination of the vaginal and abdominal extirpation. In 1876 Hennig operated successfully without ligating the broad ligaments. Freund's operation, 1877, described in our issue of March 20, 1880, differs from all previous operations. He was the first to close the wound from the vagina into the abdominal cavity by sutures.

Medical and Surgical Journal.

THURSDAY, JUNE 17, 1880.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly by HOUGHTON, MIFFLIN AND COMPANY, Boston. Price, 15 cents a number: \$5.00 a year, including postage.

All communications for the Editors, and all books for review, should be addressed to the Editors of the Boston Medical and Surgical Journal.

Remittances by mail should be sent by money-order, draft, or registered letter to HOUGHTON, MIFFLIN AND COMPANY, Boston, Mass.

A CONVALESCENT HOSPITAL.

We have received the sixty-sixth annual report of the Massachusetts General Hospital. The pamphlet is a small one, but it contains the brief statement of a change which marks a step forward in the provisions for the charitable care of our sick poor. Through the energy of a Boston lady, Miss Mary Russell, a fund has been started for the construction of a convalescent home, and has reached an amount sufficient to authorize the trustees to begin the erection of a suitable building on their lands at Belmont, a beautiful situation on the hills overlooking the city. To any hospital physician or surgeon the need of such an institution is apparent. A portion of their patients are always in a condition that renders further treatment unnecessary, or which can be benefited only by a change of air. Meanwhile, the patient cannot return to a home which is no shelter for him, provided he be unable to work. Such patients convalesce much more slowly, and occupy space which might otherwise be given to more urgent cases. The average duration of the cure of cases coming to the hospital would by this means be perceptibly shortened, and the efficiency of the charity be correspondingly increased.

It is gratifying to feel that so excellent an institution as this is appreciated, not only at home, but abroad as well. In a recent work entitled *The Pay Hospitals and Paying Wards throughout the World*, by Mr. Henry C. Burdett, one of the highest authorities of Great Britain, we find the following extract, taken from that part of the text which treats of hospitals in this country: "The Massachusetts General Hospital, Boston, will therefore be selected as the representative of the American system: partly, because it is one of the best known and best regulated hospitals in America, and partly on account of the great pains which the authorities, through their representative, Dr. J. H. Whittemore, have taken to supply a full account of the American system of hospital management." A minute description of the methods on which the hospital is conducted follows.

We are glad to be able to record the fact that this hospital bids fair to attain a reputation as a well-administered charity commensurate with the fame it has acquired in the annals of medical science.

— In consequence of the widely-extended prevalence of disease resulting from improper drainage and sewage in the buildings of Princeton College, the students have all been dismissed to their homes until Commencement week.

MEDICAL NOTES.

— We clip the following complimentary notice from the *Boston Daily Advertiser* of Monday last. It is warmly appreciated.

"The Boston Medical and Surgical Journal of June 10th has become a rival of the daily press in so far as it presents a report of the Massachusetts Medical Society's annual meeting, held on the day before. The same number, loyal to the month of learned assemblies, reports the annual meetings of the American Laryngological Association, of the American Medical Association, and of the Connecticut Medical Society. As there is every reason for the prompt reporting of professional meetings, the enterprise of the JOURNAL is quite commendable, and to some extent it is unique, professional papers being usually as slow in reporters' work, which requires promptness, as they have to be cautious and deliberate in the announcement of researches and scientific progress. The same number has interesting articles on heat as an element in fever, and on the transient swelling of lips."

— Having recently received inquiries as to the standing and character of John Buchanan, "M. D.," of Philadelphia, and his medical school, we would say that John Buchanan, alias Rev. James Murray, is a scoundrel. We are happy to add that he is now in jail, and will soon be tried for his fraudulent issue of bogus diplomas, and, we hope, also, for the abortions he has committed. The so-called schools which he has advertised are the Eclectic Medical College, the American University of Philadelphia, Philadelphia University of Medicine and Surgery, Quaker City Business College, Philadelphia Electropathic Institution, and the Livingstone University of Camden, N. J. Every one of these is a fraud and deception, and the diplomas bearing these names are worse than worthless.

The Philadelphia *Daily Record* has unearthed Buchanan, and by its energy, acuteness, and liberality in the use of money has been the happy means of sending this long notorious scamp into confinement. We trust he may meet a punishment which will keep him behind the bars until he is too old to repeat his villainous misdeeds. Those of our readers who wish to obtain a full history of Buchanan's doings will find it in the Philadelphia *Record* of June 10th and 11th, the address of which is Corner Third and Chestnut Streets, Philadelphia.

— A goodly number of the graduates of Harvard Medical School, class of 1878, met at the Revere House on the 8th inst., at 6.30 p. m. After enjoying a social chat, a substantial dinner was partaken of. At a subsequent meeting the following officers were elected for the ensuing year: president, O. F. Ham, M. D.; secretary, H. D. Hicks, M. D.; executive committee, M. H. Prince, M. D.; E. M. Ferris, M. D., P. P. Corney, M. D.

This is the second annual reunion of this class, and it is proposed to perpetuate these social gatherings, and make them the nucleus for the formation of an alumni association for the medical department of Har-

vard University. This is the only class of this school which has attempted anything of the kind, and we wish them every success in their efforts to preserve their class organization.

— *The Medical Record*, in an editorial article on Sins which no Code can Reach, says: "Even the Boston code cannot reach the one who is always ready 'to damn with faint praise' his trusting brother. No set of rules can prevent the so-called successful man from showing his disposition to help a younger brother, especially if the community is told that such help is very necessary. When the old doctor shows a willingness to teach the young and inexperienced practitioner in the presence of the patient there is a generosity about the proceeding which usually appeals to a sympathizing public. If the younger man loses any business by this means the public, although they are sorry for his ill luck, generally think that it is a fortunate circumstance for the patients. At least, there is nothing in the code that prevents such a conclusion. The young man who has no respect for experience, for age, nor for position, is apt to believe that the code, as a whole, only benefits those who dare to transgress its provisions. But there is in reality no law which can punish a practitioner for saying that he has never heard of a worthy brother in his neighborhood; for being surprised that Dr. A. knows anything of chest troubles, that Dr. B. is a gynaecologist, that Dr. C. has much experience in the treatment of children's diseases, or that Dr. D. is anything more than an ordinary man. Although this may only show ignorance of well-known facts in the profession, yet the public generally takes a different view, not always favorable to the unfortunate unknown. When the consulting physician believes, at a critical juncture in the disease, that it is necessary to substitute chalk mixture for bismuth, or to use any other potent remedy instead of the one being employed, it is of course done for the good of the patient, and in strict accordance with such provisions of the code as tend to encourage consultations. Any attending practitioner can at once appreciate the danger of losing the family unless due regard is paid to the suggestions of such a consultant. And so it must be so long as the general profession are governed by the mere letter of the law. The accounts given by Drs. Seabury Jones and A. L. Carroll of professional men who are ready and willing by this and similar means to destroy the good name of an associate find their parallel in the experience of almost every practitioner. It is not that the men who are consulted cannot have a different medical opinion concerning a case, but that they express it either openly or covertly in such a manner as to injure the previous attendant. The shrugging shoulder, the upturned eye, the bland smile, the mild surprise, the ominous and seemingly polite silence, show a respect for the code: at the same time they have a significant effect on the anxious friends of the patient. If the medical attendant is discharged as incompetent, it is of course owing to the ignorance and prejudice of the patient's advisers, rather than to any overt act of the new professional candidate. But when the

practitioner tries to explain to himself why these things should be, neither the old nor the new code helps him a particle. He is more than ever convinced that there are no laws yet enacted that can make a man honest against his will: no loom, however perfect its workmanship, that can convert the auricle of a pig into a purse of silk."

— Says the London *Spectator*, "If parents would only require their girls to take their education leisurely, and not to hurry to the end of it at the same speed as the tougher and less susceptible sex, the habit of intellectual study would improve their health instead of endangering it."

— The following description by Dr. Snowball of the appearances found thirty hours after death in a child five weeks old, brought to the Children's Hospital, Melbourne, with a history of neglect and improper feeding, is given in the *Australian Medical Journal*: "Brain pale, and of such thin consistence that on opening the dura mater it ran out like a pasty fluid. Lungs pale, but healthy. Heart, walls soft and flabby; no blood in cavities. Liver engorged with blood; gall-bladder quite empty; coats thin and pale. Coats of stomach and intestines greatly attenuated and pale; small quantity of feces in lower gut. Kidneys pale, but healthy. All the internal fat absorbed."

— The *Chemist and Druggist* quotes the following from an article by "Ouida" on the Bordeaux Leech Trade: "Certain speculators, we learn, 'have made artificial swamps on the banks of the Garonne, and filled the swamps with leeches. To be profitable, these leeches must multiply themselves by millions; to do this they must be liberally supplied with food; to supply them the Bordeaux speculators buy up all the old and worn-out horses of the province, and drive or drag these horses into the swamps, which are subdivided by wooden compartments, so placed that when these unhappy animals have been forced into the mud there is no escape for them. The leeches fasten on them instantly by thousands; in a few moments the horse is black with crawling creatures; the blood-suckers fix themselves most of all on the open wounds and galls that these poor horses have incurred in their many years of service."

"The frantic terror of the poor horses is described as, bleeding from all their most sensitive parts, they try vainly to shake off the leeches, but are at last sucked down into the noxious slime and seen no more. Nearly twenty thousand horses — aged, infirm, weak from overwork, hunger, and fatigue — are said to be sacrificed annually in this way at Bordeaux. 'Ouida' judges the agonies of the horses will not be a sufficient reason to check the barbarities of greedy speculators, but she hopes that an argument which may be heard is that leeches nourished on agonizing and often diseased horses are very likely to convey ulcers, inflammations, and serofulous maldies into the human system; and she states, on the authority of doctors of eminence, that such diseases do frequently follow the application of leeches."

— Dr. Flexner, of Louisville, receives the thanks

of the *Louisville Medical News* for his solution of salicylic acid, in regard to which Mr. Flexner thus writes: "In the formula which follows advantage has been taken of the solubility of the acid in both glycerine and a neutral salt, thinking that by their combined use the objections to each would be in a measure overcome, since smaller quantities of each were required to obtain the strength of acid that was demanded. The salt chosen is the citrate of potash. It is preferred because of its unobjectionable taste, its ready solubility in glycerine, and its lack of properties that would preclude its use in any case calling for salicylic acid. The formula and its manipulations are as follows:—

℞ Salicylic acid	3i.—Driij.
Citrate of potash	3ij.
Glycerine	3viij.
Simple elixir, q. s. to make	℥i.

The citrate is to be dissolved in the glycerine by the aid of a gentle heat, after which the acid is to be stirred in and a gentle heat maintained until it is completely dissolved. On cooling, simple elixir is to be added to bring it up to the required measurement. The solution is then to be strained; and when prepared with a colorless elixir is of the color of a very pale sherry. It contains five grains of salicylic acid to the fluid drachm, and is miscible in all proportions with water without the separation of any acid.

—We find the following in a recent letter to the *Lancet* on The Scotch Universities and Medical Reform:—

"It is no part of my wish to make invidious comparisons, and I am very far from undervaluing, as all my friends in London and elsewhere know well, the splendid names and labors which have illustrated, and still illustrate, medical science in the metropolis. But the greater the eminence of these individual names, the more it becomes remarkable that a small and thinly peopled country like Scotland, having a scattered population less than that of London alone, not to speak of England, should have been able to maintain in three separate centres of universities medical instruction, a system of elementary biological training on the one hand and of clinical and practical discipline on the other, which have so largely influenced professional thought and medical and surgical practice, even in the metropolis itself. Let any candid and impartial man cast his eye over the list of London celebrities, and ask himself how many of these have owed some part, or the whole, of their medical education to the Scotch universities. May we not fairly argue that a corrupt tree cannot bring forth such good fruits?"

NEW YORK.

—The investigations embodied in the paper on The Criminal Use of Chloroform, read by Dr. J. V. Quimby, of Jersey City, before the section on Medical Jurisprudence and State Medicine of the American Medical Association, would seem definitely to settle a question in regard to which a considerable portion of the profession has hitherto been somewhat in doubt, namely, whether a sleeping individual could be brought

under the anæsthetic effect of chloroform without waking. His attention was directed to this subject, the writer said, by the noted case of the murder of Policeman Richard Smith, of Jersey City. This occurred while Smith and his wife were together in bed, and for this reason the latter was arrested as being *particeps criminis*. She held that she had been chloroformed during sleep, but the State contended that this was impossible, because the fumes of the chloroform would have awakened her from her natural sleep. Here, then, was a nice and very important medico-legal question: If chloroform be properly given, will it awaken a person, or will the person pass from a natural to an artificial or chloroform sleep without being awakened? This was asked of Dr. Quimby at the trial by Mrs. Smith's counsel, and he replied that he had never attempted the administration of chloroform to an individual during natural sleep, and that the books, so far as he knew, were silent on the subject. He then made three experiments with a view of determining this point. He first made arrangements with a gentleman of his acquaintance to enter his room while he was asleep, and give him chloroform by inhalation. This he did with entire success, easily transferring him from natural to artificial sleep without arousing him. He used for the purpose about three drachms of Squibb's chloroform, and occupied seven minutes in the experiment. The second case was that of a boy thirteen years of age, who had refused to take either for a minor operation. By Dr. Quimby's advice his mother gave him a light supper and put him to bed. When he was asleep the doctor administered chloroform and performed the operation without awakening him. The third case was similar, the patient being a boy of ten, who was suffering from an abscess, which it was necessary to open, and the same course was pursued here with equal success. Two inferences might be drawn from these cases, the writer said: (1) minor surgical operations could thus be done with perfect safety, and much more agreeably than in the ordinary way; and (2) an individual somewhat skilled in the use of chloroform might enter a sleeping apartment, and administer chloroform with evil intentions to a person while asleep.

—At the last meeting of the County Medical Society, May 24th, two cases of leprosy were presented, with remarks: the first by Drs. H. G. Piffard and F. R. Sturgis, of New York, and the second by Dr. Samuel Sherwell, of Brooklyn.

—The State Board of Health (the act creating which was at first reported to have been defeated in the legislature, but which was passed before adjournment) met in Albany on the 29th of May for the purpose of organization, and there were present Prof. E. M. Moore, M. D., of Rochester, Prof. Charles F. Chandler, president of the New York city health board, Dr. John S. Delavan, of Albany, the Hon. Erasmus Brooks, of Staten Island, Dr. W. M. Smith, health officer of the port of New York, Dr. James D. Hunt, of the Utica Board of Health, and Dr. Elisha Harris, of New York. Professor Moore was elected pres.

ident, and Dr. Harris secretary of the board, and considerable time was spent in a discussion of the provisions of the law under which the members were appointed. During the meeting each member spoke at length also of the sanitary needs of the various portions of the State, and by this means a useful interchange of sentiment was obtained in regard to this important subject, especially the matter of the registration of births, marriages, and deaths. Two committees were appointed, — one to consider the general sanitary statutes of the State, and the other to propose a series of rules and by-laws for the government of the board, — which were to report at a subsequent meeting, to be held in New York. The central office of the board was established at Albany.

—The new bill to regulate the practice of medicine in the State of New York, which requires all physicians to present their diplomas and register before the first day of October, 1880, also passed the legislature just before the adjournment of that body, and has received the governor's signature.

—During the extremely hot weather of the last week of May the mortality of the city increased very greatly. Between noon of the 27th and noon of the 28th no less than one hundred and twenty-nine deaths were reported to the Bureau of Vital Statistics, which is much the largest death-toll of any day of the present year to date.

—The steamer Gellert, which arrived from Germany a short time since, reported one case of small-pox on board, — that of a child one year old. When seen, the case was believed to be only one of chicken-pox; but by way of precaution Dr. Smith, the health officer, ordered the entire number of immigrants — 1224 — to be vaccinated before they were permitted to land. A day or two after this 3404 immigrants arrived, by four steamers, and of these the Herder, from Hamburg, brought 1035. There being one case of small pox reported, — that of a child who died on the voyage, — all her steerage passengers were also vaccinated.

—Apropos of the subject of vaccination, the first anti-vaccination society in the United States was recently organized in this city, and has just held its second meeting; when "Dr." Robert A. Gunn read a paper entitled, Vaccination a Fallacy and a Crime.

—During the season of last year 1915 children spent a week, and 402 each passed a day, at the summer sea-side home of the Children's Aid Society at Bath, L. I., and the society trusts to be able to accommodate an equal number this year. The home has been in existence now for five years, and during that period has been visited by 10,000 children. The institution was maintained from June 9th to September 15th last year, at an expense of only \$5000.

—A gentleman who was injured in a collision on the New York Elevated Railroad in March of last year, and who sued the company in the supreme court for fifty thousand dollars damages, has had three thousand dollars awarded him. It was claimed that the plaintiff, as the result of the accident, sustained a concussion of the spine, which led to paralysis and a

failure of his mental powers; but several well-known physicians testified during the trial that the patient was really a hypochondriac, the most of his troubles not only not being due to the accident referred to, but existing only in his own imagination.

CHICAGO.

—A concours for the position of clinical adjunct to the chair of diseases of children was held on the 27th ultimo at Rush Medical, Chicago. The contestants were Dr. Ellis, of Galesburg, and Dr. J. Suydam Knox, of Chicago. The latter was chosen.

Miscellany.

A REMARKABLE CASE OF GASTROTOMY.

MR. EDITOR, — An operation of greatest scientific interest and value was recently performed in this city. Dr. H. P. C. Wilson delivered a woman by abdominal section of a living child, the result of an extra-uterine pregnancy, a first child having been born of the same woman three weeks previous and in the natural manner. Drs. Chatard and Wilson are preparing, we understand, elaborate articles on the case; the former giving the history up to the date of operation, the latter from that event on to its termination. These papers will probably appear in the *American Journal of Obstetrics* for July. This case is an exceedingly rare and remarkable one, unlike in many points any that ever transpired either in this country or in Europe. The operation was performed in the presence of Drs. Chatard, senior and junior, A. P. Smith, Wm. T. Howard, McL. Tiffany, Howek, Griffith, and others, invited to witness it. The main facts of the case, kindly furnished at my request by Dr. Wilson, are briefly as follows: Woman aged twenty-two, pregnant for the fourth time with twins. She had three living healthy children. The patient was confined in normal labor on April 15th. From the appearance of the child and statement of the mother it was born one month before its time. The child lived. It was subsequent to this that Dr. Wilson, by physical diagnosis, concluded that there was another child in the abdominal cavity. Exactly three weeks and five days after the birth of the first child, he delivered by abdominal section the second child, a healthy boy, still living at this writing. The operation was gastrotomy in technical distinction from *sectio Casarea*, the incision beginning three inches above the umbilicus. It was performed upon the strict principles of Lister, instruments and ligatures being thoroughly carbolyzed, and the spray used.

The child was contained in a sac filled with about one half gallon of serous fluid, and probably made by the chorion and amnion. The placenta occupied the left half of the brim of the pelvis, and was composed of three distinct and separate formations. The cord divided about two inches before reaching this triple placenta, in order to provide proper vessels for each. It was attached to the left side of the uterus, the left Fallopian tube, and the top of the left broad ligament. The vessels (or smaller cords) leading to the triple placenta were inclosed together under one membrane. The woman lived ninety hours after the operation. There were no symptoms of septicæmia or pyæmia.

Dr. Wilson left her on the morning of her death at seven A. M., her pulse at 130, temperature 101.7° F.; she was cheerful, bright, and asked for a cup of coffee. Ten minutes after Dr. Wilson left she asked the nurse to raise her in the bed, which was done, when, turning very livid, she suddenly and unexpectedly died. Cause of death probably embolism.

Autopsy. No peritonitis; all the abdominal viscera perfectly healthy, and no fluid in the abdominal cavity. This latter fact is easily accounted for, as, during the operation, the sac containing the child had been very accurately stitched to the edges of the abdominal incision (which was made in the median line), so that there was no connection between the sac and the abdominal cavity, and consequently no escape of serous fluids. G. HALSTED BOYLAND, M. A., M. D.

BALTIMORE, May 26, 1880.

DR. WM. WHIPPLE COMSTOCK.

June 1, 1880.

MY DEAR DOCTOR.—I received the inclosed yesterday. I send the remarks I made when seconding the resolutions which were offered at the councilor's meeting in memory of Dr. W. W. Comstock:—

"I am gratified to hear the resolutions which have just been presented; they are deserved.

"Valued as Dr. Comstock was in the community in which he resided, I doubt whether he was well known to the Fellows throughout the State. He was frequently prevented from attending the meetings of the society by professional duties, and when present was a listener rather than a speaker; but I assure you, sir, no man felt a greater interest in the welfare of our society, no man was more tenacious of its honor. From an intimacy, I should say a friendship, of more than forty years I shall ever associate with his memory perfect professional integrity."

Faithfully yours,

D. H. STORER.

DR. WARREN.

The following sketch of Dr. Comstock's life, sent us by Dr. Storer, is from the pen of Mrs. Comstock:—

Dr. Wm. Whipple Comstock, son of Dr. Ezekiel Comstock and Mary Whipple, his wife, daughter of Commodore Abraham Whipple, was born in Smithfield, R. I., March 23, 1800. During his earlier school years he attended Smithfield Academy, and afterwards pursued his studies under the instruction of a private tutor. The time he entered his father's office as a medical student is not now known, as his family of that period are all gone. Between the years of 1820 and 1825 he attended lectures at the medical school then connected with Brown University. Professor Elisha Bartlett, his life-long friend, was with him as fellow-student. During this period his health failed, and he was subject to severe attacks of hæmorrhage of the lungs. For considerable time it was feared that he would never be able to endure the fatigue of the practice of medicine. He married in 1826, went to New Bedford, Mass., to settle, was soon prostrated by sickness, and left in a few weeks. Several years after, the same experiment was made in Boston, with the same result; probably the cause in both places was the sea air. In 1829 he removed to Maine, settled in Buckfield, Oxford County, a mountainous region, with pure, bracing air. After several years' practice there, most of the time driving among the hills, his health being established, he returned to Massachusetts. His

last settlement was in Middleboro, where he practiced nearly twenty-seven years. He died on the 20th of October, 1878.

Perhaps no man ever had more genuine devotion and love at heart for his profession without ostentation or selfishness. No one could feel deeper interest in or stronger desire for the welfare and prosperity of the fraternity. The thorough preparation of young men who were to enter and assume the responsibilities of the profession he ever regarded of the highest importance, and besides his unusually arduous and absorbing duties in his regular practice he was very seldom without students, sometimes a large class, never seeming to feel it a burden to give them his attention. When Dr. Comstock settled permanently in Massachusetts he joined the Medical Society, and has since been one of the councilors.

THE MASSACHUSETTS COLLEGE OF PHARMACY.

THE Massachusetts College of Pharmacy has just issued its fourteenth annual catalogue. The college was instituted in 1823, issued a price book in 1828, and began collecting a library and cabinet of specimens in 1840.

In 1851 the college was thoroughly reorganized; a constitution and by-laws were adopted, an act of incorporation secured, and pharmaceutical meetings inaugurated for the first Monday of each month, devoted especially to scientific purposes.

In the fall of 1854 a course of lectures on pharmaceutical chemistry was delivered by Professor J. P. Cooke, of Harvard University. This course was followed by others, given by Professor Charles Jackson, and by Professors J. P. Cooke and Edward H. Clarke, M. D., of Harvard University; also by the well-known chemist, Charles T. Carney, of Boston.

In the fall of 1867 a class of thirty-five attended a course of lectures given by Messrs. Geo. F. H. Markoe, E. L. Stoddard, and C. M. Tracey. Regular courses of lectures on pharmacy, materia medica, botany, and chemistry have been delivered each succeeding season since then, and the students who have fulfilled the requirements of having attained the age of twenty-one years, of having attended two full courses of lectures in this college, or of one course (the senior) in this after one in some of the other recognized colleges of pharmacy, of having successfully passed all the several examinations, and of having served an apprenticeship of at least four years with qualified pharmacists in dispensing stores have been graduated with the degree of Graduate in Pharmacy, Ph. G.

The college, which has twice suffered injury by fire, is now in a most flourishing condition, and occupies the "old Franklin School Building" on Washington Street, just south of Dover Street, Boston. The rooms are ample for the utmost wants of the college, and comprise a lecture-room, a laboratory, a supply-room, and a library. The lecture-room is large and square, and easily seats a class of one hundred students. It is fitted with complete appliances for demonstration, having a large chemical table, sink, fume closet, chemical apparatus, cabinets, etc. The laboratory is large and well lighted, and is fitted with desks of the most convenient and approved construction, to accommodate two hundred and fifty pupils. It is accessible to both regular and special students. The large and valuable library of S. A. D.

Sheppard, Ph. G., formerly president of the college, has been added to that of the college and alumni association, and the three collections together now form one of the largest pharmaceutical libraries in the United States.

The faculty consists of Geo. F. H. Markoe, Ph. G., Professor of General and Pharmaceutical Chemistry; William P. Bolles, M. D., Professor of Materia Medica and Botany; Edgar L. Patch, Ph. G., Professor of Theory and Practice of Pharmacy; Bennett F. Davenport, A. M., M. D., Adjunct Professor of Practical and Analytical Chemistry, who has in charge the chemical laboratory. The regular term of instruction is for six months each year, and has a junior and senior course with each of the above four professors.

THE ABUSE OF MEDICAL CHARITIES.¹

Drs. M. P. HATFIELD, professor of chemistry, and Roswell Park, demonstrator and assistant to the chair of anatomy, in the Chicago Medical College, have lately published a valuable paper on the abuse of medical charities, from which the following extracts are taken:—

Dispensaries are by no means unmixed blessings, as all of us who have labored in them know. They may be founded never so wisely, may "supply wants long felt," be richly endowed and conscientiously attended by able physicians, and yet become a positive injury to all concerned, unless by hard work and careful watchfulness we can transform our benevolence into true beneficence to the poor.

No one can practice in a large city without being painfully aware that there are hundreds, if not thousands, of sick in great need of properly administered professional attention. These it should be our aim to reach; and were our efforts confined to this class exclusively the fraternity would probably act as a unit in helping along the good work. But when our brethren of the cloth see one patient after another, who used to pay reasonable fees, dropping out of their hands and appealing to dispensaries, where they are received kindly if not cordially, small wonder that they conceive a dislike to the system and its disciples, and refuse to help it or them in any way.

There are enough deserving poor in this city to justify the establishment of at least one dispensary on each side of the river. But there are four "colleges" (to speak courteously of some of them) on the South Side, each with its dispensary, each hard pressed for means to supply medicines, each finding it difficult to secure an adequate professional staff, all vying in their efforts to provide interesting clinics, and, worst of all, one or two making no scruple to pirate upon the practice of outside physicians by offers of gratuitous advice and medicine of their peculiar kind. Out upon such "charity"! Better that any institution, in such need of clinical material that it must thus prostitute itself, were swept into the lake.

But the closest investigation is always needed to prevent injustice to the really deserving and to ferret out the deceivers. Appearances are frequently deceptive; the honest poor will often put on their best

clothes to go to the doctor, while the undeserving as often study an appearance calculated to mislead.

It is not to be expected that the poor laborer can pay the same fee that the well-to-do merchant does. But there can be no doubt that at least half of those who now attend our dispensaries can pay something to the doctor; and there are but few who enjoy such a lucrative practice that they can afford to disregard the aggregate of a number of small fees.

But this is not all. The young physician, who would gladly settle in a large city and enjoy the many benefits it offers, is positively unable to do so unless he has sufficient capital to carry him over a few years of waiting and hard working, and why? Because he sees patient after patient who is able to pay a dollar, or even a half dollar, going by his office to the nearest dispensary, where he is made much of, spoken of as an "interesting case, gentlemen, whom we must watch;" or perhaps an important operation is done gratuitously; and as a fitting climax this young aspirant for medical honor may learn that those whom he had regarded as private patients of his own are advised by some charitably disposed neighbor that there is no use in paying him, because they can go over to such and such dispensaries and be treated for nothing.

No, gentlemen; it is the positive conviction of the great majority of the practitioners of this city that both the profession and the public would be better, much better, off if every dispensary in the city were abolished and the administration of medical charity relegated to individuals instead of to institutions. The deserving poor would be better cared for, while the only sufferers would be the colleges which bid for students by calling attention to the immense amount of clinical material offered for study; and sympathy for these would not be very extended outside their immediate "ring," considering that there are three times as many colleges in existence as there is any call for,—altogether too many young men studying (?) medicine,—and twice as much clinical material as can be advantageously used for any purpose except to make a show.

Another point of some interest. How often is not this question asked of the would-be dispensary patient: "Are you able to pay for treatment?" And the almost invariable answer, usually in characteristic *brogue*, is, "And if I were I wouldn't come here." That is, the very doctor to whom, in their avarice or poverty, they apply is probably the last one to whom they would go if willing or able to pay. And thus the physician who connects himself with a dispensary for the indirect advantage of such a connection deceives himself, and suffers more than he gains.

And just here we may call attention to the fact that the profession is largely to blame in the matter of fees. The popular fee with the average practitioner for an office prescription is one dollar. Now, the question arises, "Is it better to let every patient who is not able to pay this fee slip through our hands and go to a dispensary, or to accept whatever they can pay and keep them from preying upon the profession at large?" A comparative few can afford to sneer at such small fees, but there are well known practitioners in this city who get less than a dollar for an office visit oftener than they get more, and who yet enjoy comparatively lucrative practices. Which is better, for instance; to get five dollars instead of fifty from a poor laborer for curing a stricture, or to treat him at a dispensary for nothing? This disposition to sneer at small fees arises from

¹ The substance of this paper having been presented in various communications to the South Side Dispensary Club, Chicago, the writers were requested to prepare a more formal paper, and bring it to the notice of the profession throughout the country.

mistaken notions, and must react injuriously on all concerned.

The effect of establishing, in a public dispensary, any system of small fees for poor people is certainly demoralizing in the extreme, and in violation of the very idea of a dispensary; it is virtually bidding for practice against outside physicians; while, on the contrary, the effect of what we have just advocated — a system which leads the poor man to seek the doctor's office, feeling that he can pay in proportion to his circumstances — is healthy in the extreme. The doctor's advice is more thought of, and his directions are more implicitly obeyed; while the common people quicker learn the advantage of observing a few simple rules of hygiene, and, thus being induced to take better care of their health, a smaller proportion will be reduced to a condition of absolute and degraded pauperism.

We may be pardoned for alluding, before closing, to one other point, — one which must at the same time be touched upon thoughtfully and yet lightly. It concerns our relations to the clergy in the matter of pecuniary return for services rendered them. We are aware that many a poor clergyman struggles along for a living, his sustenance and support being as hard to gain as that of many a poor physician; but we are also aware that in this city are clergymen with salaries equal to the income of almost any physician here, who would express no small amount of surprise were their family physicians — frequently members of their parishes — to render an account. That is, the doctor is expected not only to contribute to his pastor's support, but never to think of any return for his own services. Why we should be expected to *give* our services to men as well off in worldly goods as we, simply because they care for souls, thus getting no return ourselves for taking care of *their* bodies, is a question which needs not to be prefaced with an apology. How many clergymen with comfortable salaries ever pay their doctor? and how many laymen, on much smaller pay, settle up with a promptness that is refreshing?

[The writers are of the opinion that the pauper sick, like the insane, feeble-minded, blind, aged, and criminal classes, should be attended by physicians who receive salaries from the State. We are informed that the Boston Dispensary has lately adopted the plan of charging a small fee for medicines, which may be remitted at the discretion of the superintendent. — Ed.]

MEDICAL EDUCATION IN THE UNITED STATES.

WE quote the following excellent remarks on medical education from the anniversary address of Dr. D. D. Widama, of Syracuse, president of the New York State Medical Society: —

What shall this better system be? It will not be a system which accepts, without examination, every grist of inferior and worthless grain which may be brought to the factory, drops it into the hopper, subjects it to a rapid and hot grinding process, runs it again through the same mill, set at the same gauge, inspects the delectable product with a mere eye-glance of the ambitious and partial miller, — who owns the mill, — and then sends it into the market neatly branded A No. 1, extra superfine.

It will not be a system which opens its inviting arms, without discrimination, to every applicant for medical honors, whether he be the well-trained and

science-loving student, or an adventurer fresh from the forest, the avil, or the stable, and whose whole literary education consists in a slight, and perhaps contemptuous, acquaintance with the three R's.

It will not be a system which sends such an applicant, or any other, at the very outset of his medical career, to hear lectures on surgery and pathology and therapeutics, when as yet he knows not a single syllable of anatomy, physiology, or materia medica. It will not regard the pupil as a human sausage-skin, to be crammed for four months with intellectual pabulum, which, however much it may distend, can never nourish him.

Its second and final course of lectures will not be a repetition of the first, with the very slightest variations; the same able actors reciting the identical parts which they rehearsed the year before.

And when the term of study is ended this better system will not test the faithfulness and ability and memory of the pupil by its first and only compulsory examination; and this so superficial and farcical as to last, in some departments, not more than ten or even five minutes. And so it will never have to send utterly incompetent and worthless men into the market bearing the brand M. D., and commended by eminent professors to the misplaced confidence of a trusting community.

Already there are cheering indications of healthful progress. Some of the schools of our State have inaugurated, and some have fairly accomplished, changes which seem almost radical. A few demand certain moderate qualifications as prerequisite to admission. A fair proportion have substituted a somewhat easy written for a much easier oral examination at the close of the term. But is it not time that the schools of the Empire State, with their unequaled wealth of clinical material, their teachers of world-wide celebrity and acknowledged preëminence, should heed the reasonable demand of an active, scientific, rapidly advancing age for better methods and more thorough culture? Is it not time that they should answer the unanimous call of the profession to come to the work of elevating the standard of medical instruction, instead of lagging timorously behind, satisfied with tardy half measures, and granting, grudgingly, superficial reforms?

What an impetus would be given to the cause of medical education, everywhere throughout the land, if all the schools in this great State would unite in ordaining: —

(1.) That, for the present, the minimum qualifications for admission shall be equal to those required by the best literary colleges in the Union, and that after four years the possession of the degree of B. A. or B. S. shall be exacted.

(2.) That a complete graded system shall be adopted.

(3.) That the course of instruction shall extend at least three years, of nine months each.

(4.) That constant attendance at lectures and weekly oral and monthly written examinations shall be required of every student.

(5.) That anatomical, chemical, and histological work shall not be optional, but compulsory.

(6.) That satisfactory examinations in each subordinate grade shall precede advancement to a higher grade.

(7.) That the final examination for a degree shall be by an independent board, appointed by the regents of the university.

Would not this be a fair preparation for the better system of education which must bear good fruit; an

education which, in a few years, would elevate the entire mass of the profession; an education which a decent regard for the honor of medical science, for the interests of our successors, and for the welfare of the community imperatively demands? Why should not this or some similar or better plan be adopted? No one ventures to claim that the make-shift system of the past is the fittest for modern times. . . .

Doctors, unlike poets, are not born, but made.

The seventh son has come to be esteemed no less stupid than his six prenatal brothers.

The natural bone-setters are chiefly patronized by the natural fools. Other things being equal, he is rightly considered the best physician who has had the best preliminary training.

And the schools of the future which promptly furnish this training, and cordially meet the highest requirements of an exacting age, are the ones whose diplomas will be sought, because they will be found passports to the favor of an intelligent and discriminating public.

A CASE OF PYELO-NEPHRITIS.

MR. EDITOR,—I have lately attended a fatal case of pyelo-nephritis; and I wish to report it, not because it presents in itself anything new or rare, but rather because it strikingly illustrates the truth of the teaching of our clinical professor at Harvard, that "chronic kidney disease is rarely painful."

D. S., a farmer, sixty-five years old, sent for me May 16, 1880. He complained of pain in the right lumbar region and extending down the course of the ureter, vomiting, anorexia, and restlessness. He had been addicted to the moderate use of alcoholic drinks in early life, but of late had been temperate. The urine was slightly increased in the daily amount excreted, rather high colored, and contained considerable sediment, which settled to the bottom of the vessel in the form of a whitish-gray deposit. A chemical examination showed the solids to be relatively decreased, but actually they were about normal. A microscopic examination of the deposit showed it to be composed of mucus, pus, and a few blood globules. Albumen two per cent. Several subsequent examinations of the urine were made, but the results did not differ materially from the above. The case terminated fatally on Saturday, May 22d.

Autopsy twenty-four hours after death. The permission to make an incision for the purpose of removing the supposed offending kidney was all that could be obtained, and no other organ was seen.

The kidney was enormously enlarged as a whole, forming a fluctuating, irregular tumor, though preserving something of its normal shape. Weight two and three fourths pounds. The perinephritic tissue contained cavities, from which pus oozed on section. The capsule was quite adherent, though in some places scarcely more than the capsule remained. On section it was found to contain one and three quarters pints of pus; also several small calculi, which were polished and hardened, composed, apparently, chiefly of uric acid. There was likewise one large mulberry calculus the size of an English walnut. This over one third of its surface was attached to the pelvis in such a manner as effectually occluded the entrance to the ureter, a process of the stone extending half an inch into the ureter

closely adherent to its inner surface. The glandular tissue was almost entirely destroyed, the calices and pelvis forming one large cavity intersected by fibrous bands. The cortical substance was much atrophied, and in some parts wanting. Apparently, what had once been cortex had in places become inseparably blended with the capsule. The ureter was somewhat shrunken and contained pus, but did not communicate with the pelvis of the kidney.

It must have taken a long time to have brought about the changes described; and yet one week previous to the man's death he was doing full days work at a laborious and exposed occupation, and considered himself exceptionally well for a man of his years.

I have refrained from going minutely into his symptoms, treatment, etc., as these did not differ, probably, from other cases which are of every-day occurrence, and would not therefore be of interest.

O. F. HAM, M. D.

NORTH BARNSTEAD, N. H., May 28, 1880.

A CASE ILLUSTRATIVE OF THE MECHANISM OF AGOPHONY.

In the *Medical Times and Gazette*, May 8th, Dr. Stone reports the following case:—

John M., aged twenty-one, coal-heaver, admitted February 6, 1880, stated that since a fall, three weeks previously, his left side had been tender and painful. Cough of a paroxysmal character soon followed the injury, and great shortness of breath accompanied it, increased by lying on the right side.

On admission, temperature 102.2° F.; pulse 96; respirations 24. Left side of chest dull, motionless. Vocal fremitus absent. Breath-sounds distant and feeble. Distinct agophony over middle of lung posteriorly. Heart displaced to right. He was tapped the same evening, and thirty-six ounces of clear serum drawn off. Resonance returned at once in the upper part of the left side, with vocal fremitus. The case showed no other peculiarities, and recovered quickly.

In commenting on the case, Dr. Stone demonstrated to his class the following facts: (1.) With the ordinary speaking voice, especially on certain words, agophony was distinct; its pitch being an octave or more above the laryngeal note. (2.) With the singing voice, on the note G agophony was totally absent; no sound whatever being transmitted. The same negative result occurred when a vibrating column of air was drawn into the lungs by sucking at a chromatic pitch-pipe. (3.) When the patient was made to whisper, the sibilant sound and all its inflections were completely transmitted to the listener's ear with unchanged pitch. These phenomena were independently substantiated by Dr. Sharkey and other members of the staff. Dr. Stone considered that this case, among many others, confirmed to absolute demonstration his views already expressed as to the causation of this particular auscultatory sign. In the first place, the presence of fluid in the pleura was certain, as a part of it had been extracted. The sequel of the case proved that there was no other morbid condition. Helmholtz had shown that all articulate speech consists of two elements, the laryngeal and oral or buccal. The former is a comparatively slow vibration, with a wave-length of four feet, more or less. The latter consists of numerous high harmonic

or upper partial sounds, superinduced upon the laryngeal ground tone by alterations in the resonant cavity of the mouth; these harmonies differ for each vowel, and in some cases, such as the English sounds for A, E, and I, are considerably higher in pitch than the foundation sound. These are just those on which agrophony is loudest. The whispering voice is formed of oral vocalizations alone, with a mere laryngeal hissing, and no musical note whatever. In his opinion, the layer of pleural fluid, which was well known to stop slow vibrations sensible to tactile sense, and termed vocal fremitus, also filtered off, as it were, the coarse waves of the laryngeal note, while it let pass the finer undulations of the affiliated harmonies. The note of the pitch-pipe was also entirely stopped, whereas the whisper was entirely transmitted. The action of the muting sheet of liquid is an exact physical parallel to that of a transparent glass in front of a fire, which stops the bulk of the coarser heat vibrations, while it allows the more delicate undulations of light to pass with but little diminution. Acting on this analytical view, he had followed Helmholtz in attempting to reproduce agrophony synthetically under purely physical conditions. In this he had fortunately succeeded, and had shown the observation before the Royal College of Physicians. A bladder containing water was placed over a fenestrated india-rubber tube approximately the size of the larger bronchi and trachea. On making a distant assistant speak, sing, and blow a pitch-pipe into the tube, and applying the ear, aided by means of a stethoscope, to the upper surface of the water in the bladder, an exact reproduction of the phenomena named above was obtained.

MALFORMATION OF LEFT AURICLE.

MR. EDITOR.—I think the following history may prove useful to those interested in the study of the diseases of childhood: J. E. W., aged seven years, always supposed by his parents to have been a healthy boy. For two weeks after birth was cyanosed. Never had any of the fevers or acute diseases of children. Never had a diarrhoea, or even vomited, till just before death.

At three years of age he often said he was sick, on getting up mornings, but as soon as he ate or drank something he felt well.

He always looked pale, yet his lips were of very good color. Exercise, instead of flushing his face, would cause a deadly pallor. Would often be found with head and shoulders off the bed, so that the thorax was lower than the abdomen. He generally assumed this position about two A. M. Never was troubled with short breathing, but often swallowed as if something were rising in the throat.

Had no cough. Countenance pleasant, perhaps a little anxious. Would often complain of feeling bad, and at such times either food or drink would relieve him; after three years of age, this was a constant symptom till time of death.

March 15, 1880, he took a slight "cold;" coughed very little.

March 16th. Complained of pain over platysma myoides and sterno-cleido-mastoid muscles of right side of neck; otherwise, felt about as well as usual.

March 17th. Felt well, appetite poor, pale ring

around the lips. Abdomen rather tumid. Rested badly on night of 17th, talked in his sleep, and had all symptoms of worms.

March 18th. Was up and dressed; wished to walk out. At eight A. M., I gave one fluid drachm of Squibb's fluid extract spigelia and senna. About an hour after taking the spigelia and senna, he had a watery passage from the bowels. Patient died suddenly at ten A. M.

Autopsy thirty-six hours after death. Condition of body, well nourished; considerable serous fluid oozed from adipose tissue on section of abdomen. Lungs partially collapsed: left lung small, two lobes; right lung large, and contained four lobes; small portion of lower lobe of right lung oedematous, and united to mediastinum from diaphragm to clavicle.

Heart: pericardium contained about an ounce of serous fluid, and was attached to diaphragm in a circular form for at least two and one fourth inches in diameter; the pericardium forming a part of the diaphragm at this point. Above, it was attached to the left lung by broad aponeurotic bands. Mediastinum thickened with a fibrous tissue. Right auricle full of fluid blood. Right ventricle flabby and thin, about one line in thickness.

Left auricle rudimentary, holding not over a fluid drachm, and had more the appearance of being an enlarged pulmonary vein than an auricle, the cavity just admitting the handle of an ordinary scalpel for three fourths of an inch; the four pulmonary veins uniting like the branching of an artery or vein.

The left ventricle was full of fluid blood, and contained a few small shreds of fibrin. Walls of left ventricle hypertrophied, being five eighths of an inch thick.

Liver, broad, thick, and short, with four instead of five lobes, wholly on right side, with an adherent band, commencing at vertebral column and running along the diaphragm at the junction of the diaphragm muscle with the aponeurotic structure of the same, and ending at sternum, forming a band of horse-shoe shape. This band was thick, holding the liver against the diaphragm. Others extended to stomach, where pericardium, diaphragm, liver and stomach were all united and bound together.

Yours very truly,

PAUL ROACH.

QUAKER STREET, NEW YORK.

THE POSTURE OF WOMEN DURING LABOR.

MR. EDITOR.—I should be greatly indebted to you if you could assist me in obtaining some information with regard to a subject in which I am now interested,—the posture of women in labor.

In civilized communities of the present day, women are delivered in their beds, mostly on the back, sometimes on the side. Other methods, and especially the obstetrical chair, have been done away with long ago; but not so a rather peculiar custom, which antedates the obstetrical chair,—the delivery of a woman while seated on the lap of an attendant.

This was the practice among various nations a thousand and more years ago, and is still customary in some portions of Mexico, of Peru and Chili, in the interior of Wales, and in the early part of this century it was a favorite method of delivery in parts of West Virginia.

Other equally peculiar postures are in other countries assumed by women during labor, and I am anxious to collect all possible information which I can obtain with regard to the method of delivery, especially the posture occupied during labor, among all such people as are not yet governed by the modern laws of obstetrics, — our present Indians, the natives of South America and Africa, and the people living in mountain districts in the interior of those portions of the Old World which are not as yet attacked by all the accomplishments of modern civilization.

A circular letter asking such information will soon be sent out to the medical officers of the army by the Bureau of Ethnology of the Smithsonian Institution, but I have no doubt that among your readers, also, there are many who have observed curious positions occupied by women in labor. I would be thankful to these if they would place me in possession of such facts as have come to their notice.

Trusting that you may give me some assistance in this matter, I am yours, etc.,

GEO. J. ENGELMANN, M. D.

3003 LOCUST STREET, ST. LOUIS, May 4, 1880.

LUNACY SUPERVISION.

MR. EDITOR. — In your journal of May 20th was an editorial entitled The State Board of Health, Lunacy, and Charity Tub and the Whales, which, instead of dealing in argument, was devoted to "throwing mud." The "lunacy reformers" are unjustly attacked. Will you permit us to state our position? We strenuously objected to the creation of the clumsily organized Board of Health, Lunacy, and Charity, for we believe that under this arrangement no one department has its just share of attention. But, sirs, the "asylum ring" have, to the surprise of European and American psychiatrists, philanthropists, and true statesmen, defeated us at every turn in our efforts for an effective "lunacy commission," and by this consolidated board alone could supervision of our "close asylums" (a phrase of Dr. Samuel G. Howe) be "smuggled in." We urged Governor Long, before his inaugural, to recommend the separation into three boards.

Two new appointments are about to be made on the board. The following petition was gotten up by the "young woman" so unnecessarily attacked in your journal: —

"To his Excellency, Hon. John D. Long, Governor, and the Honorable Council: The success of the experiment tried in New York, in the appointment of Mrs. Josephine Shaw Lowell on the State Board of Charities, has induced the governor and senate of that State, also, to appoint Miss Sarah M. Carpenter on the same board.

"The undersigned citizens of Massachusetts would respectfully urge the governor and council to appoint on the Board of Health, Lunacy, and Charity, to fill one of the vacancies which occur this year, some one of the many women of which this State is justly proud, who are interested in our state charities, and have the requisite ability, industry, and opportunity.

"We would further urge upon your Excellency and the Honorable Council the importance of appointing persons upon this board who have no official connection with or personal interest in any of the state institutions."

We simply ask, you see, for a female appointment (which the JOURNAL indorses), and that a *rital principle* of civil service reform be recognized in these appointments. We challenge the name of any reader of the JOURNAL who objects to, or indeed does not cordially approve, this last clause of the petition, which alone has aroused the venomous malice of those who are desperately working to defeat honest central supervision of our asylums.

This, then, is "the head and front of our offending." No personalities, no personal complaints, no original theories advanced.

For the dignity of their profession, in the name of enlightened medical science, the medical men of Massachusetts must take a more active interest in the "problems of insanity," insisting upon admittance as consulting physicians into insane as into other hospitals, and not give this great subject entirely over into autocratic hands, some of whom, with amazing audacity, defiance, and relentlessness, attack every honest, even the moderate reformer, who, without personalities, works for efficient central lunacy supervision, hoping thereby to secure an honest, pure, economic, scientific, and humane asylum system, which shall no longer be criticised abroad by such men as Bucknill, Mandslley, Von den Steinen, and many others.

VASELINE OINTMENTS.

MR. EDITOR. — I see that in your number of the JOURNAL for May 27th reference is made to the use of "some soft paraffin" base in the preparation of ointments. Vaseline has, I know, been used for that purpose. Now this preparation has also been used by some dentists in cases of exposed pulp, and for this very reason, that it would not change, and afforded a mild and non-irritant dressing. Within a short time, however, at least two lots of it have been found to become rancid, and to develop a fungus upon its surface. This would seem to call for caution in the use of this and similar preparations, and to take manufacturers' assertions with at least one grain of salt.

THOS. H. CHANDLER.

IN REGARD TO FEES.

MR. EDITOR. — In an article in your issue of last week you say that I, among other physicians, testified that "five dollars was the usual and fair charge for a professional visit." On the contrary, while stating that in many exceptional cases, namely, for a first visit, for casual visits to strangers at hotels, for visits at unusual hours, for visits to the distant outskirts of the city, say at Roxbury, Charlestown, East and South Boston, and for surgical visits, in which a dressing was implied, I thought that a reasonable, proper charge, I distinctly said that, "so far as I knew, the fee of three dollars was that more generally charged than any other," and that I also understood that to be the minimum charge named in the fee-table for visits-in-ordinary, that is, in a continuous attendance."

As I understand the rules of the Boston Medical Association, as fortified by long-established custom, physicians are expected, in making out their bills, to apprise their patients of the full value of their services, in accordance therewith; while, at the same time, they

are also equally enjoined to remit any part of the amount which the circumstances of the patient may require.

Therefore, there would seem to be no reason for such departures from the minimum charges of the fee-table as are sometimes made, even when the circumstances of the patient do not justify them; although, if a physician choose, on the face of his account, to notify his patient that he considers his professional services worth less than the *standard value*, he is, under the laws of Massachusetts, at perfect liberty to do so.

HENRY G. CLARK.

NEAR-SIGHT IN THE YOUNG.

MR. EDITOR. — In an article On the Prevention of Near-Sight in the Young, by Hasket Derby, M. D., published in your issue of June 3, 1880, I find the following assertion, namely, "that near-sight is seldom, if ever, congenital." Dr. Edward T. Ely, in his *Ophthalmoscopic Observations upon the Refraction of the Eyes of Newly-Born Children* (*Archives of Ophthalmology*, vol. ix. No. 1), tells us that he examined one hundred and fifty-four eyes, under atropia, of infants, of whom only six were over two months old, and found no less than *eighteen per cent.* of them myopic, or near-sighted.

I have seen children before or at the very commencement of their school-days with a very considerable degree of near-sightedness. The truth seems to be that myopia is *not very rarely* congenital, but more frequently acquired, either as the result of hereditary tendency, of over-use or abuse of the eyes, or from defective "tissue building" and the effects of hygienic circumstances, even where the use of the visual organs has not been immoderate.

I fully agree with Dr. Derby that "near-sight may begin with spasm of the accommodation," but I would venture to suggest that the case he adduces in evidence is inconclusive. He says that at his last examination "the ophthalmoscope showed" the myopia to be "real, and not due to spasm;" but it does not appear that the eyes were examined under atropia. Dr. Agnew and myself have frequently together seen cases which seemed to be myopic when subjected to ophthalmoscopic examination, in which, however, hypermetropia was found to exist, in marked degree, after the accommodation had been suppressed by the full use of atropia. The ophthalmoscope *alone* cannot be depended upon in the class of cases to which the doctor's case clearly belongs, nor can a correct diagnosis be made in them without atropine. Respectfully yours,

DAVID WEBSTER.

266 MADISON AVENUE, NEW YORK,
June 7, 1880.

MEDICINE MEN IN COUNCIL.

THE following is an editorial from the *New York Herald* of June 3d: —

About fifteen hundred doctors are assembled in this city as a sort of professional congress, for precisely what important purpose the congress itself would, perhaps, be troubled to tell. But it is an age when the gregarious instinct of humanity makes itself felt on the lines of some common pursuit or taste, and lawyers, bankers, railroad men, peace societies, and parsons get together for an annual powwow, and why not the

doctors? There are some reasons, perhaps, why the doctors should not be counted in such a category. In the first place, while all these practitioners from the rural districts are away from home a great many people will take advantage of the opportunity to get well of their innumerable maladies, and the doctors will be great losers thereby. But a more substantial reason is that the doctors, as men trained in more severely rational methods of thought, should not follow the example of mere anniversary makers, who come out once a year to air their vocabularies; nor yet the example of railroad men and bankers, who get together to consult how they may more effectively prey upon the public. As the doctor's impulse in life is not primarily toward the accumulation of wealth, and is certainly toward the exposure and correction of vain theory, he cannot be part of an annual congress for either of the reasons that commonly contribute to the making of such rookeries, and the wonder is why he takes part at all in a vain show. There are points of view, however, from which this gathering of medical men may be instructive to the people, if not useful to the doctors. From what other pursuit of great importance to the people could there be gathered together from all parts of a country like ours a representation of fifteen hundred men so largely endowed with sound culture and rare intelligence, and so little endowed with that wealth which is popularly regarded as the substantial fruit of all labor? Rich doctors are rarities, — though we presume that nearly all doctors who deserve to succeed make money enough to live comfortably. But a rich man is not a rarity in any other pursuit that requires as much knowledge or as high an order of intelligence as is required to make a good doctor. On the contrary, in all pursuits that require that intelligence, and in many that require far less, everybody gets rich, in this country certainly. But this is the most striking phenomenon presented by this profession: that it is a body of men of far higher than ordinary intelligence, men of great culture and industry, who labor incessantly from boyhood to old age, and, taking life genially and easily, are contented with an infinitely less substantial reward than is necessary to satisfy any other class of men. It is as if a medical education lifted a man into serenely regions of life than those in which is waged the savage daily strife for lucre, and if it has that effect in fact it would be a good thing if medicine could be studied a great deal more than it is.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JUNE 5, 1880, TO JUNE 11, 1880.

BARTHOLOMEW, J. H., captain and assistant surgeon. Relieved from duty in Department of California and assigned to duty in Department of the Columbia. S. O. 123, A. G. O., June 4, 1880.

KEEL, W., first lieutenant and assistant surgeon. Granted leave of absence for one month, with permission to apply for an extension of two months. S. O. 124, A. G. O., June 5, 1880.

GRAY, WILLIAM W., first lieutenant and assistant surgeon. Relieved from duty at Fort Point, Cal., and to return to his proper station, Vancouver Barracks, W. T., by steamer on 31st inst. S. O. 75, Division of the Pacific and Department of California, May 26, 1880.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting will be held Monday next, at eight o'clock, at the hall of the Medical Library Association. Reader, Dr. C. F. Folsom. Subject, The Pathology of Insanity. After this meeting the society will adjourn to the first Monday in October.

A. T. CABOT, Secretary.

Lectures.

SOME OF THE SYMPTOMS OF BRIGHT'S DISEASE.

BY ROBERT EDIS, M. D.,
One of the Visiting Physicians at the Boston City Hospital.

IN this hospital, as you know, we have a special service to which are assigned, on entering, most of the patients supposed to be affected with renal diseases, as well as with those of the nervous system. Hence a hasty diagnosis, sufficient for the proper location of the patient, is made by the admitting physician, and it is interesting to group together some of the cases presenting important symptoms, which have been made the basis of this diagnosis, and see where they lead us pathologically. It is very apt to happen that if a patient enters with a pain not obviously referable to some of his thoracic or abdominal viscera he is called "nervous," and sent to us; while our "renal" cases are those whose legs are swelled. In a large proportion of cases this assignment is correct. It is worth while to note, in this connection, upon how trivial a basis a diagnosis of "Bright's disease" is frequently set up, to the great glory of quacks and mineral waters. A man whom I know very well came to me the other day and asked if he had "kidney disease." He had been to get a new pair of spectacles, and the optician, failing to suit him, inquired if he had pain in his back. He said "Yes," and was then informed that the reason he could not see was because he had "kidney disease," of which, however, no indication was to be found either in urine or retina. The disappearance of a sediment of urates, which may be due simply to greater dilution of the urine, to the subsidence of a slight febrile attack, or even to the chamber-pot being transferred to a warmer room, has been adduced as evidence of the great efficacy of a quack medicine in the cure of "kidney complaint."

The method of distribution practiced here leads us to consider the meaning of the symptom *dropsy*; that is, the collection of fluid, independently of inflammation, in the serous cavities, the subcutaneous and submucous cellular tissue, and the tissue of the skin itself. The fluid consists chiefly of water, with the salts of the blood, more or less albumen, and a small amount of urea. More albumen is usually found in pleural and peritoneal dropsy than in the subcutaneous fluid. (Analyses given in Hoppe-Seyler.) There are probably three conditions which give rise to dropsy, either of which may act alone, but of which in most cases two at least act together.

The first of these is venous obstruction. Although it has been denied that this alone could give rise to extravasation of fluid, because no œdema has been found to follow the ligation of certain veins, it appears that if the ligatures are applied in such a way as to *cut off the lateral circulation*, the œdema of the district drained by the obstructed vessels takes place without any further interference. Clinically this is best seen in phlebitis, especially the "milk leg," or phlegma-ia alba dolens, of puerperal women, where the œdema may be strictly confined to the limb whose vein, from the extension of some puerperal inflammation, is plugged, and can be felt hard and painful at the groin, affecting the other only when, as very frequently happens, the phlebitis also crosses over. Again, in valvular disease of the heart, where the venous circulation is impeded, we may have

extreme dropsy; and no other form yields more readily to a treatment which invigorates the heart and enables it to pump off the back water. In cirrhosis of the liver, where the flow of blood in the portal vein, which drains so large a part of the abdominal viscera, is impeded, we have the effusion chiefly in the abdominal cavity, the legs being perhaps but little affected. Ovarian disease excluded, the tense round belly, supported on or attached to a pair of shriveled legs, with, it may be, a little swelling about the ankles, goes a long way toward the diagnosis of hepatic cirrhosis without further question.

The second factor of dropsy, or, perhaps, I should say, of anasarca, since it is of comparatively little consequence in the pleura and peritoneum, is the dilatation of the smaller vessels from vaso-motor paralysis. The importance of this condition in some cases was shown by Ruyvier, who found that ligation of the vena cava in a dog produced no œdema of the hind legs until one sciatic nerve, containing the vaso-motor filaments, was cut. Then œdema appeared on the corresponding side. The discrepancy between these experiments and those just quoted, which show that ligation alone is sufficient to produce œdema, is to be explained simply by the establishment of a collateral circulation; so that a degree of obstruction which in itself is insufficient to produce œdema may do so when dilatation of the peripheral vessels takes place from vaso-motor paralysis. The existence of this condition alone is not so easy to determine clinically. Usually all that we see from vascular dilatation is congestion and redness; but I think that some cases of rapid anasarca, or partial œdema, without discoverable lesion of the veins or blood, are most easily accounted for in this way; and even in acute renal dropsy, where the condition of the blood is probably the overruling factor, yet the sudden appearance of the swelling certainly suggests an additional cause.

A wheal of urticaria, or the rapid swelling which accompanies poisoning from ivy or dogwood, probably illustrates this pathological condition on a small scale. I have seen a sudden œdema of the face, distorting it beyond recognition, come on in a few hours, and go off in a few more, without any previous or subsequent discoverable sickness. A few weeks ago a young lady had a very sudden attack of dyspnoea, and felt as if "filling up," her voice husky, and complexion, when I saw her, of a vivid scarlet, having previously been purple. Her face was swollen, and the eyelids (especially prone, from the laxness of the tissue, to œdema) puff. Upon the action of an emetic the redness disappeared almost immediately, and the commencing œdema soon followed. It seemed to me that this was only an extreme and unusually acute form of that erythema or urticaria which, in some persons, follows the use of special articles of diet, notably fish, if not quite fresh. Erythema, by the way, even painful, and almost simulating some more permanent lesion of the skin, is not an uncommon accompaniment of œdema, as some of you saw in the case of a man in Ward F (McK.), who soon after died with very large white kidneys.

The lax pale œdema in the paralyzed hand of a feeble hemiplegic may properly be classed here. Probably both of these causes (the first and second) may be grouped together as sluggish and impeded peripheral circulation. Certain it is that increased arterial pressure has nothing to do with the exudation of serum from the vessels. In that form of Bright's disease (the

contracting kidney) where the blood tension is high, we usually have comparatively little dropsy until late in the disease, when the pressure is diminishing from failure of the heart. In those cases where dropsy is a prominent symptom, we are likely to find a feeble heart; so that while the *veins* are full, the blood passing back to the heart with difficulty, stagnating in the capillaries, and there getting rid of a portion of its fluid, the *ris a tergo* on the arterial side is not only not above but below the normal degree.

The third cause is a watery condition of the blood, hydraemia, with a diminution of solid constituents, resulting either, as has been assumed, from a drain of albumen from the blood, or a failure on the part of the kidneys to withdraw water. Mere anæmia, in the sense of loss of the red corpuscles, has comparatively slight effect in this direction, although when extreme we find it accompanied by dropsical effusions in dependent parts of the body. The first of these conditions, that is, the drain of the albumen, can hardly be the efficient one in those cases where general anasarca makes its appearance early, before time enough has elapsed for any considerable quantity of albumen to be lost. In very chronic cases, however, this drain, while sometimes insignificant, as in the contracting kidney, in others, as when there is parenchymatous inflammation, is of great importance. A case in which fifteen hundred c.c. of urine should be passed daily, holding two per cent. of dry albumen, would be an extreme one, to be sure, but one which probably occurs not very infrequently. This would give thirty grams of albumen withdrawn from the blood every day. An egg, calculated according to the data of Payen, contains about seven and a half grams of dried albumen: so that unless both appetite and digestion continued to be vigorous the loss would be enough to make itself decidedly felt in the production of hydraemia. "The blood is very thin, often almost like meat water, pale, and forms on coagulation a very loose gelatinous clot." (Lehmann.)

The mere accumulation of water, or rather of a weak solution of urinary salts, from a failure of the kidneys to get rid of it, is a condition which may be and is developed with rapidity, and is undoubtedly a chief factor in the production of sudden and rapid anasarca; although, as I have already said, I think we may have also at work the second cause of anasarca, that is, the paralysis of the vessels of the skin and subcutaneous tissue, allowing stasis and transudation. The frequent origin of cases of acute renal dropsy in exposure to cold seems to me to implicate the skin as well as the kidneys. Swollen legs, then, may have very various origins, and we must exclude first those of purely local significance. Even periostitis, rheumatism, and varicose veins, as well as phlebitis, may lead to mistakes. The dropsy of pure anæmia might deceive us, but I think the error is more likely to be in the other direction, of considering œdema as dependent upon anæmia, which is really connected with a more serious condition.

We might say somewhat the same of phthisis; for, although dropsy may supervene upon the hydraemia of phthisis, especially toward the last, the cause of it is by no means infrequently to be found in actual renal disease, the parenchymatous form being the more usual, not rarely accompanied by more or less amyloid change of the arterioles. Such a case was William C—, whom some of you saw, and who suffered much from dropsy and dyspnoea before his death. His physical signs of phthisis were well treated, and his urine

contained considerable albumen and a great variety of casts. His kidneys were large, smooth, and very fatty. Also Sarah M—, in G 28, had a cough for three or four years, about which she had comparatively little to say, but complained of the swelling of her feet and legs, which began three months before entrance. One morning she told me she feared she should have a "broken breast," it was so hard and swollen. The right mamma was simply œdematous, because she had lain upon that side, the fluid gravitating to the most dependent part. Later the whole side became dropsical. Her urine contained three quarters per cent. albumen and numerous casts, leading to a diagnosis of parenchymatous nephritis, which was confirmed by a post-mortem examination of the kidneys. They weighed, together, about five hundred grams, or fifteen and a half ounces, and showed both parenchymatous inflammation and amyloid degeneration of the arteries.

Another case, not altogether similar, you may see in John T. (F 27), who came in chiefly on account of swelling of the legs. The first examination of his urine showed nothing abnormal. Other symptoms led us to examine his thorax, and we found the signs of chronic consolidation at the upper part of the left lung. The swelling has entirely gone, and he has improved considerably in other ways, especially in regard to his night sweats, which yielded to atropia; but he is still in bed, and the destruction of the left lung is progressing. A second examination of his urine discovered a trace of albumen and a few hyaline casts. Does this mean interstitial nephritis, or merely an impeded circulation in the kidney? We have hardly data enough to be quite certain, but I think the latter, chiefly because the urine has a higher specific gravity than would be likely to come into interstitial nephritis (1018).

Among our cases of dropsy we not infrequently find one of cardiac origin, which is not always to be separated off-hand from the renal; for while in cardiac dropsy we meet with albumen and casts, in renal dropsy we may have enlargement of the heart and dyspnoea. Beside this, the presence of both forms of disease in the same person is by no means a rare occurrence. The distinction, however, can usually be made, partly by the presence or absence of other symptoms, but frequently also by the urine alone. In cardiac dropsy, we have a small amount of albumen and a few hyaline casts, which you will say, perhaps, point equally to interstitial nephritis. In the latter affection, however, they are found in a copious, light-colored urine of low specific gravity, while in that from the congested cardiac kidney we find, besides, much coloring matter and a high specific gravity. The urine is also passed in small amount, its increase corresponding with increased vigor of the heart and diminution of the dropsy, so that its quantity furnishes, as Jaccoud points out, a very good practical guide in the administration of digitalis. If, on the other hand, the enlargement and violent impulse of the heart, in a case of contracting kidney, are liable to lead us astray, the absence of souffles (though this is not invariable), the hard and (usually) regular pulse, the pale, light urine, should show us that the cardiac lesion is only a part of the general disease which is most strongly developed in the kidney.

You have seen too many cases of cardiac dropsy for me to delay long upon this point, but one case, which occurred recently in our wards, and which some of you

saw in Ward J 10, is interesting enough, for several reasons, to be remarked upon :

William M—, a short, stout man of about fifty, had a chill, followed by high-colored urine, shortness of breath, pain in the left side, and swelling of the feet and legs. When he entered he was purple, with his abdomen and legs swollen. His heart's dullness was enlarged, the action very irregular and feeble, and there was a systolic murmur at the apex. It was impossible at this time to get a sphygmographic tracing of his pulse. His urine was of sp. gr. 1016, with a trace of albumen and a few leucocytes and hyaline casts.

Under the use of cathartics and digitalis he improved very much : his complexion became natural, the dropsy diminished, and the heart's action grew much stronger, as shown by the successive tracings of the sphygmograph, but it was always very irregular, much of the time giving many contractions, audible at the thorax, but not perceptible at the wrist. The improvement was, however, only temporary, for he died after two or three weeks, quite suddenly.

The abdomen, pleuræ, and pericardium all contained an excess of serum, and there was a pericarditis especially at the upper part, between the aorta and pulmonary artery. The valves were normal, and there was no decided hypertrophy. The kidneys were simply firm, hard, and congested (cyanotic).

I must confess to some surprise at this result, for the systolic apex soufle, the irregularity of the heart's action, and especially the failure of so many pulse waves to reach the wrist, had led me to believe in the existence of a mitral lesion.¹

The only explanation of the symptoms which I can offer is one the correctness of which it would be very difficult to prove, in the absence of such an examination as is seldom made at an ordinary autopsy. The pericardial fibrinous exudation was almost entirely in the immediate neighborhood of the great cardiac plexuses of nerves, and it seems to me far from improbable that the excitation or compression of these nerves by the inflammatory products may have been sufficient to give rise not only to the irregularity of rhythm, but to imperfect closure of the mitral valve. Oppolzer considered the irritation of the neighboring nerves as one of the causes of many symptoms in pericarditis, even where the exudation is small.

Finally, we have many cases of true renal dropsy, which, however, vary considerably among themselves as to the amount and the location of the effusion ; and this variation is not a merely accidental one, but marks out (not always, to be sure, with absolute accuracy) the division of so-called Bright's disease into two important groups : that is, in parenchymatous nephritis, the large white or mottled kidney, we are likely to have considerable and tolerably persistent dropsy ; in pure interstitial nephritis, the small atrophied kidney, we may have none at all, or very little. As to the location of the effused fluid, we find here, as in cardiac disease, that it is chiefly influenced by position, although some other circumstances seem to have a greater weight in renal than in cardiac dropsy. Thus the face and eyelids may be the earliest affected. (Edema of the larynx and glottis, as a consequence of general disease, and not of any local irritation, is very rare, so that Bartel says he has never had a case. One such case occurred in our

wards two years ago, where the swelling began in the feet, but afterward occupied all the tissues immediately beneath the lower jaw, including larynx and glottis, the limbs, body, and face being free. The oedema was sufficient to affect the voice, but became a source of actual dyspnoea only at the very last.

The accumulation of fluid, either in the serous cavities or in the subcutaneous cellular tissue, may call for treatment, irrespective of the disease causing it, and there are various means of relief. Of course, that treatment which most thoroughly and permanently affects for the better the underlying disease is that which is to be preferred when practicable ; such as the strengthening and regulating of the heart by digitalis or by small doses of opium in cardiac dropsy. In the majority of chronic renal cases, however, we are obliged to look rather to palliation than to cure.

Tapping, either of thorax or abdomen, may be required. The subcutaneous fluid may be disposed of either by acupuncture, by a series of short incisions with a knife, or by scarifications carried lightly from the knee to the ankle, through the superficial layer of the skin, so as to cause at first a little oozing of blood, afterward of serum or watery fluid, which may last for many hours. Any of these procedures, may, it is said, give rise to sloughing, but I cannot think it a very common accident. A hollow needle, like that of a hypodermic syringe, has been inserted near the ankle for drainage. Spontaneous rupture of the skin and long-continued oozing not unfrequently is nature's method of relief.

I once saw an old man, with cardiac disease, who declined for some days to take off his pantaloons, which were distended so as to look like sausages, and who thought himself unable to retain his urine, because a pool of fluid kept forming on the floor where his heels rested. When at last he was induced to go to bed, it was found that the water did not issue from the bladder at all, but from the fissured epidermis of his legs, which, from the irritation of his flannel garments, soaked in serum, had become of a vivid scarlet. The superficial layers of epidermis, as the swelling and inflammation subsided, peeled off in scales many inches square.

An indirect withdrawal of serum may be accomplished through either the kidneys, intestines, or skin. The first of these channels is chiefly of use in cardiac dropsy, when we may give, with the digitalis, some more direct diuretic, as acetate of potash, citrate of lithia, cream-of-tartar water, juniper, resin of copaliba, and many others. In renal disease we must use great caution in the use of any of the more stimulating diuretics, lest we increase already existing irritation, and it is therefore better to act upon the intestines or upon the skin by the more active cathartics. The first procedure is not to be looked upon in all cases as a matter of routine, since there are not a few cases of nephritis in which diarrhoea is a troublesome symptom, and one which may accelerate the fatal termination. This was the case with McK., whom some of you saw. To get rid of water through the skin we have two agencies, jaborandi, or its alkaloid pilocarpine, and heat. Jaborandi often eliminates a large amount of water both by the skin and salivary glands, and is in many cases of great value, but where the patient is feeble it is to be used with caution. A fluid extract we have found to be less uniformly efficient than either our own infusion made fresh, or, most convenient of all, the nitrate or hydrochlorate of pilo-

¹ For a brief but very clear account of the relations between cardiac hypertrophy and renal disease, see a paper by Dr. Robert Saundby, in the *Birmingham Medical Review*, January, 1889.

carpine, especially hypodermically. Dr. Barker, of New York, has called attention to the dangerous depression sometimes attending its use in puerperal cases.

Heat in various forms may be employed to promote the secretion of the skin. Even a simple warm tub bath is not altogether without effect, and the wet pack is probably somewhat more efficient, but the best form for applying heat for this purpose is the hot-air bath. The ideal treatment would be the hot-air chamber of the Turkish bath, with sometimes an ice-bag to the head, but in the hospital we use the apparatus which you will see in use in the case of C., who has such excessive oedema of the legs. He is covered with a blanket, over which is placed a cage or frame, such as may be employed to keep the weight of bedclothes from a painful limb, and on this again a rubber sheet and several woollen blankets tucked in at the foot and around the shoulders of the patient. A tin tube, three or four inches in diameter, and jointed at a right angle, is inserted at the foot of the bed, and under the perpendicular part is placed a spirit lamp. As this patient has had a little headache he may have an ice-bag to his head. The temperature can easily be measured by a thermometer inserted under the clothes, and regulated by making the alcohol flame larger or smaller. The attendant remarks that when this patient took his first bath it required a temperature of 130° F. to sweat him, but now the skin acts freely at 100° F. These baths have been given every two or three days, and the patient is improving, both as regards oedema and his general condition.

Finally, I may mention the great relief to swollen limbs afforded by an elastic bandage, especially if in addition to oedema varicose veins be present. Flannel may be used, but by far preferable is the pure rubber.

One of the first things to be done in the way of diagnosis, after finding dropsy, is to examine the urine, and, although it may furnish us valuable information in other ways, as we shall presently see, one of the first questions we ask is whether it contains albumen and casts and if so how much albumen and what sort of casts. You have probably been told that albumen is occasionally found in the urine of adolescents, of some persons after cold bathing, and under some other conditions not easily explained. Almost any physician of experience, especially if a life-insurance examiner, could point out to you in the street persons whose urine, years before, was found to contain albumen or casts, and for all he can say does so still. Such facts as these, and that natural reaction which is sure to occur from any extreme doctrine, tend to produce an impression that albuminuria, which once was considered almost synonymous with organic and fatal disease of the kidneys, is a trivial matter, and without much meaning.

The facts show only that albuminuria may depend upon temporary causes, conditions of renal circulation as well as of renal structure, and also that structural disease of the kidneys may be, and often is, very chronic, or, when acute, by no means insusceptible of recovery.

The most important pathological conditions under which albumen may be found, after excluding accidental albuminuria as from the presence in the urine of pus or blood derived from the urinary passages, are somewhat as follows: First, acute diseases attended with fever. Seldom abundant, albumen has been found in so many and under such similar circumstances that

there is no necessity for mentioning the names. You will find them with much detail in Dr. Ellis's article in the Boston Medical and Surgical Journal.¹

Second, in some nervous disturbances, alcoholism, delirium tremens, epilepsy, and organic disease of the brain. With none of these is it a very marked or a very important symptom, except so far as its presence may give rise to errors or confusion in diagnosis. The fact that delirium tremens alone may be a cause of albumen should not make us overlook an actual disease of the kidney, the symptoms of which may be temporarily masked by those of the alcohol.

The albumen found in the urine after an epileptic attack might not unnaturally lead to the suspicion of a uræmic convulsion, and a little time might be necessary to decide the point.

The following case illustrates difficulties which may arise in this way: A man, aged forty-three, supposed to be in reasonable health, had an epileptiform convulsion, preceded by a curious sensation in his left arm. This was repeated at varying intervals six times. His urine was afterward examined, and found to be light colored, of low specific gravity, containing a considerable amount of albumen, and at times a few transparent casts. The head symptoms were dizziness and often severe headache. There was a doubtful specific history, and also some signs of pulmonary disease, especially at the right apex. Was it brain or kidneys? Against the brain theory, absence of local paralyses, absence of optic neuritis (for some months at least). In favor of the kidneys theory, the whole character of the urine, except that there was too much albumen for pure interstitial nephritis, and that there was no hypertrophy of the heart. Against this theory, the exceptions just noted; also the absence of oedema, of dyspnoea, of vomiting. If it were pure interstitial nephritis, there should not have been so much albumen. If interstitial to which parenchymatous was added, there should have been more casts. If parenchymatous alone, less quantity, more color, and more casts. The brain symptoms gradually became more intense, so that finally there was but little doubt as to the diagnosis of organic cerebral, probably specific, disease, to which the treatment, chiefly iodide of potassium, was constantly directed. An autopsy showed a tumor in the right temporal lobe, with old cheesy deposits throughout the lungs. The kidneys were rather small, but not shrunken.

The mechanism of albuminuria in these cases is not made out. In the slighter and more temporary cases it supposedly depends upon changes in the renal circulation. In cases like that I have just reported I think the constancy of its appearance and its amount point to some more permanent change.

Third, congestion of kidneys, chiefly from disease of the heart. Here the amount of albumen is usually small, and not infrequently accompanied by a few transparent casts. If we were to consider these facts alone or together with the hypertrophied heart, which we might also find, a diagnosis of chronic interstitial nephritis might not unreasonably be made; but in the renal disease we should have the albumen and casts in a copious light-colored urine of low specific gravity, while, if consequent upon cardiac obstruction, the quantity of urine is small, the specific gravity high, and the color dark.

In accounting for the presence of albumen when

¹ April 15, 1879, et seq.

there is congestion of the kidneys, it is impossible to avoid referring to the experiments of Runeberg, since they are so entirely at variance with the older views, and yet harmonize so well many observations heretofore impossible to be brought together under one theory. They show chiefly that, contrary to the older views, and, in fact, contrary to those which any one would form *a priori*, albumen passes more rapidly through an animal membrane under low pressure, or where there is but slight increase of pressure, than under high. The passage of albumen through the Malpighian tufts has usually been accounted for by a supposed high pressure thereon, due to an obstructed egress through the veins.

Runeberg argues that, owing to the peculiar arrangement of the renal circulation, the contrary is likely to be the case, since the dilated veins, where they lie in bundles among the straight tubes at the outer border of the pyramids, must compress these latter, obstructing the flow of urine, and thus diminish the difference in pressure between the arterial blood upon one side of the Malpighian capillaries and the water which has just filtered through upon the other. The water filters most rapidly under a high pressure, the albumen most easily under a low one, or rather when the increase in pressure is slight; so that in the kidney congested from over-distention of the venous circulation, which is likely to be accompanied or rather caused by deficient tension upon the arterial side, we have exactly the conditions whose effect is a scanty urine containing albumen. When, as may easily happen, this condition gives rise to permanent structural disease of the kidneys, other factors are also brought into play, especially an abnormal condition of the epithelium. It is to be remembered also that the relation between the pressure and the filtration of emulsions, among which Runeberg reckons albumen, is not a purely physical one, but that some alteration in the structure of the membrane is involved, so that the change from rapid to slow filtration, and *vice versa*, takes place slowly.

Fourth, nephritis. (1.) Acute, as from cold, from scarlatina, from the ingestion of various substances giving rise to irritation as they are excreted by the kidneys, or the retention of similar substances from the failure of the skin to excrete, or from poisons in the blood (mercury, phosphorus) affecting the structure of the kidney. For these I must again refer you to Dr. Ellis's paper. (2.) Chronic, interstitial, or parenchymatous nephritis. We have two very different conditions of urine in these two affections. In the first, where, if mere pressure were the cause of the transudation of albumen, we ought to have the most, we have the least, usually only a very little, often a mere trace, and sometimes, temporarily at least, none at all. In parenchymatous nephritis, on the other hand, where the pressure is often very low, we find large quantities, sometimes, when the urine is very scanty, as much as four or five per cent., of dry albumen.

This difference between the two forms, so far as it goes, is certainly much in favor of the views of Runeberg. Probably, however, the great difference in the condition of the epithelium is also not without its influence.

Of how much consequence is albuminuria except as a symptom; that is, does it of itself do harm? If it passes off at the extreme rate I assumed when speaking of dropsy, it can hardly help contributing a good

deal to the impoverishment of the blood; but this is certainly unusual. The patient, of whom I have several times previously spoken, who has been very dropsical and who has an exceedingly anemic look, is losing only about four and a half grams of albumen per diem, a little more than half an egg. This, however, is digested albumen, and if the amount of food taken is just enough to maintain the balance of nutrition the deprivation even of the four and a half grams may be enough to turn the scale from gain to loss.

In regard to the casts, for which we should always look, and which we usually find in connection with albumen, or even without it, two somewhat extreme opinions prevail: the first that they are very trustworthy indications of the exact state of the kidney, and almost pathognomonic of the different forms of renal disease; the other that, since the casts which appear in the urine must be chiefly derived from the straight or collecting tubes, owing to the narrowness of the tubes of Henle not allowing the casts formed in the convoluted portions to pass out, their value can be but small in informing us of the progress of disease in the most important part of the organ. Similar extremes of opinion may be observed in regard to the prognostic value of the light transparent casts, one author going so far as to say that they may be found in healthy urine. This I do not believe any more than I believe that a man with healthy air passages expectorates pus, although I am perfectly willing to admit that the presence of a few small hyaline casts does not presage the speedy demise of the producer by Bright's disease.

The various kinds of casts have been so thoroughly described to you, and you have had so many opportunities to examine them for yourselves, that I shall take but little time in their description.

In urine otherwise nearly or quite normal, we often meet with strings of mucus, which at one end are so uniform in diameter, so distinctly defined, that we can hardly doubt their formation in the urinary tubules; and as a step beyond this we may have casts not connected with a mucous string and rounded at both ends. It is these, if any, which are to be found in normal urine; but I believe that they usually accompany a certain amount of renal irritation, of which you are apt to find signs either in the presence of some other slight abnormality, as oxalate of lime, or of pain in the back, which is *not* a symptom of Bright's disease. How easy it would be, however, to persuade a patient exhibiting such symptoms that he had had and had been cured of "Bright's disease" by the use of a mineral water!

Casts a little more solid than these, bearing perhaps a few granules or cells, are found in almost all forms of chronic renal disease, — from cardiac congestion, for instance, to the most complete atrophy. They may contain large amounts of epithelium, blood, pus, or fat, and they take their name and their significance from the accidental constituent.

(To be continued.)

—The *Detroit Lancet* inquires whether the utterances of a college professor in his class-room are public property to such an extent that a listener has the right to publish them in book-form and so make it impossible for their author to give any one firm the exclusive right to publish them. The question is to be tested in the New York courts in a suit between a Dr. Darling and a former student of his, Dr. Leo T. Meyer.

Original Articles.

A CASE OF ACUTE CATARRHAL PNEUMONIA, FOLLOWED BY HYDRO-PNEUMOTHORAX, AND EXTREME DISLOCATION AND ROTATION OF HEART.¹

BY C. ELLERY STEDMAN, M. D.

J. E. M., aged eighteen, clerk, was admitted to the Boston City Hospital, September 11, 1879, in the service of Dr. A. L. Mason. From the record it is learned that his family history is good. The patient was always well till two weeks ago, when, after exposure, he took a severe cold, and has had a bad cough (worse at night), with white, then yellow, expectoration; pain in left axillary region. The pain is increased by a full inspiration. Slight pain on inspiration over lower sternal region. Often has nausea, but no vomiting, after cough. He has had night sweats, and lost much strength, but very little flesh. Bowels costive. Micturition normal. Drinks no liquor.

September 12th. Temperature 102° F. this morning. To have ten grains of sulphate of quinine to-night.

Physical examination. Slight dullness over left chest, front and back, except at left apex in front. There is bronchial respiration over the whole left side, most marked in back, indistinctly bronchial in front. Bronchophony is heard over a limited area beneath and inside of inferior angle of scapula. Coarse moist râles at left apex. Medium and fine moist râles over rest of left chest, with subcrepitant râles at extreme base behind. Friction rub over lower half of right back, which is otherwise normal. Heart normal, except for a systolic murmur heard all over precordia, loudest at apex.

September 21st. Since the last record has been taking five grains of sulphate of quinine twice a day. Takes food well, but sleeps poorly.

Physical examination. Bronchial respiration and bronchophony below angle of left scapula. The râles have almost entirely disappeared. No friction sound.

September 30th. Temperature remains high. Urine: a trace of albumen, no casts.

Physical examination. A loud friction rub over left side; otherwise physical signs about the same.

October 1st. Service of Dr. STEDMAN. Patient so feeble that perfect rest is enjoined, and no physical examination made.

October 3d. On listening for the heart sounds metallic tinkling is heard with each pulsation.

October 8th. To have one pint of champagne daily.

October 9th. Sweats much at night. To have one sixtieth of a grain of sulphate of atropia every night. Much pain in back.

October 14th. Has had a subcutaneous injection of morphia every night for past few nights.

Physical examination. Tympanitic resonance over whole left front. Very faint respiration. Slight metallic tinkle with pulsation on coughing.

October 26th. No pain of any account. No sweating. To have six ounces of sherry. Omit atropia and champagne.

October 27th. Not feeling so well. Face flushed. Omit sherry, and resume champagne, one pint daily.

Physical examination. Pulsation of heart felt most

distinctly one inch below and half an inch inside of right nipple.

November 8th. Patient had much dyspnoea for a short time a few days ago. Sat up a little while today, and feels better for it.

November 13th. Patient walked forty or fifty feet yesterday. Sits up a few hours each day.

Physical examination. Left side of chest measures an inch more than right from spine to sternum. Right side of chest normal, except that the beat of the heart is heard and felt most distinctly in mammary line, one and a half inches below the right nipple. The left front is tympanitic, but less so than formerly. Faint, low-pitched respiration over left side, with occasional metallic tinkling, after movement. Absence of vocal fremitus on left side. Flatness over lower half of left back, with absence of respiration. Faint respiration above. Bronchophony slightly marked.

Operation. Aspirated below inferior angle of scapula, and twenty-two ounces of clear serum withdrawn. Only a slight amount of air came over. Some faintness during aspiration, but no cough at that time. In the afternoon, apex beat one and a half inches below and about one inch to left of right nipple.

Physical examination after the aspiration. Slightly marked tympanitic resonance over left front, with faint, low-pitched respiration and abundant metallic tinkling in all parts. Flatness, absence of respiration, and indistinct bronchophony over lower third of left back. Faint respiration over upper part. Absence of vocal fremitus on left side.

November 28th. Feeling much better. Moves about more easily. Omit champagne. To have eight ounces of sherry daily.

December 12th. Sits up every day, and walks about a little.

Physical examination. Tympanitic resonance over sternum and left side of chest, and for a couple of inches to right of right border of the sternum. Faint, low-pitched respiration, with very abundant metallic tinkling over left side of chest. Metallic tinkling over sternum, and two inches to right of its right border. Puerile respiration over whole right side of chest. Flatness and absence of respiration over lower half of left axilla.

December 20th. Complains of great weakness. Respirations rapid.

December 21st. Face and hands livid. Failing rapidly.

December 22d. Died at 9.30 p. m.

December 24th. Autopsy forty-two hours after death.

Left side much distended, and intercostal spaces obliterated to the sight. Arch of diaphragm at upper edge of sixth rib on right side. On the left side arch bulged down (perfectly tense). On carefully puncturing the pleura under water a large amount of air bubbled up through the water. The left lung was almost completely retracted, and the pleura contained fifty ounces of turbid fluid. The left lung was quite solid with catarrhal products, and contained isolated nodules; a large cavity at left apex, with an opening about the size of a nickel cent into pleural cavity. On inserting a tube into trachea and blowing, the air came freely through this opening. Right lung normal. The heart was found to be displaced to the right of sternum, and also rolled on its own axis in such a way that right auricle came behind and was overlaid by the left ven-

¹ Read before the Boston Society for Medical Improvement, June 14, 1880.

tricle. The greater part of the left ventricle was directed to the front, and looked at anteriorly it presents a greater surface to the eye than the right. The right pulmonary vein was pressed on, on account of the malposition of the organ. The pulmonary artery was evidently stretched. The aorta was apparently not in a position to obstruct the circulation. The liver and spleen were engorged with blood. Me-enteric glands enlarged, and some of them in a scrofulous condition. Small gray tubercles on surface of the small intestine. Tuberculous ulcers in small intestine.

This history, taken with omissions from the hospital records, may be made plainer by a short commentary. It is the history of a healthy lad, with no hereditary taint, who, after exposure, is admitted to a hospital ward, with acute catarrhal pneumonia in its fifteenth day. The chief symptoms are in the left lung; there is a friction rub in the lower left back, of which I find no further record in the journal or the autopsy. The heart gives out a systolic murmur, loudest at the apex. On the twenty-third day of the disease no friction sound is heard anywhere, but on the thirty-second a loud rub was noted over the left side. On the thirty-seventh day metallic tinkling is observed with each heart beat and over the left front. He continues to fail, and night sweats are troublesome till checked by atropia. On the fifty-eighth day the pulsation of the heart is heard plainest an inch below and half an inch inside of the right nipple. On the sixty-sixth day he has more dyspnoea than usual, but sits up and walks about a little. On the seventy-sixth day the heart appears crowded into the right side of the chest; the left side is an inch larger by measurement than the right; less tympanitis; metallic tinkling when he moves; absence of vocal fremitus; and flatness, with absence of respiration, in lower half of left back, and little bronchophony. Aspiration withdraws but twenty-two ounces of serum, with a few bubbles of air following, and alters the position of the heart but little, if any. The temperature never rises higher than on the nineteenth and on the seventy-fourth days, namely, 103° F., the latter being two days before aspiration was performed; on the seventy-fifth it falls to 102° F., after the aspiration to 99.2° F., and on the fourth day after the operation to 102.3° F., which is thenceforth never exceeded. He died on the one hundred and fourteenth day after he was taken ill.

The autopsy confirmed the observations made during life. The opening from the lung into the pleura at the time of death was large, and at the top of the lung. The heart was in the right chest, and wonderfully twisted almost around. The mesenteric glands were swollen and diseased, and small gray tubercles were seen on the small intestine, which contained tuberculous ulcerations.

On the thirty-second day there was no evidence of air in the pleura, a loud friction sound being first recorded then. On the thirty-fifth the signs of air were noticed over the sternum when the physician was listening for heart sounds. No special rational signs, as is sometimes the case, gave warning of this grave lesion, which generally occasions acute distress.

The interest of the writer was so much engaged by this case that he has thought it worth while to bring it before the society. Although the conditions which have been detailed are not uncommon, yet it has not happened to the author in nine years of hospital experience to see a similar aggregation of symp-

toms. The literature of these affections is, however, so copious that very little if any original work may be done in this direction, and whatever observations have been made in studying this case have been anticipated many years by several writers.

The appearance of air in the pleural cavity about the thirty-third day seemed early: it may, however, be detected at any stage of disease of the lung. It may even be an early symptom of pulmonary lesion, as in the case reported by Dr. Angus McDonald.¹

PNEUMOTHORAX AS AN EARLY SYMPTOM OF PULMONARY DISEASE.

Dr. Angus McDonald reports three cases of pneumothorax occurring as an initial symptom of lung disease: in one case as a complication of tubercular phthisis before it had reached the second stage; in the other two cases altogether independently of tubercle, — certainly in the one as proved by autopsy, and presumably in the other from its very successful issue.² It is also not infrequently the result of accident.

PNEUMOTHORAX.

Dr. H. M. Church, at a meeting of the Medico-Chirurgical Society of Edinburgh, related the particulars of a case of pneumothorax coming on suddenly in a hammer-man, thirty-seven years old. He had gone out to work in the morning as well as usual; an hour afterwards he was in a state of collapse with extreme dyspnoea, and the right side of the chest appeared to be enormously distended and was tympanitic. A canula introduced into the right pleural cavity allowed a quantity of air to escape with a hissing sound, and gave almost immediate relief. Dr. Church believes that a communication must have been established between the pleural cavity and the interior of the lung through the giving way of an aggregated mass of emphysematous air cells.

A piece of linen dipped in carbolic-acid solution was placed tightly over the end of the canula, and by holding the finger over the orifice during inspiration air was prevented from entering, while it was allowed free exit during expiration.

A case where recovery took place, after dislocation of the heart and pneumonia, seems to be worth citing, particularly as the air was unaccompanied by effusion. It is reported in the St. Petersburg Medical Wochenschrift, 1879. A sailor fell from aloft, striking on his back. There was detected left pneumothorax, with no fluid. The apex beat was heard in the outside of the right sternal border. The pulmonary and aortic vessels were distinctly heard, especially on the left side, as loud bellows sounds. There was no pain, but intense dyspnoea. On the third day the heart and lungs returned to their places, and the cardiac and vascular sounds became normal. Dry pleuritic sounds next were heard everywhere; the lower lobe (left?) became pneumonia, involving in time the whole lung. On the sixteenth day he was convalescent, and at the end of three months no symptoms remained.

Variety in the appearances of this lesion is further shown by a case where, after death, no perforation could be discovered.

PYO-PNEUMOTHORAX LATENS SINISTRI.³

The author reports a case of pyo-pneumothorax in a weak child of seven years, with the well-known symp-

¹ Edinburgh Medical Journal, February, 1877.

² Edinburgh Medical Journal, February, 1877.

³ By Professor Ritter, of Prague.

tooms. A remarkable circumstance was that in the dissecting-room no trace of an opening was found. The author explains the cause of this. It was pyo-pneumothorax from a hemorrhagic infarct. The patient suffered from a hemorrhagic diathesis, with gangrene, in consequence of which a softening of the infarctus and a rupture of the pleura (pleuritis) followed. The seat of rupture was rapidly closed, and the lung was so compressed that it could not be discovered fifteen days later.¹

I cannot help referring to

A CASE OF PERITONEAL EFFUSION SITUATED ABOVE THE LIVER AND PENETRATING INTO THE RIGHT LUNG, WITH THE SYMPTOMS OF A PYO-PNEUMOTHORAX OF THE RIGHT SIDE.²

The author observed a girl, aged twenty-three, with high fever and violent piercing pains in the right side of the thorax, accompanied with great dyspnoea. After a careful examination the diagnosis of a pleuritic effusion was made, and six days later pneumothorax was observed, there being amphoric breathing and succussion sounds. Thoracentesis was performed by means of Potain's apparatus, and one thousand ccm. of a thick fetid pus were removed. During the operation sudden dyspnoea set in and death ensued.

The autopsy revealed a cavity of the size of a child's head, which was limited by the diaphragm to the left side, by the suspensory ligament of the liver below, by the surface of the right lobe of the liver outwards, and by the union of the abdominal wall with the duodenum anteriorly. The base of the right lung was adherent to the diaphragm, and in the middle of this adhesion a fistulous opening, about the size of the point of a needle, was found between the air passages and the isolated cavity, as well as the ulcerations of the stomach and duodenum. The author explained the course of the disease in the following manner: The ulcer of the duodenum penetrated into the upper part of the peritoneal cavity and affected a circumscribed purulent effusion. This caused adhesive inflammation of the pleura and diaphragm, and subsequent perforation.³

Most nearly resembling our patient's⁴ is a case reported by Dr. Brakenridge, of Edinburgh, in which, after fibroid phthisis and contraction of the right lung, there was displacement of the heart upwards and towards the right, and angular bending of the aorta, with dilatation of the angle simulating aneurism, as he says, hitherto undescribed. The patient had (1) pleurisy; (2) phthisis pulmonalis; (3) pulmonary emphysema; (4) displacement of the heart upwards toward the right, with consequent doubling and aneurismal dilatation of the aorta; (5) persistent diarrhoea from phthisical ulcerations of the intestines; (6) faecal obstruction of the bowels, due to a malignant fungating growth; (7) peritonitis, with rapid and abundant effusion of fluid; (8) cirrhosis of the liver,—not to mention some diseases of less importance. There was (1) percussion dullness over a well-defined area; (2) well-marked distensible pulsation and double impulse; (3) two sounds, a systolic murmur and an accentuated second sound; (4) thrill,—besides the indubitable rational and physical sounds of phthisis.

Autopsy. Heart much uncovered, owing to extreme contraction of right lung. Corresponding to the

pulsating dullness mapped out during life was a membranous sac, in direct contact with the chest wall. This sac was continuous with the pericardium, and was in fact the right upper portion of the pericardium, displaced outwards, upwards, and to the right. It occupied the space left anteriorly by the contracted upper lobe of the right lung.

In looking for references to this condition of the chest, I find them summarized as follows in Dobell's Reports Dis. of Chest, iii., 213:—

Pneumothorax (by H. Bernheim). **Concessions:** (a.) Perforative pneumothorax, though an exceedingly serious affection, by whatever cause produced, may possibly be cured. The fistula may become closed, either by pleuritic effusion and the formation of false membranes, which is the more common case; or by pressure from simple effusion, without any membranous products; or, in the absence of all effusion, by membranous formations and adhesion of both pleural layers. (b.) The fistula may rapidly close. Its duration, indeed, may not exceed a period of a few days. Often, however, it lasts a couple of months, or even longer. (c.) Tubercle complicated with pneumothorax may continue to evolve very slowly, and it may even remain stationary. Nevertheless, the favorable influence of pneumothorax, the presence of which has been said to suspend tubercular development, is not yet demonstrated. (d.) If effusion supervene to pneumothorax, it will be advisable, in the absence of all urgent indication, to wait, during one or two months, for the obliteration of the pulmonary fistula. If after this time the effusion has not disappeared, thoracentesis should be performed. (e.) In the case of empyema, repeated thoracentesis seldom proves satisfactory. Sometimes, however, iodic injection after tapping has given good results. (f.) Even supposing that the closure of the fistula were doubtful, the evacuation of the pus should not be delayed too long. The fistula in fact has been seen to close only after several punctures had been performed. Iodic injection, by irritating the pleura, may very possibly favor that connective reformation which determines curative adhesion. (g.) In most cases repeated thoracentesis, even when followed up by iodic injection, is found powerless against empyema secondary to pneumothorax. Permanent opening of the pleura by means of a large incision, that is, pleurotomy, should then be resorted to. (h.) Fœtor of the pus at once requires pleurotomy to be performed, and the pleura should be injected and washed out with some carbolic solution. (i.) In some cases, effusion consecutive to pneumothorax may for a long while remain serous. As a rule, the presence of fœtor in empyema is rare. In those cases in which empyema is primary and the pulmonary fistula secondary, putrid decomposition is of more frequent occurrence than it is in the case of primary fistula. The reason of this difference is that, whenever tubercular softening produces broncho-pleural fistula, the pleural cavity becomes distended with air by which the lung is displaced. So that the fistula may either be flattened by pressure, or it may allow muco-pus to escape through it to the bottom of the pleural cavity. Subsequently, the pleura, being irritated by the contact of air, will secrete either serum or pus. In fact, the superposition of hydro-pneumothorax to the formation of pneumothorax is unavoidable. This secondary effusion will accumulate in the inferior cul-de-sac of the pleura, the cavity of which contains two fluid layers,

¹ Prager medic. Wochenschrift, 1876, Nos. 24, 25.

² By Dr. Pöhl, Assistant to Professor Leyden's clinic, in Berlin.

³ Berliner klin. Wochenschrift, 1877, No. 5.

⁴ In the Lancet of 17th January, 1880, page 80.

namely, a liquid one below, and a gaseous one above. Those two layers are superposed to each other, not mixed together, so that the effusion is not churned up with air. If the quantity of liquid happen to increase, this will compress and displace the lung so as to occlude the fistula. M. Bernheim has never met a case in which pleuritic effusion secondary to tubercular pneumothorax was eventually expectorated through the lung. Whenever, on the contrary, the presence of primary empyema determines the subsequent formation of pulmonary fistula, the pus is immediately sucked up into the bronchi, and is ejected in torrents. The fistula in this case is steeped with pus, and this liquid, being continually churned up with air during inspiration and expiration, ebbs and flows with the air tubes; so that each pus globule is, so to say, brought in contact with numberless atmospheric germs, a fresh supply of which is carried into the lung by each inspiratory movement. No wonder, then, that these globules rapidly undergo putrid fermentation, which spreads to the whole of the pleuritic contents. Hence rapid supervention of gangrene and more urgent necessity of early intervention. From all this, however, it should not be concluded that empyema, whenever it breaks into the bronchi, causes putrefaction to develop. Observations, by no means rare, are on record in which bronchial evacuation proved curative. I can supplement this with a case of my own. A young Irish laborer had pleuro-pneumonia. On the fourteenth day from the initial symptom, the left chest was full of pus. I was about to tap him at that time, when the matter burst up into the bronchi, and enormous quantities of the most fetid liquid were discharged. He made a rapid and complete recovery. Thus in some instances the fistulous opening may be so narrow that the effused fluid can escape only little by little, and without allowing the entry of air into the pleural cavity. In other cases this orifice may present a valvular disposition, owing to which nothing can escape through the aperture except in the direction from the pleura to the bronchus. Again, the pleural cavity and the bronchus may communicate with each other by means of a canal so tortuous that pus can escape into the bronchi only with difficulty and intermittently. It is chiefly in the case of free and persistent communication between the continuously secreted pleuritic pus, on the one hand, and pulmonary air, on the other, that rapid putrefaction can supervene. Lastly, the formation of fistula may be due to some corrosive properties of the pus. In this case, the surface of the lung, ulcerated and necrosed, may present several fistulae. But the necrosed parts readily become gangrenous.¹

ANALYSIS OF A GAS IN PNEUMOTHORAX.

Dr. Kretschy. The analyses heretofore made have shown nitrogen, carbonic acid, sulphureted hydrogen, and traces of oxygen. In this case there was, beside these named, also marsh gas (*swampy gas*). Woman, aged twenty-eight, had while in childhood pleuritic effusion; thoracentesis was performed; ten days after it pneumothorax with great cyanosis set in. The patient breathed with only the right lung. The left one was shorter and more prominent on the anterior and lateral side. Heart displaced. The great dyspnoea at last caused the author to make an incision upon the most prominent point, and to withdraw the gases by means of Dieulafoy's apparatus. Patient died the following

day. The gas was examined in Professor Schneider's laboratory. The portion of gas put into the combustion tube, and free from carbonic acid and St_2 , burnt by means of oxygen and hydrogen gas, and proved to be marsh gas (*swampy gas*).²

Dr. Ewald demonstrated³ his easy method for determining the nature of the gas contained in the pleural cavity in pneumothorax. The quantity of carbonic acid in the gases contained in a pneumothorax is in an inverse ratio to that of oxygen, and if the opening remains less carbonic acid will be found. If the opening is closed oxygen is gradually absorbed, whilst it always re-forms if the opening remains. The analysis of the gas of the pneumothorax gives an important diagnostic sign of the condition of the perforation. If ten per cent of carbonic acid is found, it is to be supposed that the opening is closed; if five and below it is open. And this relation is also very important in regard to the treatment. If the perforation is not closed a thoracentesis can be made only as a palliative measure; if it is closed, then the operation will afford a complete cure of the pneumothorax, with re-expansion of the lungs.

Dr. Ewald makes a trial puncture, and withdraws a syringeful of the gas. This is introduced into a burette filled with a solution of salt, and immersed in a flat vessel which contains the same solution. After the gas has ascended into the solution and is heated, its volume is determined. A little piece of caustic potash is put into the burette, which is closed with the finger and inverted. The caustic potash now comes in contact with the gas, which at the same moment is deprived of carbonic acid. If the burette is now replaced and the finger removed, part of the solution in the vessel enters into the burette instead of the absorbed carbonic acid. The gas has a diminished volume, and by the difference of both volumes the volume of carbonic acid and its percentage is determined.⁴

Dr. Cutler has kindly offered to supplement the case by comments on the autopsy, with the specimens and details of his experiments.⁵

CASE OF "RODENT ULCER," LIGATURE OF CAROTID ARTERY. RECOVERY.

BY FAIRFAX IRWIN,

Assistant Surgeon United States Marine Hospital Service.

JOHN HANSEN, seaman, aged forty-three, native of United States. Was admitted to the citizens' surgical ward, City Hospital, September 13, 1879, suffering from a large spreading ulcer occupying the whole of the right side of the face. Very little of the patient's history could be obtained at this time. The following was made out some months subsequently, during convalescence:—

He had never suffered from any disease except yellow fever and gonorrhoea, and stated that he had never received any injury to the face. He first noticed a small pimple on the inner side of the right auricle in the month of June, 1879, which slowly increased in size; would scab over and go on spreading beneath the crust, until at last it attained the size of a silver quarter, and was exceedingly painful.

He was under the care of a physician in Charleston for a short time, but being told that he had cancer he

¹ Wiener med. Wochenschrift, 1876, No. 32.

² Berliner medicinische Gesellschaft, January 10, 1877.

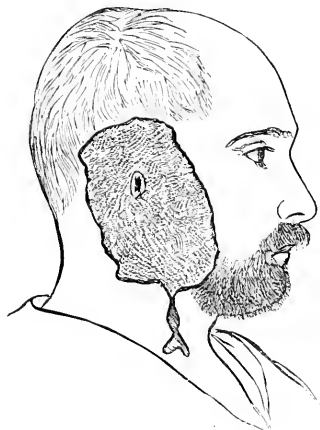
³ Med. Chir., Runtschian, 1877, No. 3.

⁴ See report of Medical Improvement Society in this number.

⁵ Leçons de clin. Médéc., 1877, page 126, et seq.

became very much alarmed, and about the first of July went to Cainhoy, S. C., and put himself into the hands of a quack living at that place. He remained in Cainhoy during July and August. The sore was treated with some kind of "salve," the application of which was so painful that he could not sleep at night unless it was removed. The "doctor" informed him that the "salve" was intended to "burn out" the cancer. About the first of September he returned to Charleston, the ulcer having at that time increased so as to occupy the whole of the right cheek, six by eight inches in size, and had spread down the side of the neck on the inner border of the sterno-mastoid muscle. At that time he suffered no pain, his appetite was unaffected, and his general health was not at all impaired.

He was admitted to the City Hospital September 3, 1879, under the care of Dr. Michel. A few days subsequent to this a slight hamorrhage, which was con-



trolled by pressure, took place from the ulcer on the edge of the sterno-mastoid muscle, but on September 13th an alarming recurrence of the bleeding took place, and Dr. Michel being summoned ligated the external carotid artery just above the bifurcation. From this time Hansen was treated with dressings of carbolized oil to the sore, which would take on the healing process for a few days, and then break down and spread to its former site.

November 3d. Being a sailor he was transferred, at his own request, to the United States Marine Hospital wards, then under the charge of Assistant Surgeon W. C. W. Glazier, who was relieved by myself November 7, 1879. At this time the ulcer was very large, and increasing in size; it extended from the upper edge of the temporal process downward to the inner side of the chin and upper part of the neck, backward to the edge of the trapezoid muscle, and forward to the outer angle of the orbit. The auricle was entirely gone. The site of the ligature around the artery was suppurating profusely, and a large spreading ulcer had made its appearance on the index finger of the left hand. The patient had a good appetite, and his general health was excellent.

He was ordered iodide of potassium, one grain thrice

daily; the ulcer was thoroughly cauterized with nitrate of silver, and dressed with oxide-of-zinc ointment. From this date the iodide was gradually increased from three to nine grams daily, taken with compound tincture of cinchona.

The sore while healing in one direction would ulcerate in another, being serpigulous in its character. Whenever this tendency was manifested the silver nitrate was used, sometimes as often as three times in the day, and always once a day. The sore on the finger was first wiped out with caustic potash, and then treated in the same way.

January 10th, 1880. Portions of necrosed bone being visible, the mastoid process and a part of the superior ramus of the lower jaw were removed, and from this time the ulcer healed more rapidly. A little later a slight hamorrhage took place from the lower part of the ulcer; a small vessel having been opened, the torsion forceps were used, and the bleeding was arrested.

February 1st. The ulcer on the finger was entirely healed, that on the face being about two by four inches in size.

March 1st. Facial ulcer entirely healed, and the patient discharged, recovered. He was kept under observation until April 5th, and at that time there was no sign of recurrence of the disease.

It seems fair in this case to attribute the recovery to the large doses of potassium iodide used, as there was no sign of healing until this drug was prescribed, and the more it was pushed the more rapidly the healing process went on. Fortunately, at no time was any intolerance of the iodide shown. The progress of the case, the absence of all constitutional trouble or lymphatic infection, and the result seem to indicate a diagnosis of rodent ulcer, or possibly lupus exedens. Mr. Gay, of London, in the London *Lancet* for December, 1871, reported an interesting case of lupus exedens treated successfully by large doses of iodide of potassium, and in February, 1872, the same journal reported in relation to the case that the cure was complete.

U. S. MARINE HOSPITAL OFFICE,
CHARLESTON, S. C., April 7, 1880.

DIAGNOSIS OF THE POSTURE OF THE CHILD IN UTERO.

BY JAMES O. WHITNEY, M. D., PAWTUCKET, R. I.

The popular opinion that the child in utero may readily change its position is an error, except in cases where the quantity of amniotic fluid is very great in proportion to the size of the offspring. In the early months of pregnancy this proportion is far greater than later, and then, no doubt, the fetus may change its presentation. Why, in the very great majority of cases, it assumes the "first position" of obstetrical writers is not a part of this communication; the fact is merely cited. As is well known in this case, the back of the child lays against the mother's left flank; its abdomen presents to her right flank, with its pelvic extremity of body upwards, and usually to the left of the median line of her body. The second position is the reverse of this, to wit, the child's back against the mother's right side, and its abdomen to her left, the vertex down in the pelvis. To ascertain which of the two presentations exists in a given case, assuming that the mother is not obese, and that there is about the

usual quantity of liquid surrounding the child, is not a difficult problem when once the fingers are taught,—the *tactus eruditus* acquired. On the side that presents the greatest degree of firmness there the child's back lies; the abdomen of the child gives a notably less hard feel to the mother's flank to which it is applied. This fact is very palpable in the most of cases, so much so that removal of ordinary clothing is not required to demonstrate it. The feeling of firmness is greatest below, and lessens as the child's body is traced upward towards its pelvis. Where the child's back lies there the mother, if delicate, has a sense of weight, but no motions are perceived by her in this locality. Motions are felt by her on the side towards which the child's abdomen is turned, for they are made by its upper and lower extremities. No little dexterity in cross-questioning is often required to bring out the location of the motions,—the little blows of the feet and hands of the child against the uterine walls. There is a pushing or crowding feeling made by the child's pelvis (or vertex) high up, with "a bunch." These two kinds of motions must be clearly distinguished from each other, and it is rare that a patient, when her attention is pointedly called to the difference, cannot recognize it; if she fails to do so the chances are that the fault is with the questioner. So that if we find the mother's abdomen is firmer to the touch on the left, low down, that the little motions are on the right, the pushing of the child's pelvis high up and to the left, the first position exists; but to confirm it place the ear where the mother's abdomen is the firmest, and the child's heart-beat will be found. And if the pulsations of the child's heart are on the right (below the line of the mother's navel), and here it is found firmest to the touch, the blows of the child's feet and hands on the left, and this last locality notably softer to the touch, we may predict for a certainty that it is in the second position. Usually it is easy to distinguish between the head of the child and its pelvic extremity by touch alone in the upper part of the abdomen; but the safest mode is to place the patient upon her back, and, the knees being drawn up, with the fingers of both hands, one on either side, press somewhat firmly into the pelvic cavity just above the pubes, and the child's head can be made out. It is lower than if the pelvis is downward. In cases of great obesity of the mother a doubt might remain; if it is a point of great importance the vaginal touch should also be practiced. These simple rules, clearly understood, are the key to the whole art of diagnosing the posture of the child in utero by external manipulations. Familiarity with them will enable any one to decide in a moment the existence of twins or a cross-presentation in the majority of cases. To recapitulate: that portion of the patient's abdomen which presents the greatest degree of firmness to the touch is the locality of the child's back; here also is found its heart pulsations. No motions exist here, but there may be a sense of weight, and perhaps a slight pushing. Opposite the child's back its abdomen must lie; here the mother's abdomen is far softer than where the child's spine is applied, and here also are the little motions of the child's feet and hands.

The scope of this paper does not include details of diagnosis of all possible positions of the child in utero, but it is believed that the landmarks here given are sufficiently complete to lead to the most satisfactory results attainable in actual practice. These rules may

be followed any time after the seventh month of pregnancy as unerring guides. The JOURNAL contained a communication upon this topic four or five years since¹ (I think from Dr. A. O'Donnell, of Charlestown) that is the best I ever have seen, but it is far too prolix for a beginner. My landmarks once mastered, his article may be easily comprehended.²

RECENT PROGRESS IN OTOLGY.

BY J. ORNE GREEN, M. D.

CHOLESTEATOMA OF TEMPORAL BONE.³

THE patient, aged fifty eight, as the result of caries of the petrous bone from tympanic inflammation developed an abscess in the right temporal lobe of the brain, over the diseased bone, from which he died. The autopsy is given in full, but the chief points of interest are that the whole of the interior of the petrous bone, except the labyrinth, was converted into a large cavity filled with cholesteatomatous masses, the external osseous shell remained outside of these being sclerosed.

Microscopic examination of the masses showed necrosed epidermic cells, some with and some without nuclei; between these were the irregular, round-cornered, lustrous corpuscles which have been described by Virchow and Lucae, with small plates of cholesterine. The thickened mucous membrane from the tympanum showed a thin layer of yellowish epidermis, beneath which were the Malpighian cells, partly extending into the mucous membrane in undulating lines, partly investing papillary prominences of the mucous membrane. The mucous membrane itself was infiltrated with numerous round cells and had large vessels; its tissue stained quickly with iodine, while the Malpighian cells and epidermis remained uncolored.

This epidermoid metamorphosis of the epithelium of the mucous membrane has already been described by Wenot and Schwartz. The case without doubt belonged to those in which, "during a chronic purulent otitis media, the normal epithelium of the mucous membrane of the drum cavity, the mastoid antrum, and the mastoid cells undergo the above-mentioned metamorphosis; the stagnating masses of epidermis are constantly increased by new depositions, and exert, partly by pressure, partly by their products of decomposition, a continuous inflammatory irritation, perhaps also a direct chemical influence on the surrounding bone. Then a partly sclerosing, partly rarifying, osteitis occurs, and, under favorable conditions, the bone is perforated."

ROUND-CELLED SARCOMA OF THE TYMPANUM.⁴

Hartmann describes a case which from its great rarity should be noticed. A boy three and one half years old, healthy and of healthy parents, without previous pain or inflammatory symptoms, had a serous discharge from the right meatus, and two weeks later the meatus contained a tumor, which was supposed to be an ordinary polypus. On removing this, with the snare, four weeks from the beginning of the discharge, the deeper meatus was filled with other similar growths, resembling granulation tissue, springing from all parts of the deeper meatus and tympanum; the drum membrane and ossicles had been

¹ May 16, 1872.

² We would refer our readers to the work of Dr. Mundé, *Obstetric Palpation*, recently published by William Wood & Co., New York.

³ H. Steinbrügge, *Archives of Otolaryngology*, March, 1880.

⁴ *Archives of Otolaryngology*, March, 1880.

destroyed. Proliferation from the remnants of the growths occurred very rapidly. The parotid, the mastoid, and infraauricular regions became swollen, suppurated and were opened; but other tumors formed about the ear, till at the end of five months a tumor, the size of a goose egg, had developed about the auricle, and there was a marked prominence in the right side of the fauces. At the end of six months the patient succumbed, on the appearance of convulsions and coma.

The upper and posterior walls of the meatus, the roof of the tympanum, and part of the squamous bone had been destroyed by the tumor, which consisted of several lobes, and measured fourteen cm. in length, twelve cm. in breadth, and nine cm. in height. Through the opening in the bone the tumor projected into the cranial cavity 1.5 cm. The mastoid was filled with the growth, but the labyrinth was healthy; all the ossicles had disappeared except the stapes, which was imbedded in the mass of the tumor.

From the fact that sarcomatous tumors spring from connective tissue, Hartmann considers that this probably originated in the submucosa of the tympanum. Microscopically it belonged to the soft sarcomas, which are of rapid growth and soon terminate fatally.

PRIMARY EPITHELIAL CANCER OF THE MEATUS.¹

A case of primary epithelial cancer of the meatus is described by Delstanche, which began as a small nodule upon the inner surface of the right tragus, accompanied by severe pain in the ear and over the side of the head. This soon ulcerated, destroyed the tragus, and extended into the meatus, leaving a surface destitute of epithelium and covered with small growths resembling granulations, which on microscopic examination showed the characteristics of epithelial cancer. At the end of eight months the patient died, having gradually lost the sight of the right eye, the sense of taste and smell; the disease having steadily progressed till nearly the whole of the temporal and sphenoid bones had been destroyed.

AFFECTIONS OF THE EAR IN TYPHUS FEVER.²

Hartmann gives the results of his examinations of the ears in typhus fever, taken during an epidemic of that disease in Berlin, in 1869, the examinations being made during convalescence. In fifteen per cent. death ensued during the febrile stage, and these cases are not included in the tables, although examinations were made in them enough to show that the affections of the ear were the same in the severer cases as in the milder ones.

Patients examined	130
Patients with disease of the ear	42
The latter were as follows:—	
Impacted cerumen in meatus	6
Intumescence of tube with catarrh of the tympanum	14
Acute otitis media without perforation	4
Acute otitis media with perforation: double-sided in 3, one-sided in 6, of which 2 showed mastoid periostitis, and 1 periostitis with granulations of the meatus	9
Increase of noises and deafness, which had existed previously	3
Recurrence of previous otorrhoea	1
Noises without abnormal condition	2
Affection of labyrinth	3
	42

¹ Archiv für Ohrenheilkunde, vol. xv., 1, Delstanche (Hls.).

² Affections of the Ear in Typhus Fever, Archives of Otolaryngology, March, 1880.

ANTISEPTIC TREATMENT OF SUPPURATION OF THE MIDDLE EAR.³

Perfect disinfection of the whole wounded surface and complete closure from the air, which are the two chief conditions of an effective antiseptic dressing, seem at first sight to forbid the application of these principles to diseases of the tympanum, for it is impossible either to close the Eustachian tube hermetically, or to disinfect all the irregularities of the tympanum and mastoid thoroughly. Surgery, however, Bezold says, has these same conditions to deal with in the neighborhood of the mouth and nose, around the genitals and the anus, and yet experience shows that in these parts an incomplete antiseptic dressing is of value.

Disinfection by syringing with potash permanganate and carbolic acid has been in use for a long time, and Von Troeltzsch has recommended that the meatus be closed with charpie saturated with carbolic or salicylic acid, in order to prevent the deposit of new spores after the inflamed surface has been thoroughly cleansed.

In selecting an antiseptic for the ear it is necessary that it should not be irritating to the mucous membrane of the tympanum, and also that it should not form deposits either by itself or by chemical union with the natural secretions, as such deposits often act as mechanical irritants.

Carbolic acid, although useful in one half to one per cent. solution for cleansing, in cases of caries or necrosis, is not well borne, according to Bezold, by the tympanic mucous membrane in uncomplicated purulent otitis media; for, from its use in such cases, the mucosa becomes more swollen and the secretion is increased.

In chronic suppuration of the tympanum, Bezold found the use of salicylic acid, especially in alcoholic solution, useful; but the same is not well borne in acute cases. Thymol acid, he says, is also non-irritating, but his experience of it was slight, and he does not speak of results.

After experimenting with all of these, however, with more or less success, Bezold has given them up since learning the virtues of boric acid, which he considers equal to any of the other substances as an antiseptic, and it has the advantage over them of producing no reaction of the tympanic mucous membrane. Boric acid has been long in use in Sweden as a secret remedy, under the name of aseptin, but was first brought into notice by Lister, in 1875, since which time it has been very extensively used in the clinic of Professor Nussbaum, and found to give equally good results as carbolic acid.

After first trying a saturated solution of the acid, and getting no better effect than from similar solutions of the other antiseptics, Bezold tried filling the meatus with finely pulverized boric acid; and, as the result, he asserts that this method of treatment is so much more certain and so much quicker than other methods that he now uses it in every case of suppuration, either of the meatus or tympanum, and also after lesser operations, such as the removal of polypoid granulations, cauterizations, and paracentesis. With caries of the bone it is not as effectual as in the uncomplicated cases, which would be expected. He does not consider that it supplants but rather assists other methods of treatment, like the antiseptic dressing in surgery; cauterization of granulations, removal of polypi, etc., are as necessary as ever.

The meatus and tympanum are first carefully

³ Archiv für Ohrenheilkunde, vol. xv., 1, Bezold.

cleansed with a four per cent. solution of the acid, then dried thoroughly, and finely pulverized boracic acid blown in over the suppurating surface; the meatus is then closed with salicylic, carbolic, or boracic cotton, which should be renewed as often as it becomes moist from the discharge.

Statistics are given to show the favorable action of this treatment upon twenty-nine cases of otitis media purulenta acuta; the average duration of the otorrhea in these was only thirteen days. Of one hundred and sixteen cases of otitis media purulenta chronica, the average duration of treatment to the cessation of all discharge was nineteen days.

The pulverized acid has the advantage of producing no reaction on the mucous membrane, of withdrawing the water from the membrane, which keeps a concentrated solution in contact with the inflamed surface, and of not forming coagulations with the secretions. In cases of otorrhea complicated by phthisis of the lungs Bezold found that the acid had no effect upon the discharge.

Since the appearance of Bezold's paper boracic acid is highly spoken of by Bückner¹ for the conditions described in the original paper and also as a local application for eczema. The experience of the reviewer, who has used Bezold's treatment very extensively for the last year, is also extremely favorable.

In a short article by Dr. Atkinson² attention is called to the use of boracic acid as a local application in diphtheria and as an internal remedy. He also quotes from Drs. Cassar Stuart and Malcolm Simpson, to show its action upon disease germs: "Pieces of membrane (diphtheritic) which had been brushed with a saturated solution of boracic acid, when placed on the warm stage of the microscope, showed the characteristic bacilli; but these were absolutely innocuous, and instead of lengthening into spore-bearing filaments, micrococci, bacterium, termo or torula appeared in their stead."

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. ROTCH, M. D., SECRETARY.

JUNE 14, 1880. DR. JAMES C. WHITE, permanent chairman, presided.

DR. C. ELLERY STEDMAN read a report of a case of Acute Catarrhal Pneumonia, followed by Hydro-pneumothorax and Extreme Dislocation and Rotation of Heart. (Published elsewhere in this number of the JOURNAL.)

DR. BOWDITCH regretted that he could not coincide entirely with the views of the reader of the paper and in the title given to it. Dr. Bowditch had come to the meeting with a desire to understand precisely how a bronchitis could produce pneumohydrothorax. He said that he had never seen a case of that nature. He would have liked a more detailed account of the earliest stages of the case, and especially of the previous condition of the patient. Oftentimes, people call themselves perfectly well, when, on close inquiry, it will be found that some function of the body has been, for some time more or less, perhaps very slightly, altered,

yet enough, when taken in connection with the subsequent serious or perhaps fatal result, to indicate an undermining of the health long before the apparent first attack of disease, and even when the individual may not allow that he has been at all unwell. In the present instance, for example, a single fact, of the nature alluded to, might have explained the whole in a different way from that given by the writer, and suggested tuberculosis threatening rather than simple inflammation.

The autopsy proved that there was a cavity at the apex of the lung, and there were distinct tubercles in various other organs of the body, and "scrofulous" mesentery glands. On the condition of the right lung Dr. Bowditch was undecided; but during the reading of the autopsy, he had not heard it definitely stated whether or not tubercles were found therein. But even without this information, Dr. Bowditch could not but regard this case as one of tuberculosis. That was its *fons et origo*, although inflammation, bronchitis, and pneumonitis might in parts have been connected with the tubercles. But the statement that bronchitis was the cause of the pneumothorax and subsequent heart displacement, etc., was hardly allowable, according to the pathological views advanced by Louis and Laennec. Dr. Bowditch, however, confessed that, under the modern German investigations, he had quite given up all thought of accurately diagnosing before death (and, it might be also said, even at an autopsy) whether tubercles existed in any special case. The words *bronchitis* and *pneumonia*, though conveying very precise ideas formerly, were far from giving any such clear notions now. Niemeyer had, at times, capiously criticised Laennec, yet if we may trust to the accurate examination of such men as Charcot and others equally well known in modern France, the views thus scolded at by Niemeyer were really essentially correct. Dr. Bowditch thought that the fame of Laennec and many of his pathological statements of tubercle and bronchitis and pneumonitis would last when Niemeyer's would have been either wholly superseded or very materially modified. It was certainly strange, for example, that the two following cases should be styled, equally, *bronchitis*. Let us suppose that in both you find general pulmonary symptoms of the same nature, but in the one case that you hear mucous and sonorous râles (evidently "general bronchitis") throughout both lungs, from top to bottom, front and behind. Usually, you may tell such patient that with ordinary care, by avoidance of all improper exposure and the simplest of remedies, or perhaps none at all, he will soon get well. But let the same or even less rational pulmonary signs be present, and that these same râles, mucous or sonorous, are limited to the smallest space at the apex of either lung, then you have death staring you in the face in a vast majority of such cases you meet. In other words, a general bronchitis means almost nothing, — a local bronchitis at the apex of one lung means death. Are we not using words improperly, and thus perhaps confounding all our notions of disease? In the present case, Dr. Bowditch could not but repeat, with great deference to the opposite judgment of the reader, that we should properly call it a case of *tuberculosis* from the start, and that probably a rupture of a tuberculous mass, situated directly under the pleura, rather than an inflamed bronchial tube, had caused the pneumohydrothorax and its singular accompaniments.

¹ Archiv für Ohrenheilkunde, vol. xvi., 1, Bückner.

² Practitioner, April, 1880.

The dislocation and twisting of the heart was certainly a most interesting feature of the case. We know, however, that, usually, in such severe cases of distention of the left side of the chest the heart is either drawn or forced, as it was in this case, very far to the right, so that the apex beat very nearly, if not quite, under the right nipple. Dr. Bowditch had seen, on one occasion, a case in which the left lung was wholly compressed either by air or fluid, and the heart was sought for, in vain, under the right mamma. Its beatings and sounds were found very much tilted upwards, as well as dislocated, for it was beating between the second and third right ribs.

P. S. Since the meeting Dr. Bowditch has noticed¹ an editorial on a recent *brochure* by Cohuim, of Leipsic, on Tuberculosis, as an Infectious Disease. In that editorial are the following words, fully supporting Dr. Bowditch's statements in regard to the nature of the case read at the meeting: "Judged by this criterion the caeous pneumonia and miliary tubercles are manifestations of our views, and the doctrine of Laennec, which for the time has been in the shades, has now received ample confirmation. Further, the scrofulous lymphatic gland is found to contain the same poison." Here we have the last statement of even Germany upon this much-mooted point.

DR. E. G. CUTLER demonstrated the specimens, the heart and both lungs and pleura having been removed together. To determine whether the adhesion of the anterior portion of the left lung might have had any effect in bringing about the rotation of the heart on its longitudinal axis, he had made several injections of air and water into the left pleural sac in dead adults.

(1.) A trocar was first introduced into the pleural sac, air allowed to enter, and then half a gallon of water was injected through the canula. On percussion the heart's area of dullness was diminished, and removed somewhat towards the right. On taking away the sternum it was found that the heart stood a little higher in the chest than normal, and was displaced towards the right a little, the greater part of it lying behind the sternum. It still retained its angle of inclination to the middle line of the body, however.

(2.) In the same way a gallon of water was injected into another chest. Here the displacement of the heart was greater, its elevation was more marked, and the angle of inclination to the middle line of the body much less, in fact nearly null.

(3.) In a third case, after the air had been allowed to enter, a gallon and a quarter of water was injected, which was all that could be forced in. The lung was found retracted, as usual; the heart displaced beyond the median line and rotated on its own axis, so that the apex and a large part of the left ventricle lay directed towards the front. The whole heart was on the right of the middle of the sternum, and was dislocated by a bulging in of the lower part of the pericardium. Its angle of inclination to the median line of the body had passed a trifle to the other side. Adhesions of the lung posteriorly in the upper lobe and in front at the lower part of the lower lobe seemed to make no material difference in the position of the fluid.

(4.) Lastly, instead of water plaster of Paris was injected into a fourth subject. Adhesions modified the shape of the cast somewhat, but the same general features in reference to the heart were observed. This cast was shown and explained to the society.

With reference to the cause of the elevation of the heart in the slighter displacements, Dr. Cutler called attention to the firm insertion of the diaphragm in front to the xiphoid cartilage, which allows of but a very slight depression, even when there is much muscular fibre present, and referred to the casts and figures of Dr. T. M. Rotch.²

To determine the amount of depression possible in this part of the diaphragm, and also to illustrate the cause of the elevation of the heart, the following experiments were performed. The integument was reflected from the chest in the middle line, and the peritoneal sac opened. The ribs were then cut away on each side at the level of the heart, so as to allow of free introduction of the hands. It was then found that the heart could not be displaced towards the right without being pushed up while passing over the centre of the diaphragm, because the amount of depression possible to this part of the diaphragm was seen to be very slight, and its position corresponded nearly with the base of the xiphoid cartilage.

A reference to some of the literature of the subject is interesting.

Bamberger³ says that the heart in left-sided pleurisy and pneumothorax is simply pushed over from the left towards the right side. He has often determined the exact position by using the necessary means of preventing displacement in opening the chest. He has always found that the heart displaced into the right side of the thorax assumed exactly the same position there as in its normal place, namely, it has its apex towards the left directed to the ensiform cartilage, the base on the contrary towards the right; in other words, the heart is pressed over to the right side from the left in exactly the same position it held there, and it returns again in the same way.

Once, however, in a pneumothorax of the left side, where death ensued twenty hours after, he observed in addition an interesting change. The heart, which had the position just described, had suffered also a considerable revolution on its longitudinal axis; it was distinctly flattened a little in a transverse direction, the greater part of the left ventricle lay towards the front, and the torsion was quite marked in the two arteries. Thus it appears that under such circumstances it is not the part pulsating most towards the right and externally, but the part which is farthest to the left and below which corresponds to the apex of the heart. Under such conditions there is usually a distinct impulse at all points where the displaced heart touches the chest wall. Vide Dr. Stedman's case and the one he quotes.

Niemeyer,⁴ in his description of the dislocation of the heart under these circumstances, refers to the statement of Bamberger.

Schroetter⁵ mentions Bamberger's case of pneumothorax, and says: "It is hard to picture to one's self how this came to pass, inasmuch as there were no contracting bands found here, and it may be that, with an original tendency of the heart in that direction, a weak spot in its suspension gave occasion to the displacement and torsion."

In speaking of the position assumed by pleuritic exudation and pneumothorax he says: "We must remember that the heart will be pressed over to the right

² Medical Communications Mass. Med. Soc., vol. viii., part iv., pages 235-243.

³ Krankheiten des Herzens, 1857, page 53.

⁴ Pathologie und Therapie, 1874, page 289.

⁵ Ziemssen's Encyclopaedia, vol. vi., p. 178, Am. Ed., 1876.

¹ British Medical Journal, May 8, 1880.

in the same relative position as in health, and accordingly cannot assume a position such as we should find in congenital transverse position of the heart. Hence the apex comes to lie behind the sternum, the xiphoid cartilage, or that cartilaginous plate formed by the union of the costal cartilages of some of the lower ribs; its impulse is therefore not felt, and a portion of the right ventricle, lying against the thoracic wall, simulates by its pulsation the apex beat." He then gives a case of pneumothorax in point, where the impulse of the right ventricle was in the fourth intercostal space, about two inches beyond the right edge of the sternum. At the autopsy the apex was found behind the right edge of the sternum.

Ferber,¹ in speaking of the displacement of the heart in left-sided pleurisy, says that the opinion was formerly current that the heart's apex in this displacement described a pendulum motion in the sense that it had its lowest position in passing the middle line of the body. This is *a priori* not probable, however, when we consider the configuration of the diaphragm, the middle part of which has a tolerably close connection with the sternum, and even in cases where the muscular arch bulges below is depressed relatively but very little. The apex of the heart, therefore, in passing the middle line, must suffer a relative elevation, and then sink again after having got by it. This latter opinion he has confirmed experimentally.

Powell² considers that the cardiac displacement in pneumothorax is due in the first instance to the sudden removal from the mediastinum of the elastic traction of the lung which has collapsed, and the consequent unopposed traction upon it of the other lung. He says if the opposite lung be not solidified the heart may from this cause alone be carried beyond the median line. In a case recorded by him in 1869 he proved by experiment that there was no intra-thoracic pressure.³ The same view is entertained by Dr. G. M. Garland,⁴ of this city, who arrived at his conclusions by independent research.

Dr. Cutler remarked that he had performed his experiments and drawn his conclusions before he knew of the opinions of others; his experiments were incomplete in that measures were not taken to fix the heart before removal of the sternum, and thus determine its exact position. They showed, however, —

First, that the apex of the heart, except in extremely large effusions, was the point farthest towards the left.

Second, that the heart necessarily assumed a higher position in the chest in displacement from moderate effusions on account of the inability of the centre of the diaphragm to descend.

Third, that the peculiar rotation of the heart on its longitudinal axis was independent of pleuritic adhesion of the lungs, and appeared to depend on the amount of the effusion.

Dr. GARLAND discussed the mechanism of the displacement of the heart with effusions, and argued the importance of not misusing terms, in saying that the heart is driven over by the fluid when it is in reality drawn over by the retractile force of the opposite lung.

Dr. ROTCH, in speaking of the result arrived at by Dr. Cutler, in regard to the position of the apex of the heart, remarked that the mistake is commonly made of supposing the heart's apex to be where the impulse is felt most strongly, while this, as shown by Ludwig and Bowditch, is not necessarily true, and in the case of pericardial effusions is especially erroneous, the apex beat being masked by the effusion, and the pulsation being caused by the tumultuous action of that part of the heart which is not covered by the effusion.

Dr. C. P. PUTNAM showed some modified plaster and glue jackets for the treatment of Pott's disease, whereby the weight was diminished more than one half and the efficiency increased.

He said that any one using the ordinary plaster jacket was struck by two things: (1) the excellent service they performed; (2) their extreme rudeness.

In order to get a stiffener for the spine the patient was suspended uncomfortably in the air, and a heavy mass of plaster of Paris was hung round him.

The original theory of the jackets was that the body consisted of two cones with their apices to each other, that hanging up the patient drew these two cones apart, and that the plaster bandage applied held them apart. It would be easy to demonstrate that this could not possibly be the case even in adults; but in children no demonstration was needed, for it is at once evident that the body of a child presents no such figure as the two cones, the middle part of the body, where the apices of the cones were to come together, being generally the largest part. Yet the plaster jacket is equally useful in case of children, though it is sometimes hard to keep the jackets from slipping off.

There seemed to be every reason for thinking that the plaster jackets did for the spine exactly what Taylor's spinal brace does, but in some respects better, in others less well. That is, the patient's spine is put into a favorable position, and then held there.

The advantage of the plaster jacket seemed to be that it molded itself to the patient's body and obtained a firm hold by fitting every part it touched. For over a year he had been in the habit of laying the patient on the face and applying only a shell of plaster, which was afterwards attached by means of webbing straps to an apron like that used with Taylor's brace. When the disease is too high to be reached by the jacket alone two strips of steel were inserted in the plaster and carried up to the level of the shoulders, by which means Taylor's arrangements for disease in the upper dorsal region could be applied. For the cervical and highest dorsal region a chin piece could also be applied.

By casting the original plaster shell, and making a shell of paper and glue, a very efficient and light apparatus could be obtained. It is necessary in every case to build upon the two sides of the prominence inside the jacket, because the soft muscles always give way a little and let the spinous processes strike, whereby the skin may become ulcerated. The pressure at the diseased point can then be accurately graduated.

A patient was shown who had worn a plaster jacket ten months. It had been removed to have the undershirt changed about once in two weeks, and was in a perfectly clean condition. The boy had been an errand boy in a store for the last nine months, and the prominence had become well rounded.

Several glue shells were shown, and the process of constructing them was demonstrated.

¹ Sitzungsprotokoll der Organe der Brust und oberen Bauchgegend, 1877, page 42.

² On Consumption and Diseases of the Lungs and Pleura. R. D. Powell, London, 1878.

³ Medical Times and Gazette, May 21, 1869.

⁴ Pneumono-Dynamics, page 132.

ANNUAL MEETING OF THE MASSACHUSETTS MEDICO-LEGAL SOCIETY.

The annual meeting of the above society was held at one o'clock on the afternoon of June 8th, in the hall of the Boston Medical Library; the president, Medical Examiner Hosmer, of Watertown, in the chair. The reports of the various officers were presented, and the following items of business of general interest to the profession were disposed of:—

The committee on the law of medical examiners reported verbally on the importance of improving the features of the present statutes of the commonwealth by arranging a proper review of the questions of fees to medical examiners, chemists, and expert witnesses to autopsies, and also in regard to the traveling expenses of medical examiners.

Voted, That the committee appointed at the last stated meeting of the society to consider the expediency of inducing legislation to regulate the question of expert testimony in the practice of the courts of this commonwealth be continued, and the committee requested to sit again and to report an organized plan to accomplish necessary legislation.

This committee is constituted of Messrs. A. E. Pillsbury and T. H. Tyndale on the part of the associate members, and Medical Examiners Harris and Sullivan of the active members.

The society then adopted a blank form for making returns to the corresponding secretary, in accordance with the report of a special committee appointed to draw up a plan. The corresponding secretary was then authorized to have this form printed and distributed to the members of the society.

Clark Bell, Esq., Prof. C. A. Doremus, M. D., and Max F. Eller, Esq., presented credentials as delegates from the New York Medico-Legal Society, and were then formally introduced to the society.

Mr. Bell spoke very favorably of the theory of the law of medical examiners, and its vast superiority over the old coroner system, and said that his own State and others were following closely this new system, with the hopes of its adoption elsewhere. He also referred to the great importance of fostering a cultivation of forensic medicine in general, and the need of inducing a more lively interest among members of the legal profession of Massachusetts.

Professor Doremus spoke briefly of the importance of legislation on the question of expert testimony in general, and the interest that communities in general should take in upholding a high standard.

Mr. Eller called attention to the inadequate condition of the laws concerning commitments of insane persons, and cited examples to illustrate the harsh justice in the judicial prerogative of his own State; stating that the judge had too much power in basing his action upon men, professedly physicians, presenting certificates of insanity when no such insanity could be proved to exist.

Mr. Chaplin then replied that this defect, if existent, applied with equal force to other questions of commitment than those relating only to insanity, and that in Massachusetts the processes of law were so guarded that rarely, if ever, were unjust commitments accomplished.

The following votes were then passed:—

That a committee, consisting of the president, two regular and two associate members, be constituted to consider the expediency, and, if expedient, to report, a

plan by which barristers of the commonwealth may be induced to take an active interest in the cultivation of forensic medicine, either by the establishment of a new class of active membership, or by such other means as may seem to that committee best calculated to promote the objects of this vote.

This committee consists of Medical Examiners Hosmer, Harris, and Winsor, and of Associate Members T. H. Tyndale, Esq., and H. W. Chaplin, Esq.

That the above committee also consider the expediency of establishing a permanent council or commission similar to that existing in the Paris Society of Medical Jurisprudence and in the New York Medico-Legal Society.

The following interesting papers were then read, which were referred for publication in this journal, if considered expedient by the committee on publication: Report of the Executive Committee on Annual Returns of Medical Examiners, by the corresponding secretary. On Points of Interest in the Case of Jennie P. Clark, by Medical Examiner Pinkham, of Lynn. On Criminal Abortion, by Vice-President Medical Examiner Breck, of Springfield. On Medico-Legal Relations of Alcoholism: (1.) Its Psychological Aspects, by Medical Examiner Russell. (2.) Its Legal Aspects, by Associate Member H. W. Chaplin, Esq. (3.) Its Pathological Aspects, by Associate Member G. K. Sabine, M. D. The last two papers excited an interesting discussion.

The following members were elected officers of the society for the ensuing year: president, Robert Amory, of Brookline; vice-president, S. D. Presbrey, of Taunton; recording secretary, C. C. Tower, of South Weymouth; corresponding secretary, S. W. Abbott, of Wakefield; censors: S. D. Presbrey, of Taunton, J. F. A. Adams, of Pittsfield, T. F. Breck, of Springfield, J. G. Pinkham, of Lowell, J. L. Sullivan, of Malden, F. W. Draper, of Boston, G. N. Munsell, of Harwich, A. R. Holmes, of Canton, W. M. Parker, of Milford, E. C. Coy, of Turner's Falls, D. B. N. Fish, of Amherst, John B. King, of Nantucket, A. E. Paue, of Brockton.

The following were elected associate members: Messrs. Clark Bell, and Max F. Eller, of New York, Prof. C. A. Doremus, of New York, and Dr. B. F. Davenport, of Boston.

There were present twenty-seven medical examiners, ten associate members, and several Fellows of the Massachusetts Medical Society.

— The following questions by Mr. John Wood, of London, are deemed pertinent by the *Canada Medical and Surgical Journal*: (1.) How, if bacteria are so very terrible, nine hundred and ninety-nine cases of wounds out of a thousand do well. (2.) How a patient can die by pyæmia or septicæmia, self-poisoned, without external wound at all, the source of infection being a deep-seated abscess far removed from contact with the air. (3.) How bacteria can exist in abscesses originating inwardly, and yet no blood-poisoning ensue. (4.) How wounds of the face cavities heal so quickly and so well, though bacteria in numbers were found in the fur on the tongue and the mucus on the surfaces of these cavities.

— Prof. Lewis A. Sayre has been elected a corresponding member of the Edinburgh Medico-Chirurgical Society.

Medical and Surgical Journal.

THURSDAY, JUNE 24, 1880.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly by HOUGHTON, MIFFLIN AND COMPANY, Boston. Price, 15 cents a number; \$5.00 a year, including postage.

All communications for the Editors, and all books for review, should be addressed to the Editors of the Boston Medical and Surgical Journal.

Remittances by mail should be sent by money-order, draft, or registered letter to HOUGHTON, MIFFLIN AND COMPANY, Boston, Mass.

A SINGULAR CASE OF EPIDEMIC IN BERKSHIRE COUNTY.

THE daily papers have already provided their readers with vivid and picturesque accounts of an epidemic outbreak, having all the features of cholera morbus, which made its first appearance at the town of Adams, formerly called South Adams, in the western part of this State, and subsequently visited the neighboring towns of North Adams, Savoy, Windsor, and Lanesborough. Although the epidemic was sufficiently severe the first accounts were, as was natural, somewhat exaggerated. We have been favored with the perusal of a letter to the secretary of the State Board of Health, from Dr. J. F. A. Adams, of Pittsfield, and take our facts mainly from his accounts. Dr. Adams derived his information on the spot from Drs. Holmes, Riley, and Burton, from conversations with the selectmen of Adams, and from some of the convalescents. The epidemic began Tuesday evening, the 15th inst., about eleven o'clock. The first cases were in the centre of the village, in the best residences, but very soon the larger portion of the town was affected; few families escaped. Wednesday morning found the whole town sick. Those attacked Tuesday evening were, some of them, out on Wednesday, and most of the rest were well by Thursday; a few cases lasted three days. All recovered, though many continued weak from the effects. Many new cases occurred on Wednesday, and a few on Thursday and Friday. Dr. Adams describes the symptoms as those of cholera morbus, namely, vomiting, purging, with pain in the stomach and bowels, chilliness, cold feet and legs, with cramps in the legs in some cases. The stools were frequent, watery, and copious; the vomited matters were watery. The attacks came on so suddenly that the bowels frequently could not be controlled until the water-closet was reached.

Great weakness accompanied the attacks, and persons not sick felt weak and depressed, possibly as the result of apprehension. The attacks yielded readily to simple remedies. Dr. Holmes reports that he gave no opiates, only powders of chalk, camphor, and bismuth. The physicians estimate the number of cases at five or six hundred. One of the selectmen thinks the number has been greatly underrated, for he believes more than half of the six thousand inhabitants of the town were attacked. The disease did not choose any locality, but occurred in every part of the town, among the factory employees and among the farmers indiscriminately. On Wednesday it appeared in Savoy, six miles to the east of Adams, and also in Windsor, to the southeast. On Friday a few cases

were reported in Lanesborough, and some cases in North Adams, but the day is not given. Adams itself has a remarkably pure and excellent supply of water, stored in a reservoir. This water has been in use five years, and Dr. Holmes reports that since its introduction not a case of typhoid fever has occurred in the town.

The water is to be analyzed, although nothing has been observed which could cast suspicion upon it. Moreover, it has been positively ascertained that the disease was not in any way confined to those making use of this water. Careful inquiries have thus far failed to discover any one article of food eaten by all the people attacked. The ice is taken from the reservoir, and many were sick who do not use it at all. The local physicians are unable to account for the sickness from any local cause, and Dr. Adams could not discover any probable cause. The former are disposed to attribute the outbreak to some peculiar atmospheric condition. The direction which the epidemic took was from west to east and southeast.

We are glad to learn that Dr. H. W. Holmes, of Adams, and Dr. Adams, of Pittsfield, are to work up the subject thoroughly for the State Board of Health.

THE DISCUSSION ON THE APPROPRIATION FOR THE NATIONAL BOARD OF HEALTH.

IN the sundry civil appropriation bill in the House of Representatives, the clause appropriating \$75,000 for the salaries and expenses of the National Board of Health elicited a discussion which extended over parts of the session on May 25th and 26th. The discussion was opened by an amendment proposing to strike out the \$75,000, as reported, and insert \$125,000. In speaking to this amendment, Mr. Cox, of New York, not only opposed it, but expressed his desire to abolish the whole of what he characterized as a "swindling system;" arguing that as the yellow fever and cholera did not exist at present the board was of no use, and denouncing federal supervision over state quarantines.

Mr. Young, of Tennessee, in offering an amendment to make the amount \$150,000, sketched the progress of yellow fever in Memphis in 1878, when five thousand two hundred people died during a period of about seventy-one days, and its rapid spread up the Mississippi and Ohio rivers and the lines of inland travel until it reached Gallipolis, Ohio; contrasting with it the fever of 1879, a month earlier, with the same climatic and sanitary conditions, yet, from the rigid sanitary and quarantine regulations of the National Board of Health, not a single case of fever occurred at any point north of Memphis, and less than five hundred people died in the city itself; this, too, with scarcely any interruption to commercial intercourse, which in 1878 almost absolutely ceased. State authority had not the proper authority over navigable waters or lines of inland travel.

Mr. Blount, of Georgia, called attention to the fact that the board, while authorized, when necessary, to erect temporary quarantine buildings, had contracted

for three buildings without the sanction of the secretary of the treasury, at an aggregate cost of \$125,000; and, further, that out of a fund of \$550,000 but \$75,000 are left, and that from starting out with the yellow-fever epidemic the scope of the board is going to all sorts of diseases in our cities.

Mr. Hawley, of Connecticut, figured up the amount of \$168,000 for a more or less permanent set of buildings which will supersede and to some extent excuse the work of the local authorities. He did not discuss the theory of state rights, but he advocated self help, by the local authorities taking the lead under their state and city ordinances, and the general government standing by with its own resources to supplement the deficiencies and the poverty of the localities.

Mr. McGowan, of Michigan, showed the incorrectness of the previous statements of expenditures for permanent buildings by stating that only one of the contracts alluded to, that for Ship Island, had been let, the proposals for the others being too large; that the board proposed to put up only temporary structures, no one of which should cost more than \$4000; the estimate of expenditures being for quarantine stations, which would include the securing of proper sites, wharves, boats, places for fumigation, unloading cargoes, etc., in addition to hospital buildings. All the quarantine stations of the Mississippi are to have simply tents for hospital purposes.

A lengthy discussion followed, in which there was pretty general participation, and in the course of which the details of requisitions made by the board, as presented to the treasury department, were read, but no new facts or objections were elicited.

Mr. Robeson, of New Jersey, stated that no scientific information had been received which considered these called-for expenditures as unnecessary, and that no party or local spirit should attempt to limit or confine the erection of this outer line of defense, this outside barrier, which is to challenge disease at the entrance to the country and prevent it coming in.

The original clause as reported by the committee was adopted.

AN EXCITED REVIEWER.

The May number of the *Edinburgh Medical Journal* contains a very agitated review of the English translation of the eighth volume of Ziemssen's *Cyclopædia of the Practice of Medicine*, in which the reviewer loses at once his temper and his common sense, because the translator of Mosler's article on Leucæmia — whose name, by the way, is Dr. Edes, and not Dr. Eden — did not see fit to revise as well as to translate the text of the author.

The writer indulges himself in the statement, which in the present instance is peculiarly inapplicable, that "the translation has been mainly done by young men, whose only qualification seems to have been an imperfect knowledge of both languages, and an almost entire ignorance of medicine, and especially of medical literature, which has enabled them to swallow all that

the original writers have provided them with, and to give forth with confidence statements which ought never to have been allowed to pass uncontroverted." Mosler attributes to Virchow the discovery of leucæmia or leucocythemia, which the Scotchman properly claims for Bennett. Moreover, Dr. Bennett, it seems, was formerly an editor of the *Edinburgh Journal*. *Hinc illæ lacrymæ!*

At the recent meeting of the State Board of Health, Lunacy, and Charity, the duties hitherto belonging to the office of secretary were separated, and will be hereafter assigned to two persons. The secretary, like the chairman, will be a member of the board, and elected annually, to serve without pay. The election of a health officer has been assigned for the monthly meeting, July 3d. Dr. Folsom has been elected secretary, and will also be chairman of the health department. He has held the previous office of secretary under the old Board of Health and the present re-organized board for nearly five years, performing its arduous and varied duties with great advantage to the board and much credit to himself, and we are very glad that his experience will continue to be at the service of the State.

MEDICAL NOTES.

—The *Académie de Médecine* recommends a new cure for neuralgia in the form of the ammoniacal sulphate of copper.

—The *Medical Press and Circular* says: It is notorious that in many parts of the United States a medical school is "run" with the intention of passing through as many men — with education or without it — as is possible in the shortest period. And, to judge from the nonsense to be found in a good many of the American periodicals which reach us, the teachers cannot be very far ahead of the taught. That there are good schools and good teachers in America is well known to all, but the majority cannot be pronounced of a high type.

—The same journal says a Russian author has just been made the victim of an ugly joke by an elephant. Whilst visiting a menagerie, carrying in his coat pocket the manuscript of a new work, an elephant with literary tendencies plunged his trunk into it, took the book, and swallowed it before its ill-starred author and the by-standers had recovered from their astonishment. No news of a post mortem has as yet been received.

—The *Philadelphia Medical Times* editorially says: There seems to be a real danger that the *Index Medicus* shall fail for want of support. As this would be an ending most disgraceful, as well as most harmful, to the profession, we earnestly appeal to our readers to subscribe to this unique and all-important periodical. In order to determine where the profession is responding with most alacrity, we have taken the trouble to go over the subscription-list, and find that New York takes one hundred and eight, Boston and

Philadelphia each forty-seven copies; while England is satisfied with twenty, France with two, Germany with twenty-four, and Japan with two copies. Our Western cities, judged by this standard, seem to have very little sympathy with high medical culture. Thus, Cincinnati takes only four copies, and Chicago two.

—The *Medical Gazette* understands that an offer has been made to the governing body of the London Hospital to permit a portion of the new school premises just completed to be devoted to the use of female medical students. A liberal offer in money for the accommodation was made, together with an undertaking to be responsible for all expenses incurred. The proposal, however, was rejected by a small majority of the governors, and it may be expected to engage their attention at some other time. A prominent member of the staff is favorable to permitting the access of women to the lectures at the London Hospital, and it may possibly happen that the summer course of midwifery will be attended by lady aspirants for medical qualifications.

—According to the *Canada Journal for Medical Science*, M. Reliquet reports a singular case of spermatic colic, occurring in a man twenty-five years of age, in which he had diagnosticated prostatic tubercle, and which presented the following symptoms: violent pain during coition; painful sensations in the perineum, with frequent desire to urinate while riding in a carriage; frequent and violent emissions from the urethra of a liquid analogous to the spermatic fluid. Rectal examination revealed an inequality of the prostatic lobes, the right lobe presenting a well-defined swelling, which was continuous posteriorly with the vesicula seminalis. Pressure with the finger was painful, and induced a desire to urinate. A sound was introduced into the urethra and the tumor compressed between it and the finger. This manoeuvre caused the expulsion through the urethra of a grayish mass, resembling vernicelli, and which examination showed to consist of altered spermatozoa and mucus. The spermatic colic, the retention of the semen in the ejaculatory duct, was the cause of all the symptoms. After repeated sounding and further evacuation of the retained mass, the tumor disappeared, and the reflex troubles of micturition were relieved.

—Last month Professor Lister visited the Bristol Medical School to preside at the annual distribution of prizes. Professor Lister was previously entertained at luncheon by the staff of the Bristol Royal Infirmary, and afterwards gave a demonstration before an assemblage of about two hundred medical men and students on the method of application of his antiseptic system, choosing as a subject for illustration a case of deep cervical abscess. On the following day he gave a similar demonstration in the operating theatre of the Bristol General Hospital before a crowded audience, selecting on this occasion a case of abscess connected with disease of the hip-joint in a child. Everywhere Professor Lister was received with an enthusiasm and cordiality which must have been most gratifying to him, as indicating the progress amongst the members of the medical profession of a belief in the principle which he has so much at heart.

CHICAGO.

—Rush Medical College, Chicago, has decreed that after March 1, 1883, there shall be an entrance examination required of all those who apply for admission to that institution, and who do not present a certificate of admission to a college or other literary school of a high order, or its equivalent. The examination is to be written, and is to include arithmetic to cube root, natural sciences to the extent covered by the best school text-books on the subject, and English as shown by a critical judgment of the examination papers.

—Small-pox continues to break out periodically in fresh places in the city. Lately, among the ignorant Poles and Bohemians, it has been found that the disease has been concealed in several places, where quite a number of victims were gathered almost under the same roof.

MEDICO-LEGAL.

—We clip the following from the *St. Louis Courier of Medicine*, etc.: In a previous number of Virchow's Archiv, Professor Triebelg, Breslau, had shown that effusion of blood into the wall of the carotid is a most valuable sign of the action of the fatal noose, in cases of death by hanging or strangulation. In the present article he proceeds to demonstrate that the same sign is present in cases of death from throttling, in a deadly encounter. He points out the extreme importance of such an unmistakable sign in regard to medical jurisprudence.

The professor, upon examination of the bodies of two victims of violence, was able to determine the fact of strangulation by the following appearances:—

CASE I. No external appearances of injury; the neck being *especially free from such signs*. There was remarkable congestion of the capillaries and small vessels, of the outer coat of the right common carotid in its upper half, and of the internal carotid in its lowest portion. Cutting the common carotid open lengthwise, an irregular red patch became visible upon the posterior wall, just below its bifurcation, and continuous into the lowest portion of the internal carotid. There were also scattered spots of atheroma, in one of which, in the lower portion of the red patch, a rupture of the inner coat had taken place, which had allowed some of the effused blood to escape. Laying open the region of the red patch, there was found to be an effusion of blood into the middle coat; upon the left carotid similar changes were found. In consequence of these appearances, it was decided that death had been produced by choking with the hand.

A careful examination of all the organs was made as well; the venous system of the thorax and cranium was found greatly distended.

CASE II. Upon the anterior surface of the neck distinct discolorations. At the bifurcation of the left common carotid a small extravasation in the anterior wall of the sheath. A corresponding extravasation in the exterior coat of the artery. Under the intima, a similar effusion upon the anterior and outer wall. Examinations of the remaining organs, as in Case I. In this case, the cause of death was more clearly indicated by the discolorations of the neck, which were due to limited extravasation into the adipose. In

both cases the testimony proved that strangulation had been inflicted, and by the hand.

The professor calls attention to these conclusions:—

Strangulation exercised upon the living body may cause extravasation of blood in the wall of the carotid, if sufficient force be exerted to rupture the vasa vasorum. Such force may not always be exerted, hence the extravasation will not inevitably be present; but when it is, the sign is all important.

Miscellaneous.

NEAR-SIGHT IN THE YOUNG.

MR. EDITOR,—In your issue of June 17th, Dr. David Webster, of New York, takes exception to my statement that near-sight is seldom, if ever, congenital. He cites statistics furnished by Dr. Ely, who examined, under atropine, one hundred and fifty-four eyes of infants, of whom only six were over two months old, and found no less than *eighteen per cent.* of them near-sighted.

Dr. Webster might have quoted an even more striking statement of Professor von Jaeger, who used the ophthalmoscope on a hundred new-born children, aged from nine to sixteen days, and found seventy-eight per cent. of near-sight. He employed no atropine. Von Jaeger, however, is by no means misled by these figures, and ascribes this apparent near-sight to its true cause, namely, the "notorious fact of an increased convexity of the lens at the nursing age." He alludes to the tendency of the eye to recover from this condition, and gradually, as development goes on, to assume a normal length.

I hold firmly to my statement. Cohn, who examined 10,060 school-children, found no near-sight among children who had not quite or had just completed the first half year of school life. Emmert says, "Myopia in very early life is, so to speak, unknown." Arlt states that "congenital abnormal length of the eye has never yet been demonstrated. The apparent myopia of new-born children is due to the increased convexity of the lens." I might multiply authorities by the page.

Dr. Webster's concluding statement, that atropine will reveal a condition of the refraction which the ophthalmoscope has failed to discover, is so utterly opposed to general experience as to require no special refutation. The doctrine of the ability of the ophthalmoscope to determine the optical condition of the eye, first announced by Helmholtz, the inventor of the instrument, and confirmed by Mauthner in his brilliant treatise, may be said to be universally accepted. At the last meeting of the American Ophthalmological Society, Dr. Agnew gave utterance to views similar to those here put forth by Dr. Webster. Unless I am much mistaken he was found to stand alone in their advocacy, and was at once contradicted by Dr. Knapp.

BASKET DERBY.

Boston, June 19, 1880.

OVERWORK.

MR. EDITOR,—Among the subjects which are attracting a considerable amount of attention this season from the intelligent public is that of overwork. The discussion was started by the publication in the *Times* of a synopsis of a paper by a German professor on the subject of Mental Strain. It called forth a corre-

spondence in the same paper, in which Mrs. Garrett-Anderson, M. D., took a prominent part by attacking the methods of teaching adopted at girls' schools. She asserted that at most of our large girls' schools the hours were too long, the work too concentrated, too much work was given to girls to prepare at home; and that as the result of the high pressure thus brought to bear upon growing children a large number of them were permanently injured in health, and their development was interfered with. Since writing her letter to the *Times*, Mrs. Anderson has renewed her attack in a paper read before the Social Science Association, which has given rise to a most animated debate on the part of doctors and school-masters and mistresses. The discussion has been further assisted by a very able lecture delivered by Dr. Wilks, of Guy's Hospital, on behalf of the National Health Society, and which will probably be published shortly, in one of the monthly periodicals. Dr. Wilks took a very different view from that of Mrs. Anderson; arguing that overwork at schools is by no means so common as it is the fashion to assert. He stated his belief that where children at school break down in health, the failure is far more commonly traceable to gross mismanagement on the part of those who have control over them than to simple overstrain, and that this mismanagement is much more frequently to be found in the child's home than at school. Children who are going through an amount of study that is by no means too severe for them fail in health because their parents give them work in their leisure hours, which does not afford sufficient change from their school duties; or the children are allowed to spend their play-time in reading instead of in healthy exercise or in manual pursuits; exercise when taken is confined to a desultory walk along close streets or dusty roads. The mode of life, in short, is such that the child's health can scarcely fail to become deteriorated; and an amount of work which a child placed under healthy conditions would get through with ease and with advantage in every way to itself will in this manner be found to be aiding the easy descent towards delicacy or invalidism. There can be but little doubt that Mrs. Anderson's indictment against the school-mistresses is a great deal too sweeping. There is probably some need for reform in this as in most other matters, but the large colleges, against which she especially leveled her strictures, are for the most part under the care of superintendents who are doing their utmost to bring their arrangements within the rules of health. The experience of those capable of judging, and who are brought into contact with the mass of girls attending these schools, does not bear out the statement made by Mrs. Anderson as to the deterioration of health to be met with amongst them. Mrs. Anderson as a physician sees only the wealthy girls, those who for some cause or other have found the work at school felt heavily upon them. If, however, the girls at our large colleges be taken *en masse*, there is good reason for believing that the proportion of wealthy girls is small, and that there is in reality no such evidence of overstrain in the average as Mrs. Anderson would have us believe. But though Mrs. Anderson may not be altogether correct in this respect, it cannot be denied that there is an evil growing up in our midst which does call aloud for remedy; and, unfortunately, it is one which, by its very nature, is difficult to avoid. I refer to the enormous growth of our towns rendering it more

and more difficult to obtain sound and healthy exercise for girls. As Dr. Wilks and others have pointed out, we hear much less of the effect of overwork in boys, even though the boys, as a rule, work harder than the girls, and this he traces to the almost universal provision of playgrounds, cricket-fields, gymnasia, and other requisites for active exercise in connection with boys' schools. It is the rule in the upper and middle classes in England to send the boys to boarding-schools, and a boarding-school may be advantageously situated in the country, where all these desiderata can be easily provided. On the other hand, it is rather the exception for parents in these classes of society to send their girls to boarding-schools; and with every year the custom of keeping girls at home is becoming more general.

(To be concluded.)

THE LATE DR. HALL.

DR. JAMES CROWDHILL HALL, whose death was announced Monday, June 6th, was born in Alexandria, then a portion of the District of Columbia, July 10, 1805. His father, who was of English birth, was a successful merchant in Alexandria, and carried on a considerable shipping business with Europe. His mother was a Miss Shepherd, of an old Virginia family. His father died when the doctor was a child, and his mother removed to Washington that her son might have the advantage of Rev. Mr. Carnahan's classical school in Georgetown.

When sufficiently advanced in years and study Dr. Hall was sent to Jefferson College, at Canonsburg, Pa., where he graduated in letters. He then commenced the study of medicine with Dr. Henderson, of Georgetown. Having read over the usual course he attended lectures in the University of Pennsylvania, where he graduated M. D. in 1827. He wrote his thesis for the occasion on the Physiology of the Brain and Nerves. After receiving his degree he was appointed one of the physicians to Blockley Hospital, Philadelphia, where he spent a year in attentive and laborious study. Returning to Washington he opened an office, and soon acquired a good practice. He was an expert anatomist, and was on that account, when at college and in the hospital at Philadelphia, chosen by Professor Gibson to prepare his subjects for demonstration. He dissected the famous case of Axillary Aneurism, reported by Professor Gibson and referred to in all works on surgery, which was caused by the reduction of a dislocated shoulder that had been out of place for six weeks. Dr. Hall's report of the anatomical or post-mortem appearances is published in the fourteenth volume of the *American Journal of the Medical Sciences*, pages 160 to 162, March, 1828. The doctor opened a room in the square between Sixth and Seventh streets on Pennsylvania Avenue for teaching anatomy to medical students. This enterprise was quite successful, and was continued until he accepted a chair in the medical college.

He was a leader in many of the early business enterprises in Washington. He was an early member and one of the directors of the society for the building of the Washington National Monument, but resigned some years since.

He was for many years one of the active members of the Washington Library Company, an institution founded in 1812 and chartered two years later. To this library he gave a valuable collection of books.

His superior education and the dignified and leading position taken by Dr. Hall led to his election to the chair of surgery in the medical department of Columbian University, in 1830, a position which he filled with great ability until pressure of private business induced him to resign it in 1837. He was a close and intelligent observer, and was greatly interested from an early day in the health department of our city, and has frequently been a confidential adviser of the city officials on public health matters.

When the epidemic of cholera in 1832 reached this city Dr. Hall was in full practice, and generously gave his services to all who applied. I have with him looked over his book of charges and names of patients at that time. For days together he visited and prescribed for as many as one hundred patients.

Dr. Hall was the physician who attended most of the cases occurring in that mysterious epidemic of sickness which prevailed at the National Hotel in 1857. Many thought it to be the result of intentional poisoning, but the doctor looked upon it as resulting from sewer gas.

The doctor was an extensive reader of the best books and reviews up to the time of his death. The latest views of diseases and of new remedies particularly interested him. He was, therefore, in consultations never at a loss to suggest efficient agents that had not been tried in the case. He was a careful and an accurate diagnostician, and the thorough study he had made of the brain and the nervous system made him an authority on all diseases affecting them. In the sick-room Dr. Hall was a model physician, possessed of gentlemanly instincts and full of sympathy, clear perceptions of what was essential to be done, and a manner that secured confidence and respect, and which insured the carrying out of his directions to the letter.

From the time he retired from teaching in college until advanced years and impaired health admonished him to retire from practice, Dr. Hall was at the head of his profession in the city of Washington. In his life-time he had rendered professional services to more of the eminent statesmen of our country than any other single physician. He was the regular physician to all of the presidents from Jackson to Lincoln. He was also the medical adviser to most, if not all, of the foreign ministers resident in Washington during that period. During these years he had also an extensive consulting practice, and even after he declined the care of patients, which he announced in a published card, was sought by the physicians for advice in critical cases as long as he would consent to go out or to see them in his own room.

The deceased was also a member of the medical society of the district and one of its chartered members, and was its president from 1848 to 1850. He was likewise one of the original members of the Medical Association of the District of Columbia and of the Pathological Society of D. C., organized in 1810, and an honorary member of the Clinico-Pathological Society formed here in 1865, and a member of the American Medical Association. In these positions he was accustomed to take part in the discussion of medical subjects, but he was always averse to writing or publishing, and thus but few articles from his pen have appeared in medical literature. This proceeded from a peculiar sensitiveness and shrinking from public notoriety; for he was not only a ready but a forcible

ble and elegant writer, as all who have had the pleasure of a correspondence with him will testify.

The value of a life like Dr. Hall's is simply incalculable, not only to the medical profession, but to all observing persons impressed by virtuous conduct. His

counsel was always given in the best interests of a broad and generous humanity. His life work was earnest and noble, and he goes down to his grave honored and beloved as no medical man has ever been in this city. T.

REPORTED MORTALITY FOR THE WEEK ENDING MAY 22, 1880.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Deaths under Five Years.	Percentage of total Deaths from				
				The Principal "Zymotic" Diseases.	Lung Diseases.	Diphtheria and Croup.	Diarrhoeal Diseases.	Scarlet Fever.
New York	1,085,000	542	234	19.78	19.56	8.12	3.51	2.40
Philadelphia	901,380	338	105	13.02	5.03	4.44	—	3.25
Brooklyn	564,400	226	82	19.03	14.16	7.08	1.33	3.10
Chicago	—	—	—	—	—	—	—	—
St. Louis	—	119	51	15.97	10.92	1.01	4.20	.51
Baltimore	393,796	168	86	20.24	2.98	2.38	8.93	2.38
Boston	365,000	144	47	12.50	11.11	9.03	.69	.69
Cincinnati	280,000	101	45	29.70	12.87	1.98	7.92	3.96
New Orleans	210,000	—	—	—	—	—	—	—
District of Columbia	170,000	83	35	10.84	12.05	1.21	3.61	—
Buffalo	—	40	14	20.00	7.50	—	5.00	2.50
Cleveland	160,000	—	—	—	—	—	—	—
Pittsburgh	—	58	25	36.21	13.79	8.62	1.72	6.89
Milwaukee	127,000	41	7	17.07	9.76	9.76	—	2.44
Providence	102,000	50	14	24.00	8.00	4.00	2.00	10.00
New Haven	60,000	17	8	17.65	17.65	—	11.76	—
Charleston	57,000	23	13	26.09	4.35	—	13.04	—
Nashville	37,000	16	5	37.50	18.75	—	12.50	—
Lowell	34,000	26	8	15.38	30.77	3.84	—	7.69
Worcester	53,000	19	9	21.05	21.05	5.26	5.26	5.26
Cambridge	50,400	22	8	18.18	13.64	9.09	9.09	—
Fall River	49,000	19	8	15.79	—	—	10.53	—
Lawrence	38,600	11	6	18.18	—	—	—	—
Lynn	34,000	16	4	31.25	25.00	25.00	—	—
Springfield	31,800	12	5	8.33	16.67	—	—	—
New Bedford	27,200	7	3	57.14	—	28.57	14.29	14.29
Salem	26,500	9	3	44.44	—	22.22	—	—
Somerville	23,500	6	1	—	—	—	—	—
Chelsea	21,000	11	2	18.18	—	9.09	—	9.09
Taunton	20,200	3	1	—	33.33	—	—	—
Holyoke	18,400	11	5	27.27	18.18	18.18	—	—
Gloucester	17,300	8	3	25.00	—	12.50	—	—
Newton	17,300	—	—	—	—	—	—	—
Haverhill	15,350	6	1	—	16.67	—	—	—
Newburyport	13,500	3	0	—	33.33	—	—	—
Fitchburg	12,600	7	3	—	28.57	—	—	—
Seventeen Massachusetts towns.	125,760	42	8	16.67	7.14	9.52	—	—

Deaths reported, 2204; 861 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 462, consumption 326, lung diseases 250, diphtheria and croup 123, diarrhoeal diseases 71, scarlet fever 57, typhoid fever 37, measles 35, whooping-cough 33, malarial fevers 18, cerebro-spinal meningitis 17, erysipelas 13, small-pox three. From typhoid fever, Philadelphia eight, New York and Cincinnati four, Pittsburgh three, Brooklyn, Baltimore, District of Columbia, Buffalo, Providence, Nashville, and Milford two, New Haven and Charleston one. From measles, New York nine, Cincinnati seven, Brooklyn six, St. Louis, and Pittsburgh three, Lawrence and Salem two, Philadelphia, Lowell, and Holyoke one. From whooping-cough, New York six, Baltimore and Cincinnati five, Philadelphia three, St. Louis, Pittsburgh, and Charleston two, Brooklyn, Boston, District of Columbia, Buffalo, Providence, Nashville, Springfield, and Gloucester one. From malarial fevers, Brooklyn seven, New York five, St. Louis three, Boston, District of Columbia, and Buffalo one. From cerebro-spinal meningitis, New York four, Baltimore three, Philadelphia and Pittsburgh two, District of Columbia, Providence, Worcester, Fall River, and Brockton one. From erysipelas, New York three, St. Louis two, Philadelphia, Brooklyn, Baltimore, Buffalo, Pittsburgh, Milwaukee, Nashville, and Lynn one. From small-pox, Philadelphia three. In addition, Chicago reports deaths from diphtheria and croup 21, lung diseases 21, consumption 116, diarrhoeal diseases nine, scarlet fever seven,

erysipelas three, measles two, cerebro-spinal meningitis two, typhoid fever two, small-pox one, malarial fever one, whooping-cough one, typhus fever one; deaths under five years 93, — total deaths not given.

Sixty-nine cases of measles, 40 of diphtheria, 32 of scarlet fever, one of cerebro-spinal meningitis, and one of whooping-cough were reported in Brooklyn; small-pox five in Chicago; diphtheria 37, scarlet fever nine, small-pox one, in Boston; diphtheria 16, scarlet fever 12, in Milwaukee; scarlet fever 22, diphtheria 11, typhoid fever ten, measles eight, whooping-cough one, in Providence; diphtheria three in Cambridge; scarlet fever 17, diphtheria seven, in New Bedford.

Total number of deaths diminished; deaths under five diminished. The principal "zymotic" diseases unchanged; deaths from acute lung diseases diminished.

In 35 cities and towns of Massachusetts, with an estimated population of 297,110 (population of the State about 1,690,000), the total death-rate for the week was 20.03 against 20.21 and 17.81 for the previous two weeks.

For the week ending May 1st, in 149 German cities and towns, with an estimated population of 7,604,849, the death-rate was 27.1 against 27.4 and 29.9 for the two previous weeks. Deaths reported, 5525; 1903 under five: pulmonary consumption 573, acute diseases of the respiratory organs 413, diphtheria and croup 121, scarlet fever 69, measles and *röteln* 60, typhoid fever 55, whooping-cough 52, peripneumonia 22, typhus fever (Königsberg, Stettin, Thorn, Braunschweig seven,

Frankfort) 11, small-pox (Königshütte, Beuthen five, Ulm, Dresden, Frankfort) nine. The death-rates ranged from 13.7 in Lübeck to 43.3 in Munich: Königsberg 26.5; Breslau 33.2; Dresden 23.6; Berlin 25.1; Leipzig 17.6; Hamburg 24.7; Hanover 22.3; Bremen 23.8; Cologne 24.6; Frankfort 22.4. For the same week, Vienna 31; Paris 27.2.

For the week ending May 8th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 21.2. Deaths reported, 3053: acute diseases of the respiratory organs 280, being 28 below the corrected average, whooping-cough 130, scarlet fever 121, measles 81, diarrhoea 42, fever 40, diphtheria 19, small-pox (all in London) ten. The death-rates ranged from 16

in Hull to 38 in Plymouth again; London 20.2; Bristol 21; Birmingham 19; Liverpool 25; Manchester 28. In Edinburgh 22, Glasgow 27, Dublin 36.

In the 20 chief towns in Switzerland, population 445,790, there were 27 deaths from acute diseases of the respiratory organs, diarrhoeal diseases 21, diphtheria and group nine, whooping-cough seven, typhoid fever five, small-pox three, scarlet fever two, measles ten. Death-rate of Geneva 29.5; of Zurich 28.5; Basle 31.6; Berne 29.4.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.	
May 16	30.016	58	67	46	35	42	55	44	W	W	NW	11	7	8	F	O	F	—	—	
" 17	29.865	64	84	50	62	24	59	48	SE	NW	E	6	20	6	O	O	O	—	—	
" 18	30.108	50	59	48	67	93	79	79	NE	SE	N	9	6	5	R	R	(C) O ¹ F ²	—	.19	
" 19	30.152	55	67	47	78	81	77	78	SE	E	S	7	12	8	R	Il	O	—	.07	
" 20	30.032	67	86	58	88	70	66	74	SW	E	SW	7	9	13	Il	Il	F	—	—	
" 21	30.115	70	81	58	83	47	79	69	SW	SW	SW	10	18	19	H	F	F	—	—	
" 22	30.212	66	77	60	79	63	83	5	SW	S	SW	10	20	11	F	F	F	—	—	
Week.	30.071	62	86	46														14.10	0.26	

¹ O, cloudy; C, clear; F, fair; G, fog; H, hazy; R, rain; S, smoky; T, threatening.

REPORTED MORTALITY FOR THE WEEK ENDING MAY 23, 1880.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Deaths under Five Years.	Percentage of total Deaths from				
				The Principal "Zy-motic" Diseases.	Lung Diseases.	Diarrhoeal Diseases.	Diphtheria and Group.	Scarlet Fever.
New York.....	1,085,000	683	311	19.77	19.18	6.88	3.51	2.35
Philadelphia.....	901,380	306	98	10.13	5.88	—	3.59	2.61
Brooklyn.....	564,400	261	126	22.99	13.03	4.98	6.13	1.53
Chicago.....	—	135	67	28.15	15.63	8.89	7.41	2.23
St. Louis.....	—	104	47	19.23	11.54	13.46	1.92	.96
Baltimore.....	393,796	190	101	33.69	4.21	22.63	4.21	3.16
Boston.....	365,000	145	55	12.41	16.07	2.76	8.97	—
Cincinnati.....	280,000	124	70	31.45	8.07	14.52	.81	2.42
New Orleans.....	210,000	—	—	—	—	—	—	—
District of Columbia.....	170,000	86	48	34.88	2.33	25.58	1.16	—
Buffalo.....	—	61	17	9.84	11.48	1.64	1.64	—
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	—	58	26	27.59	8.62	1.72	1.72	5.16
Milwaukee.....	127,000	38	18	21.05	10.53	—	10.53	5.26
Providence.....	102,600	43	15	30.23	9.30	—	—	18.60
New Haven.....	60,000	16	3	12.50	12.50	6.25	—	—
Charleston.....	57,000	38	12	13.16	2.63	5.26	—	—
Nashville.....	37,000	21	7	42.86	14.29	14.29	—	—
Lowell.....	54,000	18	—	16.67	—	5.56	—	—
Worcester.....	53,000	19	8	—	26.32	—	—	—
Cambridge.....	50,400	15	5	13.33	20.00	—	6.67	6.67
Fall River.....	49,000	—	—	—	—	—	—	—
Lawrence.....	38,600	20	9	40.00	—	10.00	—	—
Lynn.....	34,000	7	1	—	—	—	—	—
Springfield.....	31,800	8	2	12.50	—	—	—	—
New Bedford.....	27,200	12	6	25.00	8.33	—	8.33	8.33
Salem.....	26,500	16	4	18.75	12.50	6.25	—	—
Somerville.....	23,500	4	—	—	—	—	—	—
Chelsea.....	21,000	7	2	28.57	14.28	—	14.28	—
Taunton.....	20,200	7	0	—	14.28	—	—	—
Holyoke.....	18,400	12	2	33.33	—	8.33	—	—
Gloucester.....	17,300	8	3	—	12.50	—	—	—
Newton.....	17,300	7	—	—	—	—	—	—
Haverhill.....	15,350	15	5	—	14.28	—	—	—
Newburyport.....	13,500	2	1	50.00	—	50.00	—	—
Fitchburg.....	12,600	4	0	25.00	—	—	—	—
Fourteen Massachusetts towns.....	99,860	27	12	18.52	7.41	7.46	3.70	—

Deaths reported 2502; 1078 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 527, consumption 331, lung diseases 302, diarrheal diseases 190, diphtheria and croup 96, scarlet fever 56, measles 49, typhoid fever 40, whooping-cough 34, malarial fevers 28, cerebro-spinal meningitis 19, erysipelas 13, small-pox two, typhus fever one. From *measles*, New York 18, Brooklyn 10, Lawrence five, Cincinnati four, Philadelphia, Pittsburgh, and Salem two, Chicago, St. Louis, Buffalo, Charleston, Lowell, and Holyoke one. From *typhoid fever*, Philadelphia and Providence five, Pittsburgh four, New York, Brooklyn, Cincinnati, District of Columbia, and Nashville three, Chicago and Charleston two, St. Louis, Baltimore, Boston, Lawrence, Chelsea, Holyoke, and Chicopee one. From *whooping-cough*, Cincinnati eight, New York and Brooklyn six, Chicago and Baltimore three, Philadelphia and Pittsburgh two, District of Columbia, Buffalo, New Haven, and Nashville one. From *malarial fevers*, New York 12, Brooklyn seven, Chicago, Baltimore, and Nashville two, St. Louis, Cincinnati and District of Columbia one. From *cerebro-spinal meningitis*, New York and Chicago four, Milwaukee two, Philadelphia, Baltimore, Cincinnati, District of Columbia, Buffalo, Pittsburgh, New Bedford, Chelsea, and Holliston one. From *erysipelas*, New York four, Pittsburgh two, Philadelphia, Brooklyn, Chicago, Buffalo, Lowell, Springfield, and Fitchburg one. From *small-pox*, New York, and Philadelphia one. From *typhus fever*, Buffalo one.

Total number of deaths increased; deaths under five increased largely. The principal "zymotic" diseases increased; deaths from acute lung diseases somewhat increased. A case of typhus fever reported from Buffalo.

In 31 cities and towns of Massachusetts, with an estimated population of 922,270 (population of the State about 1,690,000), the total death-rate for the week was 19.16 against 20.03 and 20.21 for the previous two weeks.

For the week ending May 8th, in 149 German cities and towns, with an estimated population of 7,738,030, the death-rate was 27.9 against 27.1 and 27.4 for the previous two weeks. Deaths reported 5648; 2007 under five; pulmonary consumption 645; acute diseases of the respiratory organs 430, diphtheria and croup 139, measles and *typhus* 76, scarlet fever 69, typhoid fever 57, whooping-cough 37, puerperal fever 17, typhus fever (Königsberg Dantz, Stettin, Thorn two, Posen, Magdeburg, Braunschweig three), 10, small-pox (Königsbrütte, Beuthen four, Esslingen two) seven. The death-rates ranged from 14.9 in Darmstadt to 42.6 in Würzburg; Königsberg 32; Breslau 28.4; Dresden 26; Berlin 26.6; Leipzig 26.5; Hamburg 28.3; Hanover 22.7; Bremen 23.8; Cologne 21.7; Frankfurt 26.9; Strassburg 33.2. For the same week Vienna 33.9; Paris 28.4.

For the week ending May 15th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 21.1. Deaths reported 3029; acute diseases of the respiratory organs 286, whooping-cough 132, scarlet fever 102, measles 96, diarrhoea 35, fever 32, diphtheria 13, small-pox 9 (all but one in London). The death-rates ranged from 16 in Norwich to 31 in Plymouth; London 19.8; Bristol 19; Birmingham 22; Liverpool 27; Manchester 25. In Edinburgh 20, Glasgow 28, Dublin 35.

In the 20 chief towns in Switzerland, population 445,790, there were 35 deaths from acute diseases of the respiratory organs, diphtheria and croup 15, diarrheal diseases 14, scarlet fever six, measles two, typhoid fever two, small-pox one. Death-rate of Geneva 21.4; of Zurich 31.2; Basle 26.5; Berne 29.5.

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
May 23	30.144	65	72	60	83	75	89	82	SW	S	S	14	12	10	O	H	T	—	—
" 24	30.053	76	90	59	84	37	56	59	SW	S	SW	10	10	8	F	F	O	—	—
" 25	29.992	70	80	63	64	68	68	66	E	E	SW	12	9	8	F	C	C	—	—
" 26	29.920	80	97	69	69	59	55	61	W	SE	SW	7	10	15	F	F	O	—	—
" 27	29.806	85	96	70	54	33	53	46	W	SW	SW	12	20	11	C	F	F	—	—
" 28	29.850	73	88	65	64	46	84	64	SW	W	W	10	16	3	F	O	F	—	.23
" 29	30.177	63	70	57	48	42	51	47	N	SE	S	12	10	3	C	C	F	—	—
Week.	29.992	73	97	57														1.10	0.23

¹ O, cloudy; C, clear; F, fair; G, fog; H, hazy; R, rain; S, smoky; T, threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JUNE 12, 1880, TO JUNE 12, 1880.

GODDARD, C. E., major and surgeon. Granted leave of absence for four months. S. O. 128, A. G. O., June 11, 1880.

PAULING, H. O., captain and assistant surgeon. Ordered before the army medical board, in session in New York city, for examination for promotion, and on its completion to return to proper station. S. O. 132, A. G. O., June 16, 1880.

ADAIR, G. W., captain and assistant surgeon. Ordered before the army medical board, in session in New York city, for examination for promotion, and on its completion to return to proper station. S. O. 132, C. S., A. G. O.

BOOKS AND PAMPHLETS RECEIVED.—The Mind and how to Preserve it. By Peter Bryce, M. D., Medical Superintendent of the Alabama Insane Hospital, etc.

A Treatise on Oral Deformities as a Branch of Mechanical

Surgery. By Norman W. Kingsley, M. D., D. D. S., President of the Board of Censors of the State of New York, etc., etc. Three hundred and fifty illustrations. New York: D. Appleton & Co. 1880.

Transactions of the American Gynecological Society. Vol. IV., for the Year 1879. Boston: Houghton, Mifflin & Co. 1880.

L'Année médicale. (Deuxième Année) 1879. Résumé des Progrès réalisés dans les Sciences médicales. Published under the direction of Dr. Bourneville, Editor of Progrès médicale. Paris: E. Plon & Co. 1880.

The Treatment of Puerperal Septicæmia by Intra-Uterine Injections. (Reprint from Vol. IV. Gynecological Transactions, 1880.) On Coccygodynia. A Lecture. (Reprinted from the New York Medical Record.) Both pamphlets by Edward W. Jenks, M. D., LL. D., of Chicago.

Index Medicus. Vol. II., No. 5, for May, 1880. New York: E. Lippoldt.

Twenty-Second Annual Report of the Washington Home, at 41 Waltham Street, Boston: Albert Day, M. D., Superintendent.

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Lectures.

SOME OF THE SYMPTOMS OF BRIGHT'S DISEASE.¹

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THE so-called waxy or "amyloid" or "albuminoid" casts are frequently large, highly refracting, tough-looking, contorted, or undulating, with sometimes a conchoidal fracture. The name amyloid has properly been abandoned, as the casts thus named do not necessarily mean amyloid degeneration, and are not composed of amyloid material. They are not unfrequently met in connection with it, as both they and very often the amyloid degeneration are the results of advanced disease, but may also occur in other forms where no amyloid exists. They do not have the characteristic reaction even when found in the tubes of an amyloid kidney. They indicate disease of the parenchymatous structure of the kidney, and bear an extremely unfavorable prognostic significance. The same may be said of the very large, usually straight, very darkly granular, solid casts, which look as if they were composed, as indeed I believe they really are, not of exudation, but of masses of thoroughly degenerated epithelium, packed and molded in the straight tubes. I have seen these not long before the fatal termination so large as to be distinguishable by the naked eye, like little pieces of fine white thread.

[NOTE. It would appear from some recent researches of Cornil,² made by the use of osmic acid, that the material for the casts is chiefly furnished in the form of albuminous globules, afterward fused more or less completely together in the convoluted tubes, but that the casts are molded and hardened in the straight tubes.]

The nervous symptoms found in connection with renal disease are of two kinds, of which we may speak in the ordinary way as functional and organic, since these names remind us that one set of them probably depend upon the failure of the kidneys to perform their functions, and the other upon the constitutional condition which underlies both nervous and renal symptoms. The first of these are the so-called uræmic symptoms; the second, the organic diseases of the brain, and especially cerebral hemorrhage, so frequently seen with the contracting kidney.

Speaking without figures before me, but from a recollection of cases both in and out of the hospital, I should say that half the cases of cerebral hemorrhage, especially where the effusion is large, in persons of middle age, were accompanied by more or less interstitial nephritis. The reason for this association we can see more clearly after we have studied the relations of the circulatory organs. For the present we will take up the uræmic symptoms, which may be considered to include headache, often with vomiting, coma, and convulsions. I doubt if we find any mental derangement as a result of uncomplicated renal disease; certainly nothing more than a sort of moodiness or suspiciousness, such as might be the result of any chronic and depressing disease.

That an association of the two conditions, mental disease and renal disease, in the same person may occasionally be observed is not at all strange when we

consider the frequency of each, and still less so in the light of the fact that both are very likely to be connected with disorders of the circulation or degeneration of the arteries.

Headache is an exceedingly common symptom, and derives much importance not only from its severity, but from the fact that it may be that which prompts the patient to seek advice, or may precede other symptoms for months. There is but little which is distinctive about it except its frequent recurrence, when not constant, and usually an absence of that localization which would lead one to suspect a definite cerebral lesion. So far as the character of the pain is concerned it is hardly to be distinguished from a "nervous" headache, and its origin must be determined by the presence or absence of other symptoms. I think, however, that it has two distinct causes, or, at any rate, we have a right to look for two different terminations; that is, in many cases there is simply relief either from nature or from treatment, while in others it is the precursor of a cerebral lesion which may produce hemiplegia. The vomiting, which often forms a troublesome adjunct, unfortunately is by no means sure to give relief.

Convulsions and coma, often mentioned in the same breath, may with advantage be separated; for while it is true that convulsions, if long continued or severe, especially if tending toward a fatal result, run into coma, yet the reverse is by no means usual. In many cases coma comes on gradually, and terminates life without there ever having been any tendency to convulsions. The condition which furnishes the largest proportion of so-called uræmic convulsions is the puerperal; for although puerperal convulsions, even those which are distinctly epileptiform and not hysterical in character, are not always associated with nephritis, yet they are usually so, and the presence of nephritis, so frequent in pregnancy, furnishes good ground for dreading their approach. I have seen a woman in three successive pregnancies with thoroughly well-marked, violent, and repeated epileptiform convulsions, in whose urine I never could find any evidence of nephritis. She is now in moderate health. On the other hand, it is only a minority of patients with nephritis who have convulsions at all. About their etiology so much has been written that not even an abridgment of the principal contributions can be attempted here; and this omission is of less importance since by far the most satisfactory and conclusive arguments are those in which D shows that his predecessors, A, B, and C, were all wrong, having afterward the same service done for his views by E and F.

I may mention, however, some of the principal theories: (1.) Retained urea acts as a poison. Disproved by the facts of injection of urea into the veins giving rise to nothing but diuresis. In the case of a patient of mine with granular kidneys, there was found upon the skin of nearly the whole body, but chiefly upon the face and neck, an abundant white gritty deposit, which proved to be nearly pure urea, mixed with some sebaceous matter. This patient's blood must have been thoroughly loaded with it; yet he had no convulsion whatever, but died in gradually increasing coma. In another patient, however, who did die in convulsions, with a large white kidney (parenchymatous and interstitial nephritis), I think there was the same deposit to a less extent, but owing to an accident I did not determine it with certainty. (2.) The theory of Frerichs,

¹ Continued from vol. cii., p. 605.

² Journal de l'Anatomie et de la Physiologie, etc., No. 4, 1879.

that the urea is decomposed into carbonate of ammonia, which is partly eliminated by the breath and stomach, and partly retained in the blood, giving rise to convulsions, is probably partly true, so far as the change in the urea goes; but carbonate of ammonia is never present in the blood in sufficient quantity to give rise to very marked symptoms, and these are not convulsive. (3.) Less definite theories of creatinæmia, or the retention of some as yet undetermined excrementitious products, of which we can say only that as yet they do not rest on a satisfactorily well-established chemical basis to be received as demonstrated. A fact, however, of great practical importance, and one which seems to point to some explanation of this kind, is that a marked diminution or even suppression of urine is likely to be followed by some of these accidents. Dr. W. L. Richardson has called special attention to this as a means of prognosis, or of determining when premature delivery should be performed in a case of puerperal nephritis with threatening convulsions. (4.) Of the theories as to congestion, anæmia, or œdema of the brain, it is difficult to make any one fit all the cases; but it seems highly probable that some change in the circulation or pressure in the brain is the immediate cause of the convulsion.

The utmost that Bartels ventures to say, after a very careful discussion of the theories in the light of his clinical experience and numerous quantitative examinations of urine, is, "I consider only this much established: that the symptoms are all caused by some disorder of the urinary secretion, and that the title of uræmia is rightly attached to them."

My own view is somewhat as follows: the motor centres of the brain are affected both by anæmia and by the poisonous action of some products which should have been excreted by the kidney. By this malnutrition and poisoning (which may be rapidly increased by diminution of urine) they are brought into a condition of abnormal excitability. Then from some peripheral irritation, not necessarily a painful one (in pregnancy I believe it to be most frequently a uterine contraction), a reflex spasmodic contraction of cerebral blood-vessels is produced, and as a consequence a sudden complete anæmia of the motor centres. This sudden anæmia is to be looked upon as an irritation (*anämische Reiz*). Hence general convulsions. Individual peculiarities and mental influences may affect the ease with which this train of events is put in motion. In a case of puerperal convulsions, seen not long since, I was informed that the patient had for a long time been subject to "dead hands," a condition well known to be due to spasmodic action of the vaso-motor nerves. Dr. Fordyce Barker has remarked upon the great number of cases of puerperal convulsions he has seen among the wives of physicians, whom he supposes to have become frightened by reading their husbands' books. The latter part of this theory is based upon the well-known experiments of Kussmaul and Jenner on the production of epilepsy by sudden anæmia of the brain, and has the merit of explaining how some cases of puerperal convulsions may occur without nephritis, the general anæmia being sufficient as a predisposing cause.

When the accumulation of morbid products is excessive, or when for any reason it goes gradually on without the production of convulsions, the tendency is toward coma, — a more essential feature of uræmia, it seems to me, than are convulsions.

Headache and perhaps vomiting have often a similar origin, and are to be looked upon as precursors and as calling for relief. In treating these symptoms we ought, if possible, to remove the excess of water and of excrementitious material which is keeping the motor centres in a condition of excitability. This can hardly be done by the kidneys, since it is their failure to act which has given rise to the accumulation; and inasmuch as the failure is due to serious structural changes, the effect of treatment, be it ever so favorable, cannot restore their activity rapidly enough to be of service in such an urgent condition as uræmic convulsions. Indeed, the function of the kidneys is soonest restored by treatment directed toward relieving them temporarily of their duty. Hence the intestines are often vigorously stimulated by cathartics carrying off water and presumably material which should go through the kidney. Although the danger of provoking a troublesome diarrhœa is not to be left out of sight, yet as it is so much less than that of the uræmic condition the risk must often be assumed.

In regard to venesection, there is difference of opinion. The fact that it is an old-fashioned treatment ought not to weigh against it, and many practitioners of the present day will tell you of great relief following it. Bleeding, as is well known, not only diminishes temporarily the absolute quantity of the blood, but in a larger proportion its solid constituents, so that you are really making your patient anæmic by the process. Of course, a certain amount of urinary constituents are evacuated in this way, but I do not think it has been shown that their *relative proportion* in the blood is materially decreased unless for a very short time. Hence in many cases venesection would actually add to the intensity of the anæmia which we desire to avoid, while leaving the blood still charged with morbid material in nearly the same proportion. Its use should therefore, I think, be restricted to cases where anæmia is not extreme, and where the nervous irritability seems to be the controlling factor.

The skin, however, which has such intimate physiological relations with the kidneys, can generally be made useful. But I have seen cases in which it entirely failed to respond to any stimulus. One man, on whom it was impossible to start a drop of sweat in the hot-air bath, told us that when a sailor in the West Indies, some years before, and at work in the extreme heat, he never perspired at all. This man was afterward found to have kidneys more nearly approaching a pure amyloid than any others I have ever seen. The two best means of acting rapidly on the cutaneous secretion are, as has been stated, *jaborandi*, or its alkaloid *pilocarpine*, by the stomach or subcutaneously, and heat, preferably in the form of the hot-air bath.

I have called your attention to the favorable effect of the hot-air bath upon œdema. Some of you have seen a very anæmic but not emaciated man (John C. —), who has been in the hospital two different years on account of convulsions, and who not infrequently has severe headaches. Between his attacks he went out to work. The treatment by the hot-air bath was found so beneficial in his case that whenever his headache returns or he has vomiting, as he occasionally does, he gets another bath, with usually complete relief. Of course there will come a time when this treatment will fail, but it has not done so yet.

Another indication, which in puerperal cases alone can be fulfilled, is removing the irritation which initiates

the convulsion, that is, the uterine contraction. This means, in cases where the convulsions begin before labor, emptying the uterus, prematurely or at term. This procedure may put an end to them; but where the convulsions begin *after* labor, we have not the same power of diminishing them. That is, where the irritability of the motor centres is of such a degree that labor pains are necessary to provoke a convulsion, we can limit their intensity by emptying the uterus; but where that irritability allows even an after-pain to provoke a general spasm, this resource is cut off, and we have to resort to means already described and others which diminish excitability and lessen pain. In non-puerperal uræmic convulsions it is impossible to say whence the irritation arises, and of course equally impossible directly to remove it.

The drugs which are used to control uræmic convulsions are, in the first place, ether and chloroform, which may sometimes be so managed by a watchful attendant, if the fits are slow enough in coming on, as to cut them short, but which must usually be given more freely or almost continuously if we wish to be certain of completely arresting the convulsions. In most cases warning of the fit is not given by the patient's appearance until respiration has been sufficiently interrupted to prevent enough of the anæsthetic being inhaled to do any good. The same thing may often be better done by chloral, which, although we do not admit the original chemical theory of Liebreich, corresponds clinically pretty nearly to a continuous dose of chloroform. It may be given either by the mouth or by enema. Opium, or rather the hypodermic injection of morphia, I have left to the last, because it leads me to speak of its use in renal disease generally, as well as simply in convulsions. You know that in spite of the tendency which is supposed to exist in uræmia to an over-action of opium, morphia subcutaneously has been found highly successful in the treatment not only of puerperal convulsions, but of those occurring in the course of chronic nephritis, and in somewhat large doses too. You not infrequently hear it said that morphia should be used with great caution when there is any trouble with the kidneys. I think there is an idea that the inability of the kidneys to eliminate the morphia renders its action more intense. I have never sought for morphia in the urine of a patient with nephritis, and doubt if my chemistry is good enough to allow me to find an ordinary dose in any urine; but I have recently administered quinia for the sake of the experiment to two of our patients, and found a portion—how large I do not know—in the urine with but very little trouble. There is no reason why another alkaloid should not follow the same course. To me it seems that the danger lies simply in intensifying coma, if present, or turning the scale in that direction when a tendency already exists. If the warning means only what it says, I have no fault to find, for I hope you will never give morphia to anybody under any circumstances except with caution; but if it means that you are not to give it at all to patients who have chronic nephritis it is a great mistake. I am far from denying the danger, for I have seen one case of death by narcotism, for which neither the attending physician nor myself could satisfactorily account by the dose of morphia known to have been given, until we found albumen and casts. Unfortunately the post-mortem evidence of renal disease was denied us. I have within a few days, too, seen a case where a woman of seventy,

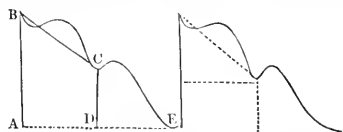
who has a light urine, albumen, casts, and dropsy, took .008 (one eighth grain) of morphia subcutaneously for dyspnoea, and the fatigue of sleeplessness, and slept so soundly all day that I felt decidedly anxious about her, although the symptoms did not at any time become actually alarming. But, on the other hand, I have never seen a more completely favorable action of morphia, with all its advantages and none of its disagreeable effects, immediate or secondary, than in excessively severe headaches in a most typical case of contracting kidneys. The quantity in this case was small, and always should be so in similar cases, but in convulsions doses have been given considerably in excess of those employed in ordinary cases,—two to four or even six centigrams. I may mention incidentally that great relief may sometimes be obtained in these headaches by caffeine, .25 gram, repeated if necessary once or twice. Unfortunately, the caffeine seems to act better the first few times it is used than afterwards.

Among the symptoms on the part of the respiratory organs are some which I think may properly be called uræmic, though not usually mentioned as such. We may of course have dyspnoea depending upon actual pulmonary obstruction, either as œdema of the lung or as pleuritic effusion or hydrothorax, but I think it is not unusual to see a degree and kind of dyspnoea not to be accounted for by these conditions that is out of all proportion to the amount of œdema to be detected by auscultation, and appearing and disappearing with great rapidity. This is of a nervous or uræmic character. A peculiar form of respiratory disturbance, once thought to be pathognomonic of fatty degeneration of the heart, but since shown to be connected with various diseases which impair the sensitiveness of the medulla oblongata, I have met with several times in cases of contracting kidney, as well as in some others where the diagnosis was not so clear. This is the Cheyne-Stokes respiration, which may accompany or alternate with marked dyspnoea. This phenomenon consists in the respiration from a normal or an exaggerated intensity becoming gradually more and more feeble until none can be detected, either by the eye or by auscultation. After this period of apnoea, which may last from ten to twenty seconds, more or less, a slight inspiration takes place, succeeded by others more and more ample, until the maximum of intensity is reached, when the same series begins over again. The return of respiration is very likely to be accompanied by some restless movements or awakening if the patient have dropped into a short doze during the breathing period. The whole cycle may occupy somewhere in the neighborhood of a minute, and its duration is for each case pretty constant. This symptom usually justifies a very unfavorable prognosis, though not an immediately fatal one.

The patient who exhibited it more than a year ago is still living at eighty-two. Another patient, aged fifty-one, while still attending to business, was said by his wife to "hold his breath" so long when asleep as to frighten her. This I suppose to have been Cheyne-Stokes respiration, since he afterward displayed it to perfection, but for many hours before he died in coma his breathing was regular, though stertorous. The cause of this condition is probably the narcotization of the medulla oblongata by uræmic products, so that it no longer responds to the ordinary stimulus until the accumulation of carbonic acid during the apnoea becomes large enough to put the apparatus again in mo-

tion, the excess is eliminated, and, the stimulus failing, another period of apnea results.

The study of the pulse and circulation in renal disease brings us to the consideration of certain views, rather recently brought forward, which seem to me of the highest interest, both theoretical and practical. It has long been known, in fact Dr. Bright himself pointed out, that a hard pulse is associated with Bright's disease, and this fact has seldom been left out of sight in interpreting one of the most striking phenomena on the part of the circulatory apparatus, that is, the hypertrophy of the heart. It was said that the blood was opposed, in its passage through the arteries, either by actual contraction of the arteries in the kidneys or by its own want of normal relations to the capillaries, owing to failure of the kidneys to purify it, and hence hypertrophy of the heart in order to push it through. The more recent view, however, is that the arterial derangement *precedes* the renal; and here again we have two differing views: one that a sort of thickening of the minute vessels (arterio-capillary fibrosis) exists throughout the body, and the other that the first obstruction to the passage of the blood is, so far as the vessels are concerned, purely functional, and due to a poisoning of the blood. This theory differs from the first of all, as regards the origin of the poisoning; for while the older makes a failure of the kidneys the *cause* of an accumulation of morbid products in the blood, the more modern one assumes the presence of various poisons, frequently derived from the digestive organs and circulating in the blood, though not in consequence of a special failure on the part of the kidneys. Such poisons are, for instance, the scarlatinal, the gouty, and that of lead. The connection of high arterial tension with a great many cases of Bright's disease is easy to show, and the sphygmograph furnishes a good means of demonstrating it. Perhaps I might say, too, of detecting it; for although the fingers of our grandfathers, trained to rely on the unaided senses rather than on meters, scopes, and graphs, might tell them of hard and full pulses, I should not care to depend on my own finger alone for a diagnosis of increased tension.



The pulse wave of high tension is usually like this, with more or less modification, and is distinguished by, first, the rising of the pulse wave above a line drawn from the apex of the line of ascent B to the aortic notch C; second, the height of the aortic notch C from the base line D; third, the extent of the line A D beyond its proper proportion, which should be two fifths of the line A E.

The little point at the beginning is not unfrequently wanting, and the tracing takes this form, which for brevity we call the "square-topped tracing," and which is often seen.

In part of the cases we have here this morning we get these peculiarities, and as well also in a woman in ward G, whom you will see at another time, who entered with a little dropsy of the feet and eyelids and a severe headache. She has a good deal of light-colored urine of low specific gravity, with a very little albumen, but no casts have been found. In another case

we have no indications of high tension, and yet he is the patient whom I have once shown you as an instance of extreme oedema. His urine contains a good deal of albumen and many casts. In these cases, although they are all "Bright's disease" (one of them has also valvular lesion of the heart), we have really two forms of disease, separable clinically as well as pathologically, and I think that Dr. Mahomed, who is perhaps the principal exponent of the high-tension theory, would have considerably strengthened his case if he had borne such a distinction more constantly in mind.

We can hardly proceed further with the subject intelligently until we have said something upon the pathology and classification of the group of diseases known as Bright's.

The kidney is composed of three structures or systems of tissue, — the vessels, the interstitial tissue, and the parenchymatous or the connective tissue and epithelium. The connective tissue, except along the vessels, exists *very* sparingly in the cortical portion of the kidney. Theoretically we may have disease of any one of these structures alone, and hence, when speaking anatomically, we may distinguish interstitial from parenchymatous nephritis, and amyloid degeneration of the vessels from either. Practically, however, these distinctions often hold only as a matter of degree or succession; so, if not the rule, it is at least a *very* frequent exception to find two or three forms combined in the same kidney when the disease has progressed to its full development.

We might arrange the diseases usually and properly known by the name of Bright, who described several forms, in a series beginning with the purely parenchymatous, and ending with the purely interstitial, between which extremes we should find all degrees of intermixture. At the purely parenchymatous end of the scale we should find, I believe, a good many cases, but at the other, *among the cases which have arrived at a fatal termination from the renal disease alone*, few or none. That is, a parenchymatous epithelial disease may so far progress without involving the interstitial tissue, or perhaps I should say without provoking the development of new tissue, as to render the organ incapable of performing its functions; while the interstitial form, although it may, up to a certain stage, be found unassociated with marked epithelial degeneration in cases which have died from other causes, cannot render a kidney useless until decided and extensive parenchymatous changes have taken place. We can easily understand an epithelial inflammation of a low and degenerative type going on without setting up a formative irritation of the underlying connective tissue, especially as this tissue in the kidney is but slightly, and perhaps in some places not at all, developed; while, on the other hand, it is hardly conceivable that healthy epithelium should exist, when compressed by the slowly contracting, cicatrix-like tissue resulting from hypertrophied and newly formed stroma. I believe these views to correspond closely with the clinical facts that, while parenchymatous nephritis is likely to make its appearance with well-marked symptoms like dropsy, often extensive, convulsions, scanty, high-colored urine, with much albumen and casts, the existence of the interstitial is often discovered by accident and from symptoms — for instance, headache, dyspnea, or loss of vision — not directly connected with the kidneys. At a later stage phenomena indicating failure of the kidneys may arise, and show that the secreting epithe-

lium is being affected. You notice that this arrangement does not include the amyloid kidney. My own experience would lead me to doubt the propriety of making of it a distinct clinical affection, since I have never seen a case of amyloid disease in which renal symptoms were prominent, and in which at the same time other renal disease was absent. It is universally acknowledged to be the local expression of a general disease, and also to be associated in a great many cases with the other forms of nephritis. There is no reason to suppose that in the great majority of cases in which amyloid degeneration of the renal arteries is found after death the symptoms, local or general, have been materially modified thereby. Lecorché goes so far as to say that the albuminuria, which, according to Bartels, is the one symptom without which amyloid degeneration cannot be diagnosed, does not result from amyloid degeneration at all, but belongs to the parenchymatous inflammation which accompanies it. Bartels, however, asserts that he cannot have overlooked such a nephritis, and reports cases where the renal symptoms assumed such prominence, that we can hardly doubt the propriety of making a separate disease of this degeneration. Yet even he says, "I believe we may state that the issue of the forms of disease which are attended by amyloid degeneration of the kidneys depends much more upon the fundamental malady and the simultaneous amyloid affection of other organs than it does upon the renal disease itself." I shall therefore consider, admitting, however, the possibility of an exception to the rule, that amyloid degeneration of the smaller arteries of the kidney is important chiefly as a complication of one form or another of nephritis. If I were to attempt a description of it as a separate disease, I should be obliged to draw upon others for material. In the one case which came the nearest to being pure amyloid, where the liver and spleen were both affected, and where, with a history of syphilis, cicatrices and white nodules were found in the liver, there was, in addition to the fatty degeneration of the epithelium, which might have been a result of the amyloid change in the arteries, and which according to Bartels was mistaken by Lecorché for a true parenchymatous nephritis, a considerable increase of connective tissue.

If we trace the history of the cases corresponding to the series of pathological conditions I have supposed, we find something like the following, beginning with the parenchymatous nephritis: A person is exposed to cold for some time; if observant he notices that his urine is scanty and high colored; he begins to "bloat," perhaps quite rapidly, and this swelling may be extensive, involving legs, genitals, face, with, it may be, some pleuritic effusion, though I think not usually in the early stages. There may be but little pain of any kind, though possibly some in the back, but there is likely to be headache and vomiting. You find a good deal of albumen and casts of various kinds, not including the "waxy." This first attack may of course vary in acuteness and in severity. If very acute or if not severe, as after scarlet fever, for instance, recovery may often be complete; but sometimes in these cases, and frequently in those progressing less rapidly, after a period of improvement, during which the dropsy subsides and the patient feels pretty well, but becomes somewhat weak and anemic, by and by something of the same kind, on a little exposure, happens again. (Edema of the lungs may be a troublesome symptom,

and, as I have said before, diarrhoea is by no means an unfrequent or unimportant accompaniment. This may be caused by ulceration of the intestines. The anæmia increases, and a certain amount of dropsy is present, while yet the patient keeps about, and may even do a fair amount of work. For a long time the urine contains much albumen, large, dark casts of degenerated epithelium as well as the waxy. The end is likely to come with gradually increasing weakness, confusion of mind, dullness, delirium, stupor, and convulsions. But all these latter symptoms may, after an illness lasting for years, be crowded into the last few days of life. In such a case as this, as for instance in Jas. C., to whom I have several times called your attention, we are not likely to find the pulse of high tension, at any rate after it has passed the early stages. Dr. Mahomed states that the tension is never as low in scarlet fever as it is in typhoid, for example, but I myself have not had an opportunity to examine with the sphygmograph the pulse of patients either in scarlet fever or in acute nephritis.

If we go to the other end of the series we get a different set of symptoms. A middle-aged, active man suffers from headache for some time. It is supposed to be either an exaggeration of the headache which he has "always" had, or due to overwork. He pays but little attention to it except while it is bad enough to keep him from business. His general health is deteriorated, and his friends say he has been a sick man for some time. He consults a physician for his headache, who finds in addition to the symptoms stated by the patient that his urine has been rather copious, and he has been obliged to get up two or three times in the night. It is light as to color and as to specific gravity. It contains little albumen, and but a few hyaline casts. His eyes are examined, and in the retina are found whitish streaks and patches, with perhaps some congestion of the disk and a few hæmorrhages. Dimness of vision might well have been the first symptom. The sphygmograph gives us a characteristic "square-topped" tracing of high tension. The impulse of the heart is powerful, and its area of dullness enlarged. The headache (probably accompanied by vomiting) yields, very likely, to nothing but morphia, which is probably kept as a last resort. After a few days of severe headache a hemiplegia is noticed, which, if the hæmorrhage is large enough, may either terminate life, or simply add one more to the patient's afflictions.

Dyspnoea, to account for which perhaps you can find some adema of the lung, but which goes and comes, and seems to be, in part at least, of a nervous character, is likely to be a troublesome symptom. Dropsy may be absent or very slight, beginning in the paralyzed hand, and affecting the feet only after the circulation has become very feeble. Delirium may be present for weeks, even while the patient is able to walk about or ride out.

One patient, a commercial traveler, was constantly wanting to go to some other hotel, and for a long time up to a few hours before his death walked the room, with swollen feet and staggering gait, with a carpet-bag in his hand, anxious to get away to catch some train.

A case with fewer symptoms, but none the less instructive on that account, we have here, and I hope it will be a long time before we trace her further history: This woman, aged forty-five, had severe headache.

When she entered the hospital she was very pale, and had a little œdema of the upper eyelids and of the ankles. Her pulse manifested high tension, as you see by the tracing. Her urine was at first of specific gravity 1003, then 1007, 1008, and now 1012, light colored, containing a faint trace of albumen, but on repeated examination no casts. Under the influence of rest, which I cannot consider the least important part of the treatment, occasional laxatives, bromide of potassium, and iron, she has lost her headache and drowsy, and is much improved in appearance. Her tracing, which I take now, still shows high tension, but is, I think, less marked than when she entered. Is this a case which is likely to become one of interstitial nephritis? Can we stop it? To the first of these questions I must answer that I think it is; to the second, it is not easy to say. The apparent success which a physician meets in the treatment or prevention of diseases reported incurable depends very largely on his mental constitution. The sanguine man thinks he has cured many cases; the man of an opposite temperament, when the recovery, faithfully but perhaps not very hopefully worked for, takes place, is much inclined to doubt his own diagnosis. When this woman goes out, as she soon will, I shall advise her to take life as easily as her necessities will permit, to see that her bowels are kept well open, to use bromide of potassium if her headaches are severe, and occasionally to take iron. She ought especially to avoid long exposure to cold, not for fear of making her interstitial nephritis worse, but because she may engraft upon it parenchymatous disease.

(To be continued.)

Original Articles.

THE IMPORTANCE OF THE EARLY RECOGNITION OF EAR-DISEASE.¹

BY J. ORNE GREEN, M. D., BOSTON.

ALTHOUGH the term *modern* may be with justice applied to almost the whole of our pathological knowledge, it is still more applicable to our acquaintance with the changes produced by disease in the ear, for before the time of Toynbee (1840-1866) but few attempts had been made to determine anatomically the variations in the tissues which resulted from aural disease. Since that time, however, great progress can be claimed not only in the grosser pathological anatomy, but also in the pathological histology of the tympanum and its conducting apparatus, and this, with our increased appreciation of the physiological functions of the different parts of the ear, and improved methods of examination, gives a basis for the clinical study and treatment of the diseases of that organ which will compare favorably with that used for almost any other organ. The cloud of mystery which formerly involved the diseases of the ear is rapidly dissolving, and deafness can no longer be spoken of as a disease, but merely as a symptom capable of explanation from pathological tissue changes which interfere with well-known and well-established physiological and physical laws.

Notwithstanding the very decided advance in our knowledge of the normal and pathological physiology

and of the pathological histology of the tympanum, the fact, however, remains that many diseases of the ear and of the tympanum itself, as they are presented to the practitioner, are either irremediable or capable of but partial improvement, and to some of the reasons for this intractability attention is asked in a general way in this paper.

According to our present knowledge, the tympanum, including the drum membrane, the chain of ossicles, the cavity itself, and the secondary membranes leading to the labyrinth, with their muscular and nervous adjuncts, are the most frequent seat of disease, and the majority of the pathological changes which have been found on dissection as occurring in these parts may be classified under the three heads of hypertrophic, adhesive, and destructive processes. Of hypertrophic and adhesive processes in general it may be said that from their very nature they require time, and usually a long time, for their development; although the same remark is not so strictly applicable to the destructive processes, as it is well established that rapid ulceration and destruction may occur, still, the viability of tissues, and especially of tissues having an important physiological function to perform, like those of the tympanum, is so great that even these may be considered relatively slow, although they take place much more rapidly, and often, than either of the other two changes. Of all these processes it may be said that they are secondary to some variety of inflammation, and are rather the results of disease than the disease itself. Clinical investigation may fairly claim to have traced these pathological changes to their origin, and to have established the fact in regard to the ear which general pathology has established in regard to such processes in general, namely, that they are the result, as has just been stated, of inflammation in the tissue in which they are found.

All of these inflammations are varieties of inflammation of the mucous membrane of the tympanum, and the majority of them are either serous, mucous, or purulent catarrh of that membrane. The serous variety is characterized by hyperæmia, serous effusion, and œdema of the subepithelial connective tissue, ending in perfect resolution and absorption, or else in general hypertrophy of the mucous membrane, or in adhesive inflammation, which is a very common result of this disease. In 1013 diseased ears Toynbee found adhesive inflammation in 202, or twenty per cent. The adhesion is brought about in the following way: by a change of position in the tissues, due either to swelling or to collapse of the drum membrane from closure of Eustachian tube, two epithelial surfaces are brought in contact; from the pressure the epithelium is destroyed, and the tissue becomes changed to granulation tissue, and by proliferation from the protuberances adhesion takes place, and the new tissue then undergoes cicatricial contraction. In this way broad or narrow synechie are formed, which, if they involve the important parts of the conducting mechanism, most seriously impair the hearing. With the general hypertrophy of the mucous membrane the conducting mechanism must be more or less involved, as it is everywhere covered with the mucous membrane.

With the mucous catarrh there is a universal hyperæmia of the mucous membrane, with a serous and cellular infiltration of the subepithelial connective tissue; the epithelium is retained; as the result of hypersecretion of the tubular and racemose glands of the tym-

¹ Read before the Massachusetts Medical Society, at its last annual meeting, and recommended for publication by the society.

panum, there is more or less free mucus mixed with triple phosphates and other crystals in the cavity. This condition is capable of complete retrogression, the membrane returning to its normally delicate and elastic condition; but when it passes into chronic catarrhal inflammation the cellular infiltration becomes organized; the membrane looks bluish-gray or white, is much firmer, stronger, and more vascular, from a varicose condition of the blood-vessels, and we have the thickening which, if it involves the conducting mechanism, very seriously impairs its functions.

The purulent catarrh is characterized by hyperæmia, enormous swelling, and œdema of the mucous membrane, with a secretion of pus cells, granular corpuscles, granules, epithelium, and detritus. The swelling is due to enlargement of the blood-vessels, with cellular and serous infiltration of the connective-tissue stroma; the epithelium is destroyed. The disease is distinctly ulcerative, and may result in great destruction of tissue. It also is capable of complete retrogression, but it may result in hyperplastic processes, forming nodules, villi, and papillary growths; the abundant infiltration of round cells in the middle of the mucosa may become organized, or calcifications may occur. In addition to these tissue changes, irreparable destruction of important parts may take place, or caries or necrosis be produced in the bone.

Besides these pathological conditions from the three varieties of inflammation, still other tissue changes are described by Schwartz, which may result from these inflammations when chronic. In a small proportion of cases there is found a distinct connective-tissue sclerosis of the deep periosteal layer of the mucous membrane, showing tendinous bundles of homogeneous, brittle, opaque fibres in the deeper layer, while the subepithelial connective tissue remains normal. In still a larger proportion of cases the deep periosteal layer is impregnated with finely granular lime salts, and with spots of ossifying periostitis.

The influence of these tissue changes may be understood when it is remembered that the drum membrane, the chain of ossicles, and the secondary membranes constitute the conducting apparatus of the ear, and must necessarily be capable of the most delicate pendulum vibrations. If hypertrophy of the tissues covering this minute apparatus exists, the vibration previously able to cause a certain displacement of the conducting apparatus is no longer able to produce the same effect; the pendulum adapted to tick half seconds cannot be increased in weight without changing the character of its work. If adhesive inflammation has occurred, by which new bands and threads of tissues are found between different portions of this same conducting apparatus, its vibratory power is interfered with. If destruction has taken place the capability of vibration is much reduced.

Of hypertrophic and adhesive processes it may be said in general that, once thoroughly established, they cannot, as a rule, be removed — that is, if true hypertrophy has occurred and new fibres of tissue have formed, these new fibres remain as a part of the body; if true adhesion has taken place between two surfaces, those surfaces remain adherent. Certain it is that in the tympanum this is the rule; but in this small cavity, when either of these pathological processes occurs upon parts or the whole of the conducting apparatus, there is more to be feared than the simple weighting or binding down of the vibrating pendulum which results from the in-

creased tissue or the adhesive bands. It is a characteristic of both these processes that they very frequently undergo gradual changes after the hypertrophy or adhesion has taken place; that the new tissue and the adhesions become firmer with age, undergoing what may be compared to cicatricial contraction, the result of which in the tympanum is a much greater interference with the vibratory power of the conducting apparatus than would be at first suspected from the mere increase in the tissue growth.

As the advance in our therapeutics has not kept pace with our pathological knowledge in regard to the tympanum (and the same may be said of almost every region of the body), the study of the earlier diseases which produce these tissue changes becomes of the greatest importance; for if the various forms of inflammation which precede and cause these hypertrophies, adhesions, and destructions of the conducting mechanism of the tympanum are as rebellious to treatment as these changes in the tissues are when they have once formed, but comparatively little can be expected, at least at present, for the relief of many of the pathological conditions of the ear. Fortunately, however, such is not the case; the earlier and more acute forms of tympanic disease are as amenable to treatment as are similar diseases in other organs, and the principles of rational medicine can be as well applied here as elsewhere. Nature herself, in the way she cures innumerable ear-diseases, and without whose aid it is safe to say three fourths of the human race would still be suffering from imperfect tympana, has pointed out a method by which a cure can be effected; and in large numbers of cases where she herself is unable to relieve, assistance from art in the direction she has pointed out in other more fortunate cases is sufficient to restore the parts to their normal condition. To accomplish this, however, it is necessary to watch the course of the disease in its earlier stages, prepared to assist nature by art if necessary, and it is imperatively demanded that such assistance should be rendered before the irremediable tissue changes, already described, have taken place. The natural history of the various forms of tympanic inflammation thus becomes an all-important factor in the study and treatment of these diseases.

Unfortunately, many of the primary inflammations of the tympanum come on so insidiously and with so little inconvenience to the patient that the very slight symptoms which exist are ignored or soon forgotten from the patient becoming accustomed to them, and it is only months or years even afterwards, when the tissue changes have made considerable progress and the interference with the functions of the ear has become so great as to produce inconvenience in the ordinary affairs of life, that relief is sought.

This ignoring of the earlier symptoms of tympanic disease, and the consequent neglect of treatment at the time when it could be of value, is one of the most prolific causes for the numerous unfavorable prognoses which must be given when the sufferer applies for relief. Not infrequently it happens that the patient denies absolutely that any symptoms have preceded the existing deafness, but in so many cases close questioning will develop the existence of this or that symptom, often so long before as to have been forgotten entirely, that it seems probable that in almost all cases there were originally some antecedent warnings. The following could be taken as a very common example: the patient gives a history of gradual deafness, without sub-

jective noises, of six months' duration, and denies absolutely any preceding disease in the ears; examination shows a drum membrane generally opaque from thickening in its mucous layer, very considerably retracted and immovable, the Eustachian tube closed tightly. Inquiry elicits the fact that three years before he does remember that, with a very severe cold, the ears felt tight and full, and there were for a time violent subjective noises which ceased gradually; that he regarded it as "nothing but a cold;" now that you ask him, however, he remembers this or that circumstance when he suspected a little deafness much longer ago than he had at first stated. The facts evidently are that three years before, with an acute catarrhal inflammation of the naso-pharynx, the mucous membrane of the Eustachian tubes and tympanum were also inflamed; the trouble of the naso-pharynx passed off, but the mucous membrane of the tympanum remained congested and swollen; as the result of this continuous inflammation hypertrophy of the membrane has occurred and increased, till it has most seriously impaired the hearing.

Or, again, another very common history is that the patient has been subject to slight deafness with each cold in the head for a number of years, till finally the deafness has become so marked as to be a serious inconvenience. Then, and not till then, relief is sought, and examination showing very decided tissue changes the prognosis is necessarily much less favorable than it would have been in the preliminary stages of inflammation. In children it frequently occurs that examination shows the drum membrane completely collapsed against the inner tympanic wall, and firmly adherent to this wall, so that it cannot be separated; or else it is retained in its abnormal position by inflammatory retraction of the tensor tympani muscle and of the hypertrophied tissues, a condition originally produced by closure of the Eustachian tube, and which would in all probability have been removed by any of the simple methods of opening that tube, or even by a little judicious blowing of the nose, which, by relieving the obstruction of the blood-vessels and the consequent congestion, would have allowed nature to clear up the pathological products and would have restored the parts to their natural condition.

Another very common reason for ignoring the earlier symptoms of tympanic disease, even when they are very marked or possibly severe, is the slight improvement which often occurs spontaneously after a time, and which leads the patient to think that all trouble has been averted, — an improvement which is quite often fallacious in that it deceives the patient into a sense of perfect security, whereas it is simply a transition from the acute into the chronic inflammation. Such an improvement is seen often with acute catarrhs of the tympanum: the subjective noises and the pain cease after a time; the sense of fullness in the ear the patient becomes accustomed to, and it is forgotten; the obstruction of the Eustachian tube with the congestion and swelling of the tympanic mucous membrane, however, remain, and gradually produce the hypertrophy which months or even years after leads the patient to apply for relief from what has become, with the lapse of time, an incurable deafness.

Instances might be multiplied almost indefinitely of simple and remediable diseases becoming hopeless from these changes in the tissues, which have come on gradually as the result of preceding inflammation.

That the interference with the functions of the ear, the deafness, which appears as a rule gradually as the tissues become hardened and retracted, is not more frequently recognized in its incipency can only be referred to a want of appreciation of what deafness is. Nothing is more common than to hear a patient or his friends say that he is not deaf, because he can hear what is said to him across a moderately sized room; they being apparently wholly ignorant of the fact that deafness consists in the inability to hear a sound of a given intensity or loudness at as great a distance as normal, and that, although he may hear a loud voice at a distance of twenty feet, he should, in a normal condition, hear the same voice at one hundred feet, in reality four fifths of his hearing for that particular sound being lost. The extreme limit of hearing power is but seldom used in the ordinary affairs of life, and as far as our daily business life is concerned we may each be said to be endowed with a large amount of superfluous hearing, which may be lost with scarcely any inconvenience to ourselves.

Again, the merciful provision of nature, which has endowed each of us with two independent organs of hearing, is often lost sight of in estimating degrees of deafness, it being forgotten that a person may be very deaf with one ear, and yet hear so perfectly with the other that the defect is not noticed. Indeed, the records of the consulting room show large numbers of cases where increasing trouble in the good ear is the cause of the patient first applying to the physician; and he is astonished, and often incredulous, at being informed that one ear has evidently been practically useless for a long time, and that the inconvenience he has been experiencing is due to more recent disease in the other ear.

It will be asked, What is the remedy for all this? How are these very serious results to be guarded against? The only answer is that, as the histological changes are, in the majority of cases, irremediable in themselves, and as they are secondary to and the direct result of other diseases, the primary disease, for which treatment is often of great value, requires very careful attention. Symptoms, however slight, should not be neglected; the natural course of the disease, whatever its variety, should be understood, and its course watched; if necessary, local or general treatment should be used to assist nature; and, finally, the case should remain under observation till recovery is perfect, or as nearly so as the particular disease will admit. This latter point, the insurance of perfect recovery, is all-important, for a little remaining disease may be sufficient to produce the hypertrophy of the mucous membrane, which will go on insidiously for a long time before it is noticed by the patient.

To recognize and fully appreciate all of the minute changes which can be seen by the otoscope is undoubtedly a task requiring much time and practice; but the clinical histories and rational signs of the various diseases are well described in the numerous books on the ear; and in the tests of the hearing we have a very useful means, although not infallible, of judging how the disease is progressing. If more attention was paid to the degree of deafness, or perhaps it would be better to say of hearing, in the earlier stages of tympanic disease, there would be much less of the incurable secondary processes. By occasional careful testing, the gradual loss of hearing would be noticed almost as soon as it began, and the improvement which often follows well-marked acute disease would be by this means

early discovered to be merely fallacious. The importance and the methods of applying simple tests for the hearing should be known to every practitioner. I have already called attention to the fact that a person may be extremely deaf in one ear, and yet with the remaining good ear hear so well that no defect is noticed; but I have known physicians themselves to say of such a case that they did not believe there could be any deafness, simply because they had never tested the hearing of the two ears separately. It would seem superfluous to notice, but experience shows, that the failure to close one ear when testing the other, is a very common source of error. The first step in testing, then, should be the closure of the opposite ear with one finger.

Having done this, the open ear should be tested for the distance at which both the watch and the voice can be heard; not whether they can be heard at all, but whether they can be distinguished as far as normal. In regard to the watch, it should be remembered that the intensity of the ticking varies in different watches, and for comparative tests the same watch should always be used, and the normal distance established by tests on normal ears. It should also be borne in mind that the normal hearing distance for the ticking of a watch varies with age, being very much less in old persons than in children. With the voice the hearing distance should be established in the same way; but as it is generally impossible to get space enough to thoroughly test a clear, distinct tone, that is, as it is impossible, for want of space, to reach anything like the normal distance for that tone in ordinary houses, it is necessary to lower the intensity of the tone to make the normal hearing distance for that tone correspond, approximately at least, with the size of the room in which the test is made. Having done this, words or short sentences should be used, and the patient required to repeat them; for if this repetition is not insisted upon, many patients will assert positively that they understood, when they have merely heard the sound of the voice, but have been wholly unable to distinguish the words. It is also well to use a number of different words or sentences, as certain letters of the alphabet have much less distinctive sounds and are much less readily heard than others. If this caution of employing several sentences is used, however, it can scarcely occur that in each of them these difficult letters and sounds should predominate.

Having determined the distance at which both voice and watch can be actually heard, and knowing the distance at which they should be normally heard, the hearing for that case can be well expressed for practical purposes as a fraction, the numerator of which is the actual distance, and the denominator the normal distance. The necessity of testing for both watch and voice depends upon the fact that the hearing for the two is by no means always proportionally the same; while it may be very good for one, it may be very bad for the other. This is seen especially in the class of cases where the degree of hearing enables us to judge very fairly how the case is progressing, and whether any treatment for the restoration of the functions of the ear is absolutely necessary; these cases are those of acute tympanic inflammation, where, as the inflammation subsides, the hearing slowly returns, but much more rapidly, as a rule, for the voice than for the watch, so that it is found when the hearing for the watch is only perhaps $\frac{1}{16}$, that for the voice will be $\frac{1}{4}$.

In children the test for the watch is often uncertain, from fright, mischievousness, or lack of intelligence on the part of the patient, but that for the voice can generally be made effectual by a little ingenuity on the part of the physician in asking questions on subjects in which the child takes an interest, the answers to which will show that the question was well understood.

In all testing great care should be taken to exclude the imagination, which is not infrequently both active and ingenious in deaf persons. If such tests were in common use, it would often be found that the cessation of pain, discharge, and other well-marked symptoms did not necessarily imply a restoration of the ear to its normal condition; any deafness would be by this means discovered early, long before it had begun to inconvenience the patient, and the question of treatment could be determined before the serious and irremediable tissue changes had come on, at a time when treatment is, in a large number of cases, of real positive value.

CEDEMA OF THE LUNGS, WITH CASES.¹

BY HENRY F. BORDEN, M. D., BROCKTON, MASS.

To choose a subject to write upon, and read before a body of medical men, at the present day is not an easy task. I do not mean to imply that medical subjects have been exhausted, for the field for work and the amount of material to work upon seem as large as ever, and the chance for seeing the end is not a very brilliant one for those engaged in investigation. Circumstances often give one an opportunity to choose a subject for discussion which may be interesting to himself, if to no one else. My experience during the past year has interested me in oedema of the lungs, having lost a patient under very trying circumstances with this sudden and fatal malady.

I have received the histories of three other cases, which occurred in the practice of neighboring physicians, two being out of town, and the third in the practice of Dr. A. E. Paine, of Brockton. Only two of these seem to have been pure cases of pulmonary oedema, the third, in all probability, being embolism of the pulmonary artery without manifestations of dropsy.

After reviewing the cases, and considering the causes which can produce the different forms of oedema, I shall endeavor to make a practical application to each case. Through the courtesy of Dr. F. C. Shattuck I have been able to collect a few notes on experimental research as to the cause of pulmonary oedema, published in Virchow's *Archiv* of 1878, and in German medical pamphlets by Welch, Mayer, and others. I shall first report the cases and then discuss the causes.

CASE I. Mrs. M. S., aged twenty-four years; occupation, housewife. Grandparents on father's side lived to an advanced age. Grandmother on mother's side died of organic disease of heart, at seventy odd years of age. Father and mother are both living, and enjoy good health. I have attended both at different periods for slight sickness, but for nothing of a severe type. Lost one brother by diphtheria, and one sister with pulmonary phthisis following typhoid fever. Has three brothers and one sister living, and in good health.

¹ Read before the Massachusetts Medical Society at its last annual meeting, and recommended by the society for publication in the *JOURNAL*.

The subject of this history was a picture of health. I had known her from childhood, and attended her for slight attacks of "nervous headache," which were of a congestive form, being accompanied by a rush of blood to the head and face, without dyspeptic complications, being easily relieved by the use of bromide of potash or belladonna. I never knew of her being otherwise sick. About the fifth month of her pregnancy I was called by her husband to see her. I found her feeling quite happy, but presenting a general oedematous condition of face, hands, and limbs, although not to an alarming extent; the breathing good; action and sounds of heart normal; digestion good; bowels correct; the urine passed as usual. On examining the urine I could detect nothing abnormal: no albumen, no casts, no sugar, nor even anything that denoted a disorganized or disordered condition of any organ. I examined the urine from time to time with the same result. She never exhibited any signs of uræmic poisoning, either by looks, spasms, or any other condition, to the time of death. She continued in about this same situation until the day of her death. I ordered moderate doses of potass. bitart. to be taken daily, with a marked increase in the amount of urine passed, although there were not at any time symptoms of diminution of this secretion, as far as her history showed, before I saw her. I recommended moderate exercise, fresh air, avoidance of over-exertion and excitement, together with good nourishment, all of which she had. The fl. ext. jaborandi was given a few times, but no increase in the urine passed was observed over that produced by the potash. On the afternoon of the day of her death (about three p. m.), I was summoned in haste to see her. On arriving I found her much changed. There was increased oedema generally; marked lividity; pulse nearly one hundred beats per minute, and much weaker than usual; no rise in temperature; intellect clear; some dyspnoea, but less than previous to my arrival, according to the family's statement; extremities cold and oedematous; dullness over the lower two thirds of both backs, with subcrepitant râles, and supplementary loud breathing over the upper half of lungs in front, with normal percussion. I ordered stimulating applications to back, and gave tinct. digitalis and whisky, all that was at my command. The heart showed nothing but diminution in strength of action, and neither murmur nor irregular action could be detected. She received relief from this treatment, and felt quite comfortable until evening, the lividity and weak symptoms disappearing rapidly. At about forty-five minutes past eight p. m. she was taken in labor, — it being full term, — and upon arrival I found the "os" dilating rapidly, and the pains unusually strong and frequent. She was able to lie down, and expressed herself as feeling easier and better able to breathe than at any time during the day. Her labor continued regular until about forty-five minutes past nine p. m., or one hour, when the membranes, which had descended very low, ruptured, and immediately she exclaimed, "There is water escaping from me!" while her breathing became labored and heavy. I endeavored to give her some wine, but she could not swallow, and as her breathing was growing more difficult, and amounting to dyspnoea of the worst sort, I threw open a window and commenced artificial respiration, but to no purpose, as her face was blue as slate-stone, and a stream of pink frothy serum gushed from her mouth and nostrils in sufficient quantity to saturate all the clothing about

her and the bed. She was dead in less than two minutes from the time the waters escaped. The heart was the last to give out, continuing to beat slower and weaker until it stopped, even after respiration and life had ceased. The general oedema after death was enormous. During the interval between her first attack in the afternoon and her death, the pulse had beat as full and well as could be desired in almost any case. No autopsy.

CASE II. Mrs. A., aged about twenty-seven years; occupation, housewife. The physician in charge had examined her urine with negative results. She showed but little general oedema, and that only about two weeks previous to her death. She had not arrived at full term of gestation, and was consequently not in labor at the time of her death. There is heart disease in the family history, but I have been unable to find that she was the subject of any such trouble. Her general appearance was that of one in usually good health. The fatal termination was as follows: She awoke her husband at about three a. m., and told him she could not breathe; he arose and assisted her to the adjoining room, where she sat down, and died almost instantly. Medical aid was summoned, but too late to render assistance. The physician was informed that she died by being "filled up with frothy water," and he thus described her appearance as he found her: "Extreme cyanosis, frothy serum in large quantities about the mouth and nostrils, and an enlarged, distorted look of the face." There can be but little doubt that this was a pure case of non-inflammatory oedema of the lungs.

CASE III. is one where a doubt exists whether oedema was a cause of death. A clot of the pulmonary artery is, to my mind, the cause that entered most prominently into the case as a chief factor in its production. I shall omit the history of this, and proceed to detail Case IV.

CASE IV. O. G. T., aged fifty-eight years; occupation, dealer in horses, — hence he was employed out-of-doors the greater part of his life. He was one of our best-known citizens, and was acquainted extensively with all parts and people in Brockton and vicinity. He came of a healthy stock, and was himself as robust and strong a man as one will often meet. He was never ill, to my knowledge, but once, and that about three years ago, when he was seized with an attack, at first feared to have been apoplexy, but which proved to be a disturbance in the cerebral circulation, due to a reflex influence from a badly disordered digestion. He completely recovered from this attack, as far as can be ascertained, and has been as robust as ever. Dr. A. E. Paine, who was summoned at the time of his death, assures me that no cardiac disease ever existed, or was ever suspected, and furnished me with the history of his condition at the time of death. He was a man of excitable temper, and on the day of his decease had some business trouble which worked him up to a high pitch of irritability; and from the nature of this trouble, I should suppose it must have continued to torment him during the few hours that he lived. He continued out-of-doors as usual until after six p. m. on the same day, and complained only of having caught a slight cold. He retired as usual between nine and ten that evening, and, after he got into bed, requested his wife to bring him some little remedy, which it was his custom to use for colds. She found him getting up on her return, and asked him why he was doing so, when he had just time to tell

her he could not breathe, and fell back into a chair dead, and at the same instant a stream of frothy serum flowed from the mouth and nose in a quantity amounting to more than three pints. His face was cyanotic and puffy. This serum continued to flow from the same avenues all night. No autopsy could be obtained in any one of these cases, and certainly I do not think it was at all needed to establish a diagnosis. Before considering the causes in these cases, I will give a résumé of the results attending the previously mentioned experiments, to determine what *will* and *will not* cause œdema of the lungs. The experiments were mostly made on rabbits and dogs. Welch remarks that none of the explanations of the causes of acute general œdema of the lungs up to the present time have been satisfactory.

I. That increased action of the heart alone is not sufficient is proved by cases of compensated mitral stenosis, in which the pressure in the pulmonary artery must be greater than in a heart offering no impediment to the onward flow of the blood; and that the resistance of the pulmonary capillaries is full as great as that of any others.

II. The rarity with which pulmonary œdema follows direct irritation of the lungs from the inhalation of irritating substances, and the like, renders it very probable that it has the same cause (when it is met with) as the œdema which ends in death from all sorts of causes (according to Welch), *paralysis of the left heart*.

III. Collateral hyperemia. Two essentially different conditions are generally included under this term.

(1) Acute general œdema occurring in the course of diseases which involve an impediment to the circulation in a portion of the lung; and (2) local œdema about inflammatory foci and new formations, *which* œdema bears a constant proportion to the size and extent of such foci in growth. By cutting off three-fourths of the circulation of the pulmonary artery, Lichtheim was able to show that difficult circulation in a portion of the lungs is not sufficient to cause general œdema. General œdema is not a constant result of embolism of the pulmonary artery, and must have associated cause or causes to produce it.

In the case of local œdema, the most important factor is inflammatory changes in the walls of the vessels, facilitating serous transudation.

In passive œdema two causes have been assigned: (1.) Accumulation of blood in the pulmonary veins from valvular disease of the heart; not liable to occur, for the reason that as long as the obstruction is compensated by increased work on the part of the right ventricle, œdema does not occur (compensated mitral stenosis).

(2.) General cardiac weakness. Syncope never leads to œdema of the lungs. By irritation of the vagus, paralysis of the heart can be induced, but œdema does not follow. In rabbits, œdema takes place only when one carotid or one subclavian is the sole passage of the arterial blood from the heart. In dogs, the general circulation must be still more impeded before œdema occurs, or the pressure in the pulmonary artery is markedly increased.

Occlusion of all the pulmonary veins of one lung is not sufficient to produce œdema, but hemorrhagic infarction. In fact, almost all the pulmonary veins must be tied, in order to produce œdema or perceptibly increase the pressure in the pulmonary artery.

Suppose, however, that the left heart is paralyzed while the right continues to work and drive in more blood than the left ventricle can dispose of, congestion of the lungs results, and is followed by œdema.

Mayer finds: That if the great arteries leading to the brain were occluded, in non-curarized animals severe convulsions followed, and in a great majority of the cases extensive pulmonary œdema. In curarized animals treated in the same way œdema did not occur. The œdema was so marked as not to require a post-mortem to establish it; the tracheal canal was filled with reddish frothy fluid in from one to two minutes after occlusion of the arteries, and immediate artificial respiration was fruitless. Arterial tension is greatly increased by anæmia of the brain, and the forcible respiration and muscular spasms, causing constrictions, force the blood upwards to the right ventricle.

In short, causes which hinder a free discharge of blood from the left ventricle lead to œdema of the lungs. In curarized animals, muscular irritability is abolished.

So much for results obtained by experimentation on healthy animals with regard to œdema of the lungs. The only mention made in books of midwifery, that I have seen, is by Cazeaux; in speaking of the prognosis in labour in pregnancy without renal complications, he says, "Sometimes after delivery the disappearance of the infiltrated liquid has been followed by a serous congestion of the nervous centres or the respiratory organs, often terminating in death." He thus recognizes the fact of a sudden accumulation as well as disappearance of serum in limited localities, without attempting to explain the cause of it. It is evident to all that when an inflammation exists in the lungs, either as pneumonia, an inflammatory process around a mass of tubercular deposit, or any sort of necroplasm, there must be more or less œdema, just as one sees it in cellulitis when a slough of the subcutaneous tissue is the cause. It is therefore unnecessary to dwell upon circumscribed inflammatory œdema, or that due to mechanical obstruction of a portion of the lung circulation, from either disease or growth. In Bright's disease, or destructive nephritis, or uræmia during pregnancy, I think one explanation of the cause of œdema is the poisoning of the nervous centre of the action of the left heart, and consequent paralysis and œdema, instead of the local irritative effects on the mucous membrane of the lung area; although I can conceive it possible for the walls of the vessels to be weakened by a sort of continued inflammatory process by this action of uræa in the blood, and transudation made more easy. One physician of eminence suggested that an eczematous condition of the bronchial surface might exist, without febrile manifestations, which I think possible, and can conceive how such a condition might affect the integrity of the capillary walls. I have not seen anything to lead me to suspect that as a cause in the cases given.

The conditions for the production of acute general non-inflammatory œdema of the lungs seem to me to be twofold, namely: (1.) A cause or causes which first lead to accumulation of blood whose local pressure becomes greater than normal, varying in intensity according to the agents in its production. (2.) A certain loss of natural vitality and power to resist serous transudation in the walls of the vessels, brought about by a change in their nutrition due to some abnormal condition, either recognizable or not. The causes of accumulation, as shown by experiment, may be summed up in

a few words. Paralysis of the left heart; obstruction to the direct flow of blood from the left heart; obstruction to the pulmonary veins; anæmia of the brain by sudden occlusion of the great vessels leading thereto, seem to be the chief causes of congestion of the lungs. A deficient supply to the lungs, as would be the case in embolism of the pulmonary artery, is not regarded as a sufficient cause alone. Of all these causes of congestion, only one or perhaps two were sufficient to carry the process to œdema. These were paralysis of the left heart and sudden occlusion of the large vessels leading to the brain. We must remember that these experiments were carried on in small rabbits, whose tissues were undoubtedly in the best possible condition, and not in full-grown men, whose heart power is so much greater, and whose tissues, at least in those people thus attacked, must be more or less deficient in resisting power.

Whether the minute arteries undergo fatty changes or their walls become thinned, I cannot say, but one would hardly expect to see œdema occur in perfectly healthy well-nourished subjects. In case I am right, and deficient nutrition is one of the causes which favor transudation, then I think it may occur under circumstances which will favor congestion, brought about as follows:—

Supposing an irritation of that portion of the cardiac branch of the vagus, which is said to govern the vaso-motor apparatus regulating the minute vessels of the pulmonary circulation, should result in paralysis of the same, then complete dilatation of these vessels must follow, and as their calibre is increased, the force of the pulmonary circulation is distributed over a larger space, and the current of blood is proportionately slower; and with increased action of the right heart there would occur a crowding of the capillaries, and consequently increased blood pressure with serous transudation in cases where the subject is fit for such a change. Supposing the nervous influence of that portion of the vagus governing the right heart should produce an increased action, and that of the left heart a decreased action, then it is evident that sooner or later an overplus of blood and increased pressure in the lungs must be brought about, and where long-standing disease or unknown deficiency in nutrition of the arterial walls exists, serous transudation or œdema must follow to a greater or less extent, in my opinion. That these sudden rushes of blood to and from different portions of the body are due to nervous agency acting through the vaso-motor system, no one will dispute; the blush on the face, either of shame or of excitement, illustrates this. So in these cases of œdema, I can see no other explanation but that nervous action is the prime mover in the production of those sudden appearances and disappearances of serous collections. In Virchow's *Archiv* of 1878, the results of three autopsies on male subjects who died of general œdema of the lungs are reported. There was not a sign of heart disease, arterial occlusion, or anything abnormal to be considered as a cause, but the lungs were in a state of œdema, and that was all which could be said. General œdema is not caused by a pulmonary artery embolism alone; but death from this is undoubtedly accompanied by some œdematous effusion, not alone sufficient to produce death.

In Case I. there may have been a clot, but I doubt it. The symptoms of a clot are as follows: Death may suddenly occur without any marked symptoms.

When the clot partially fills the pulmonary artery, a systolic murmur may be heard over the left second intercostal space, or at the base of the heart; but this is not a certain symptom, as other causes may produce it,—dyspnoea, cyanosis, irregular action of the heart, expectoration of bloody sputa, cerebral disturbance, etc. In Case I. the serum collected rapidly in the afternoon, until the posterior two thirds of the lungs were filled, and in about two hours subsided, the heart's action continuing regular, but weaker, during this onset. No pain, no cerebral trouble, whatever. I cannot believe that a clot in the pulmonary artery could form and cause this amount of œdema, or be a factor in its cause, and the system become tolerant of its presence in so short a time as to calmly return to so comfortable a condition as subsequently existed. In the evening the whole process was repeated, and the waters returned and in two minutes' time filled the tubes to overflowing. It seemed to me too regular and gradual for the sudden production of a pulmonary clot to have taken place. Paralysis of the left heart could not have existed, for the pulse must have stopped immediately. No evidence of sudden occlusion of the cerebral vessels showed itself. We must fall back on a nervous origin, I think. I have been tempted to regard the sudden rupture of the membranes and escape of the amniotic fluid as the shock that excited to action the agents in the production of the œdema. As the other cases had no physicians to watch the failing pulse and vital powers, I shall not attempt to name the exact cause that originated these fatal conditions, but leave them as members of the same family. It is self-evident that any disease that affects the tone of the system, impedes the circulation in the lungs, or taxes the vital powers, must render the accumulation of serum more speedy and fatal. The lungs being in continual motion in the acts of inspiration and expiration, in my opinion, renders the chances of œdema of these organs more liable than in any other parts.

The treatment of œdema in its active state depends on the amount of lung substance involved. When it is limited in extent, counter irritation and tonics to the sympathetic and circulatory systems are the agents most generally indicated. If the trouble is extensive and general, as in the cases above cited, practically nothing is of any avail, although artificial respiration should be tried as the only means to seize upon. Prophylactic treatment is to be mostly depended upon, and if the theories advanced be correct, it is evident that good nourishment and tonics, such as iron, bark, and such others as the case in hand shall indicate, are the articles to be used in order to maintain the proper tone and integrity of the system and tissues. Quietude of mind and body to save the strength, mild diuretics and diet to maintain regularity in the bodily functions, fresh air, and a moderate degree of exercise, avoiding fatigue, and the strict observance of the general laws of hygiene are all desirable. If I were to favor the use of any particular drug, I think iodide of potash would be as good a general medicine, providing the stomach bore it well, as I know of. If these means should fail, I do not see any way but to trust to nature and accept whatever comes as inevitable.

I have written this paper for two reasons: first, because of the interest which I have taken in the subject, from being thrown in contact with it under peculiar and trying circumstances, and secondly, because I believe there have been many deaths from this disease

which have been dismissed as congestion of the lungs, or under the still more vague term, heart disease, and nothing more thought of it, as long as the friends and family were satisfied.

I do not claim to have given a solution of the causes or conditions of its occurrence, but if I have brought it sufficiently before the profession, and rendered it deserving of more attention and study, it may be the means of making physicians more cautious in cases where oedema exists, especially in pregnant women, even without renal trouble. I think that this condition has been regarded too lightly, and the care of such patients should be made a more careful study than has been the custom in time past.

RECENT PROGRESS IN OBSTETRICS.

BY W. L. RICHARDSON, M. D.

INTRA-UTERINE VACCINATION.

FOLLOWING out the ideas suggested by Professor Bollinger (Munich) in his monograph published in Volkmann's series, Dr. A. E. Burekhardt¹ gives the result of some experiments made in the obstetric wards in the hospital at Basel. During the years 1877 and 1878 he revaccinated twenty-eight pregnant women. Owing to circumstances beyond his control, only eight of the children of these women were available for future experiment. Four children were then vaccinated, whose mothers had not been vaccinated during the pregnancy, and in every case perfect pustules were produced. With this same lymph, whose efficacy had thus been proven, he vaccinated the eight children of the mothers who had been vaccinated during pregnancy. The results were as follows: The children of four women, whose revaccination during pregnancy had been perfectly successful, were found to be insusceptible of the vaccine lymph. The children of two of the women, whose revaccination during pregnancy had been only partially successful, were also found to be proof against vaccination. Of the two children whose mothers had been unsuccessfully revaccinated during pregnancy, one was vaccinated successfully, and the other failed.

These experiments of Dr. Burekhardt, although few in number, agree with the results obtained by Rickett, who inoculated about seven hundred ewes during the last few weeks of gestation. Their lambs were inoculated, when from five to six weeks old, with sheep-pox lymph, with no result, although at the same time thirty-six lambs, whose mothers had not been inoculated, were all successfully operated on and had true pustules.

ANTISEPTIC OBSTETRICS.

Professor Stadfeldt,² of Copenhagen, calls the attention of the profession to the great value of antiseptics in the treatment of obstetric cases. Since 1870 he has employed this method of treatment, and with the most gratifying results. During the last five years, out of 5098 lying-in patients, only one in 116 has died of puerperal fever. This result is more favorable than that obtained in any other lying-in institution. He advises that the vagina be carefully

washed out before the delivery, and that the moment the presenting part of the child shows itself at the vulva a carbolic vapor spray be thrown on the exposed parts. This should be continued until any lacerations occurring during the delivery are united by sutures. The vagina should then be carefully washed out with carbolized water, as also the vulva and adjacent parts. In all cases in which the hand or instruments have been introduced into the vagina, or where a portion of the membranes have been left behind, a three per cent. carbolized intra-uterine injection should be used after the delivery. He has never seen the slightest evil result follow an intra-uterine injection, although he has employed them in hundreds of cases.

Dr. Schucking advises that immediately after the delivery the vagina be wiped out with a tampon of cotton which has been dipped in a solution of carbolic acid (five per cent.). A sound is then carried up to the fundus uteri, having previously been surrounded by a piece of gauze soaked in the same solution. The uterus and vagina are then thoroughly disinfected by means of an irrigator, which is connected with the sound. For permanent irrigation he uses a solution containing ten per cent. of sulphate of soda and five per cent. of glycerine. Every twelve hours the sound and gauze are removed and a fresh instrument is inserted, while at the same time the carbolized injection, followed by the sulphate of soda wash, is repeated.

LACERATIONS OF THE PERINEUM.

Dr. T. A. Reamy³ calls the attention of the profession to the necessity of immediately sewing up a perineum which has been torn during a delivery. The parts should be sponged with warm water, and if the flowing at all impedes the operation a sponge can easily be inserted into the upper part of the vagina. There is no necessity for an anæsthetic, as the pain amounts to nothing; nor is there any for trimming the parts. The sutures should be placed very closely together, at least four to the inch. By placing them so closely, there is not the necessity of drawing the edges so tightly together. All clots and blood must be removed from between the parts before they are brought into apposition. The urine should be drawn for two or three days. It is not at all necessary to confine the patient's legs together, nor to insist upon her lying in any one position; but she should not be allowed to separate them widely.

PORRO'S OPERATION.

Dr. R. J. Kinkead, in a recent paper read⁴ before the Dublin Obstetrical Society, gives an interesting and critical description of this operation as compared with Casarean section, laparo-elytrotomy, and craniotomy. Thus far thirty cases have been reported, with the result of fourteen mothers being saved and sixteen deaths, or a mortality of 53.3 per cent. The dangers which attend Casarean section are (1) peritonitis; (2) metritis; (3) hæmorrhage; (4) septicaemia; (5) shock; (6) intestinal obstruction, arising from a coil of the intestine being caught in the uterine wound. By Porro's method, the second, third, and sixth of these are abolished; the fourth is greatly reduced, and, with the proper use of antiseptic, should be entirely abolished. The danger from peritonitis is also greatly reduced. Several modifications

¹ Deutsches Archiv für klinische Medizin, xxiv.

² Centralblatt für Gynäkologie, 1880, vii.

³ Obstetric Gazette, January, 1880.

⁴ Dublin Journal of Medical Science, May, 1880.

of the details of the operation have been advised by various operators: but the main point consists in a combination of the Cesarean section with amputation of the supra-vaginal portion of the uterus, at a level with the os internum.

Reports of Societies.

AMERICAN NEUROLOGICAL ASSOCIATION.

The sixth annual meeting of the American Neurological Association was held in New York city on the 16th, 17th, and 18th of June, in the hall of the New York Academy of Medicine. The president, Dr. F. T. Miles, of Baltimore, was in the chair, and the following were among the members present during the session: Dr. Jewell, of Chicago, Drs. Webber and Putnam, of Boston, Dr. J. J. Mason, of Newport, Dr. Van Bibber, of Baltimore, Dr. Roberts Bartholow, of Philadelphia, Dr. Alfred Carroll, of Staten Island, Drs. Shaw and Gray, of Brooklyn, and Drs. Hammond, Beard, Kimbicuti, Gilney, Cross, Spitzka, and E. C. Seguin, of New York. After the transaction of some preliminary business, the following nominations for membership were made: Dr. Isaac Ott, of Easton, Penn., by Dr. Putnam; and Drs. Graeme M. Hammond, of New York, Wharton Sinkler, of Philadelphia, and W. R. Burdall, of New York, by Dr. Seguin.

The chair having appointed a committee for the nomination of officers, the first paper was read by Dr. William A. Hammond, of New York, on

MYXŒDEMA: WITH SPECIAL REFERENCE TO ITS CEREBRAL AND NERVOUS SYMPTOMS.

The first account of this remarkable disease, he said, was given by Sir William Gull in a paper which he read before the Clinical Society of London, October 24, 1878. In this he did not attempt any very complete description of the cases that had come under his observation, nor enter at any length into a consideration of the morbid anatomy and pathology of the disease; his main object apparently being to draw attention to a well-marked and probably not uncommon affection, which, up to that time, had not been differentiated. Subsequently Dr. Ord published in the *Medico-Chirurgical Transactions* a very thorough paper on the same subject, which made a full exposition of the symptoms and morbid anatomy of the disease, and left little to be desired; while in October, 1879, Dr. Dyce Duckworth reported cases of the disease, and Dr. Ord read another paper on the subject before the Clinical Society. In the discussion which ensued Dr. Sanders, of Edinburgh, mentioned the fact that several cases which he now recognized to be instances of myxœdema had come under his notice. Finally, Dr. George H. Savage had written a paper on myxœdema, and illustrated it with photographs of two of Dr. Ord's cases.

Dr. Hammond thought it was probable that the hospitals for the insane, both in this country and in Europe, contained many cases of the disease in question, and, now that attention had been directed to its marked characteristics, that we should hear from some of our own superintendents in regard to it. Myxœdema was a disease which, as Dr. Ord had shown, had for its patho-anatomical feature the deposit of a mucoid substance in various parts of the body, especially in

the skin, or a degeneration and proliferation of the connective tissue. Probably both these conditions co-existed in some tissues. As a consequence of this state, an appearance resembling that of anasarca was produced, with the exception that pitting was not caused by pressure. The tissue felt resilient, and not boggy, to the touch, like that into which water was infiltrated, as in ordinary œdema. The face had very much the appearance, so far as the swelling was concerned, of that which was met with in cases of the toxic effect of arsenic. There was a puffiness of the eyelids, the lips were prominent, the nostrils were swollen, and the cheeks over the malar bones were red from capillary congestion. The ends of the fingers were distinctly "chilled," as was so frequently the case where there was disease of the heart in which there was an impediment to the return of the blood to the right side of the organ. The temperature of the body in all cases was below the normal degree; and thus far all the instances of the affection reported had been in adult women, with possibly one exception, occurring in Dr. Savage's experience.

The cerebral and nervous symptoms, he continued, appeared to be very decided. The intellect was notably weakened, and replies to questions were given in a sluggish and inexact manner. The memory was imperfect, and the patient experienced a lack of confidence in herself both as regards mental and physical power. The special senses were more or less perverted, and there were sometimes hallucinations and delusions. In one case cited by Dr. Savage the patient was "distinctly maniacal, sleepless, incoherent, and violent at night." The most ordinary mental condition met with, however, was a hebetude or stupidity resembling the state generally known as acute dementia.

Dr. Hammond then proceeded to detail the first case of myxœdema ever reported in America, and it corresponded in every particular with the affection already described. The patient, a female, was married, forty-one years of age, and was first seen April 22, 1880. Her appearance was that of a person suffering from general œdema in consequence of heart or kidney disease, and her forehead, eyelids, cheeks, lips, neck, hands, feet, and, in fact, the entire surface of the body, were more or less swollen, while all the fingers were "chilled," though there was no incurvation of the nails. The general sensibility of the skin was found to be markedly diminished. At an early period of the disease she had suffered from pains in various regions of the head; but later these had disappeared, and there had been no similar disturbances of sensibility in other parts of the body. Varying sensations of numbness, however, were now present to a greater or less extent in the face, the end of the tongue, the arms, the fingers, and the legs. The muscular power of the patient appeared to be decidedly weaker than was normal, and there was marked difficulty of coordination both in the upper and lower extremities. The other special senses besides the touch, which had been shown to be decidedly lessened in acuteness, were all more or less deranged. Ophthalmoscopic examination revealed the existence of neuroretinitis in both eyes; objects looked blurred, and, as a rule, were apparently surrounded by a halo, while occasionally the patient had momentary double vision. The hearing was dulled, and experiment seemed to show that the auditory nerve was affected. The sense

of taste was so notably impaired as to be almost entirely abolished, and the mucous membrane of the mouth and fauces had lost a great deal of its sensibility.

After speaking of her loss of intellectual power, the impairment of her memory, and the hallucinations to which she was subject, Dr. Hammond concluded his description of the case in these words: "When I add that her appetite was poor, that the bowels were constipated, that the urine contained a large excess of urates, without other abnormality, that the pulse was slow and feeble, and that the animal temperature in the axilla and under the tongue was never above 96° Fah., and often half a degree below this, I have given as full an account of the symptoms as is necessary for a thorough understanding of the case."

In regard to the connection of the phenomena mentioned with the morbid anatomical condition to which reference had been made, he said that two views had been expressed. Dr. Ord regarded the symptoms as being directly due to the fact that the peripheral terminations of the nerves were so surrounded and compressed by the mucoid tissue deposited about them that they were prevented from receiving impressions in their full force, and hence that the central organs of the nervous system acted less energetically than was normally the case. Dr. Hammond thought it perhaps probable that this view might be the correct one; but at the same time he said that the symptoms could not all be accounted for in that way. It certainly would not explain the occurrence of hallucinations and delusions, nor the periods of maniacal excitement which had been observed in some cases. He felt constrained, therefore, to agree with Dr. Savage in the opinion that the mental symptoms were the result of primary brain disease, due probably to the deposit of the mucoid tissue around the cells of the nervous centres. In his own case there were symptoms of intellectual derangement before any swelling of the body or limbs was observed, and before any sensory disturbances occurred. In some cases of Dr. Ord's, in which post-mortem examinations were made, the mucoid deposit was found in abundance throughout the brain, as well as in almost every other part of the body; so that there was no improbability in the suggestion that the morbid process might begin there. At the same time the padding to which the nerves were subjected would certainly interfere with their healthy function, and hence he thought it quite reasonable to hold the view that the phenomena of myxœdema were the result of both central and peripheral disturbances.

In answer to an inquiry by Dr. Jewell, Dr. Hammond stated that the distinctive symptoms of myxœdema in his case had existed for a little over a year, but that the loss of intellectual power had commenced at a much earlier period than these; and he therefore thought that the primary seat of the trouble was in the brain. He was able to form no estimate as to the cause of the disease. It seemed to be not an uncommon affection. Twelve or fourteen cases of it had already been reported, and in the debate concerning it in the Clinical Society of London several of the members thought they had seen cases which were undoubtedly of this nature, though their attention up to that time had not been called to the disease. Personally he had never recognized another case of it, but he thought it quite probable that in the course of his experience he had seen a number of sufferers from it

whose trouble he had referred to general anasarca. He thought the affection analogous to pseudo-hypertrophic spinal paralysis.

Dr. S. G. Webber, of Boston, then gave a microscopical demonstration of

SPECIMENS OF SWOLLEN CYLINDER AXES OF MYELITIS,

and in the course of his remarks alluded to some of his cases and their treatment, which gave rise to an interesting discussion.

Dr. Jewell said that of late he had met with very gratifying success in the treatment of acute myelitis. This he attributed mainly to two agencies: (1) the most thorough and complete rest for a longer or shorter period, according to circumstances, and (2) the use of strychnia in very large doses at a much earlier period than it had hitherto been prescribed. The moment that the temperature fell to the normal degree he began with the strychnia, and rapidly increased the dose until some of its physiological effects upon the system were noticeable. In one serious case he had given as much as one tenth of a grain three or four times a day; but in this instance no physiological effect was produced. Instead of aggravating the symptoms, as one would be likely to suppose from all the authorities, the remedy had a most happy effect upon the disease, and he had every reason to be satisfied with its effects.

Dr. Seguin thought that perhaps Dr. Jewell attached too much importance to the measures which he had adopted, since it was generally recognized that myelitis of the anterior horns sometimes got well spontaneously.

Dr. Hammond remarked that he had always been led to believe that patients with inflamed spinal cords were peculiarly susceptible to the action of strychnia, and that in them the physiological effects of this alkaloid could be produced by much smaller doses than if the individual were in good health. Perhaps, however, the remarkable results which Dr. Jewell had obtained were due to the fact that he used the strychnia in very large doses, and it was well known that the effect of many remedies was entirely different when given in large than when in small doses. In his next case of acute myelitis he certainly thought he should make trial of Dr. Jewell's method of treatment.

Dr. Bartholow, having learned from Dr. Jewell that iodide of potassium was given in connection with strychnia, said that he could not resist the conclusion that the latter's cases were really of syphilitic origin. In syphilitic myelitis he thought strychnia would act well in connection with the iodide, on account of its stimulating power. Like Dr. Hammond, he had always believed that strychnia could only aggravate ordinary acute myelitis, because it had the direct effect of dilating the blood-vessels of the cord, and would thus seem to add to the existing inflammation.

In reply Dr. Jewell said that he would not think of giving strychnia during the acute stage of myelitis, and that not a single one of the cases to which he referred had been the subject of syphilis.

Dr. Hammond asked Dr. Jewell when he considered the acute stage passed; to which the latter replied, when all febrile symptoms had subsided. At the same time he had resorted to the use of strychnia—and he laid great stress upon this point—at a very much earlier period than was sanctioned by any au-

thority with which he has acquainted. When Dr. Hammond expressed the belief that the improvement in these cases might have been due to the iodide of potassium, after all, Dr. Jewell stated that all the cases which he saw in consultation had been previously taking the iodide, but that not one of them showed any signs of improvement until the administration of strychnia was commenced.

Dr. Beard quoted arsenic and cantharides as remedies the effect of which was directly dissimilar when given in large and small quantities. Though both these agents were such powerful irritants in large doses, in minute doses the one was an excellent sedative to the stomach and the other to the prostate.

The next paper was by Dr. J. J. Mason, of Newport, R. I., on

THE DIAMETER OF THE NERVE-CELL NUCLEI IN THE SPINAL CORD.

From a prolonged series of observations on the spinal cords of the lower animals, some of which he detailed in the paper, he was able to enunciate the following general law, which he believed would be found to hold good in the case of all vertebrate animals:—

The diameters of the nuclei of the cells in the inferior horns in the two enlargements of the spinal cord are proportional to the muscular power of the corresponding extremities. The principal animals upon which he had made these observations were frogs, gopher turtles, terrapins, alligators, horned toads, and various forms of lizards. In the frog the nuclei of the cells of the lumbar enlargement were found to be larger than those of the cervical enlargement, and in the gopher turtle the reverse of this was true; while in the other animals the two sets of nuclei were of about equal size. When the relative muscular development of the extremities of the various animals was taken into consideration it would thus be seen that the law he had stated held strictly true in every instance; so that the nuclei really seemed to increase in size directly in proportion to the development of the muscular tract which they served to innervate. The paper was concluded with some remarks on the best method of preparing specimens so that the nuclei could be measured to advantage.

Dr. Spitzka was of the opinion that Dr. Mason ought to exclude the sensory cells before drawing the inferences which he had mentioned. He did not believe that a fixed relation could be established between the size of the nuclei and the muscular periphery, and considered that further tests would be necessary before such a view could be accepted. The paper was also discussed by Drs. Hammond, Jewell, and Putnam, and Dr. Mason made some concluding remarks.

(To be concluded.)

Recent Literature.

A Treatise on Oral Deformities as a Branch of Mechanical Surgery. By NORMAN W. KINGSLEY, M. D. S., D. D. S., etc., etc. With over three hundred and fifty Illustrations. New York: D. Appleton & Co. 1880.

The title *Oral Deformities* gives but an imperfect idea of the scope and contents of this book, which, though written by a dentist and for dentists, contains

matter that is especially valuable for the physician and surgeon.

The book is divided into five grand divisions, namely: (1.) Irregularities of the teeth, their physiological and pathological relations, and the modes of treatment with cases. (2.) Palatine defects, congenital and acquired, containing the history of the means of relief from the earliest records down to the present time. (3.) Maxillary fractures, a masterly treatment of the whole subject. (4.) The mechanism of speech, with especial reference to cleft-palate subjects, and covering the whole ground of articulate speech, profusely and excellently illustrated. (5.) *Æsthetics* of dentistry, having special reference to the manufacture and insertion of artificial teeth.

Dr. Kingsley has long been known to the members of his profession as very ingenious in the contrivance of methods for regulating the most desperate cases of irregular denture, and as the inventor of the only successful velum for the closure of congenital cleft palate. With pardonable egotism in his preface, he says, "I have endeavored to treat these topics with such comprehensiveness that it will not be necessary for any one to go over the same ground until the progress of science shall make these teachings obsolete;" yet in the treatment of the former of these subjects we notice several omissions, a failure to keep abreast of the "science" of the day in omitting many modern appliances, and an over-tenacious adherence to old and nearly "obsolete" methods. On the whole, however, principles are well stated, and it only remains for the ingenious practitioner to apply them to his own cases. Cleft-palate treatment, with its history and description of methods, leaves little to be desired. The reference to Snerson's obturator is frank and generous, while his reasons for preferring his own in the early treatment are so well stated as to demand acceptance. For the physician and surgeon the chapters on maxillary fractures are of interest and value, as is also the one on the mechanism of speech. Too much has been expected of the operation of staphyloraphy, and also of artificial vela for the correction of faulty articulation, and the chapter in which these subjects are treated, together with that on cleft palate, well explains the reasons for failure and the means of cure.

The fifth division, *The Æsthetics of Dentistry*, is especially valuable to the dentist, for whom it was written, and places the manufacture and insertion of artificial teeth on higher ground than is usually taken either by patient or by practitioner, but not impossible of access by one who is honest and in earnest.

The book bears evidence of careful investigation, earnest thought, and patient work, whilst the mechanical appliances described witness to a wonderful ingenuity in finding the means to an end; and no man in other profession who wishes to do the best thing for his patient can afford to neglect its teachings.

American Health Primers: Sea-Air and Sea-Bathing. By JOHN H. PACKARD, M. D. Philadelphia: Presley Blakiston. 1880.

This little book, the eleventh in this series of *Health Primers*, has appeared very opportunely, and will be found a useful companion by those about to resort to the sea-side for the summer. The chapters on accidents in bathing, on sea-bathing for invalids, and on sanitary matters will all repay perusal by those classes of readers for whom the book is evidently intended.

Medical and Surgical Journal.

THURSDAY, JULY 4, 1880.

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THE MANUFACTURE OF FRAUDULENT DIPLOMAS CHECKED AT LAST.

THE issue of fraudulent diplomas by spurious medical colleges, in the city of Philadelphia, has been temporarily checked; we wish it could safely be said it had been permanently stopped. Before society can feel secure against such outrages the law must provide some more direct and stringent means of dealing with their perpetrators, or, better still, make the attempt too hazardous to be a temptation. As our Eastern centres become more densely populated, competition keener, the inducements to fraud greater, the republican neck must consent to bend a little and submit itself to the yoke of safeguards which have been found necessary in communities which have preceded them in the process of growing old. A new bill to regulate the practice of medicine in the State of New York has just passed the legislature of that State and received the governor's signature. This step Pennsylvania would doubtless do well to imitate. The compulsory presentation of diplomas and registration by those proposing to practice medicine, in connection with a vigorous enforcement of the existing law of 1870 against the sale of degrees, should suffice to protect the public, and the good name of Philadelphia as a medical centre, at home and abroad, from the dangers to which the former and the disgraces to which the latter have been subjected with more or less persistency during the last twenty-seven years. As mentioned in our issue of June 17th, the *Philadelphia Daily Record* deserves credit and recognition for its energy, acuteness, and courageous expenditure in bringing to justice the chief culprit, John Buchanan, M. D., proprietor of the Eclectic Medical College, alias James Murray, D. D., of the Livingstone University. In the *Daily Record* for June 10th, 11th, and 14th, is a full account of these and kindred institutions of learning, a biography of their owners, and a list of the purchasers of degrees conferred.

Diplomas were first manufactured in Philadelphia in 1853, in which year the American College of Medicine was chartered by the legislature. The name was subsequently "watered," and became the American College of Medicine in Pennsylvania and the Eclectic Medical College of Philadelphia, diplomas being issued and dividends declared promissively under either title for some years. Eventually this lucrative mass of protoplasm subdivided itself, the American College becoming "Dr." William Paine, and the Eclectic College "Dr." John Buchanan. In 1865, with the aid and sanction of the legislature, the

American College inflated itself to the Philadelphia University of Medicine and Surgery, of much renown. Both of these diploma factories escaped any serious consequences from a legislative investigation in 1872, the Eclectic College by a legal technicality, the more pretentious university by simple audacity. It was sold to a syndicate of four persons, and attained even greater prosperity and more extended usefulness under the supervision of the Rev. Mr. Miller, dean, and the Rev. Mr. Ingraham, president. This "university" has issued more than six hundred medical degrees since 1859; of these, two hundred and twenty, according to the record, are held by persons living in Pennsylvania, and sixty-six by inhabitants of New York. Germany possesses only ten of these valuable documents, which we hope are destined to become very rare, and to be found only in a few of the largest libraries.

From "Dr." John Buchanan, who in the mean time had not been idle, the reporter of the *Record* purchased a unique collection of diplomas, to wit: one diploma of M. D. emanating from the Eclectic Medical College; two diplomas of M. D. from the American University of Philadelphia; one diploma of M. D. from the Livingstone University of America; one diploma of M. D. from the National Eclectic Medical Association; one degree of D. D. from the Livingstone University; one degree of LL. D. from the American University; and one degree of D. C. L. from the Livingstone University. The Eclectic Medical College, as we have mentioned, and this alone, had a charter; the other institutions were in this, as in every other respect, the creations of the imagination and of the pen of the fertile and ubiquitous Buchanan. To the above list of spurious colleges should be added the Quaker City Business College and the Philadelphia Electropathic Institution.

The great diploma-king of all is now in jail, and the lesser dignitaries are either on their way to it or greatly discouraged. This branch of industry is probably destroyed for the present, and the operatives thrown out of employment. If the State can be induced to provide the law necessary to prevent its resuscitation it would seem to be well worth the while of the University of Pennsylvania alone to provide the energy, and, if needs be, the funds requisite to secure the enforcement of the law, for the injury accruing to that institution, and to the Jefferson Medical College as well, from these practices must have been very great.

MEDICAL NOTES.

— Benzoate of soda is greatly vaunted in Germany as a specific against parasitic diseases, amongst which are ranked pneumonia and pulmonary tuberculosis. Rokitsansky makes his patients inhale, by means of a spray apparatus, a gramme of the drug for each kilogramme bodily weight. Schwitzler, also partisan of the anti-parasitic treatment of phthisis, gives preference to inhalations and subcutaneous injections of phenic acid. Klebs, of Prague, signals the efficacy of ben-

zoate of soda in all febrile diseases having an infectious character. The fever does not yield as quickly as with quinine or salicylate of soda, but it disappears in a more certain and permanent manner. Leterich recommends it in the treatment of diphtheria. Of twenty-seven patients treated during an epidemic he affirms to have lost but one, and that a child. In these cases the benzoate of soda is employed internally, the dose being from five to twenty grammes, according to age, in about six ounces of vehicle, and externally in powder applied to the affected parts.

—The *Medical Press and Circular* says the dispensary system on a very small scale is about to be introduced into the French departments. The Minister of the Interior has ordered medical chests containing the most necessary medicines in case of urgency to be supplied to those districts that are not provided with chemists; each chest is divided into two compartments, and the price is fixed at two hundred francs; one containing drugs, to be used only by the doctor; the other is supplied with bandages, cotton wadding, etc., and is placed at the disposition of the public.

—The Vienna correspondent of the *St. Louis Courier of Medicine*, etc., writes: "Billroth is not an enthusiast for the spray. He thinks it more trouble than it is worth, and says he does not expect to use it next term. He considers the Lister dressings sufficient. He says you can soak bacteria in a two per cent. solution of carbolic acid for forty-eight hours, and not destroy them. I saw him, lately, open a knee-joint without it. During the early part of the winter, good results were claimed for it, but during the last two months everything has been unfavorable.

"I lately saw at the Vienna Medical Society a heart without a pericardium. Simply a trace was found attached to the posterior surface of the great vessels. Durnreicher stated that only two such cases had been noticed here, among seventy thousand post-mortems."

—The *Louisville Medical News* copies the following from the *Union Médicale*: A physician in high position, who had usually some trouble in obtaining payment from one of his patients, who was a financier, received from him one day an agreeable surprise in the form of a charming letter, in which he apologized for having made him wait so long, and informed him that instead of recompensing his careful attention by vile dross he presented him with a number of shares in a new society which he had founded. The doctor accepted the shares, signing a receipt; but as these never brought him any dividends, he deposited them in his strong-box, and forgot all about them. Quite recently they were suddenly called to his mind on his receiving a summons to attend at a court of justice, there to hear his condemnation to pay ten thousand francs for unpaid deposits upon the shares, the society having fallen into bankruptcy. In another instance a medical practitioner received from a patient in payment of his services a cask of white Barsac wine. After a while the donor failed, fell ill, and died. On examination of his books there was found

an entry of the Barsac wine, valued at three hundred francs. This the doctor was obliged to pay, and upon claiming payment for his own medical services he was informed that a year had elapsed since they were rendered, and payment was therefore not recoverable.

NEW YORK.

—The first case of yellow fever in the harbor this season occurred on board the Pacific mail steamer, *Colon*, which left Aspinwall on the 6th of June; and it was the second case of the disease which developed during the voyage. The first patient was a steerage passenger, and he showed symptoms of yellow fever almost immediately after the vessel sailed. He was returning to the East from California, and, so far as the history of the case could be gathered, had contracted the fever at Aspinwall. He died on the 12th, and was buried at sea. On the 11th a cabin passenger was taken with the disease, although the ship's surgeon believed it to be a case of isthmus fever. This patient had been the agent of a gold mine in the mountains, and came down to Aspinwall only a few days before sailing. There was no communication between the cabin and steerage passengers, and it was therefore supposed that he also brought his fever with him from Aspinwall. When the *Colon* arrived at the New York quarantine the case was transferred to the fever-ship *Illinois*, and watched with much interest; and both Dr. Smith, the new health officer, and his assistant, Dr. Macarthy, became convinced that it was one of genuine yellow fever. On the afternoon of June 16th black vomit set in, and that evening the patient died. No other case of disease of any kind was found among the passengers of the *Colon*, and they were soon permitted to land. Dr. Smith, in speaking of the case, said that, although he was not very fully acquainted with its history, he had no doubt it was one of yellow fever; and that it was somewhat of a surprise to the authorities to get a yellow-fever case at this time from the port of Aspinwall. He was very anxious, he said, to have a cable giving his department telegraphic communication with the islands and with the hospital-ship, which would be of great advantage to them, and would also be used very generally by merchants and others. At present a vessel in the lower quarantine ground can communicate with the city only by means of the health officer's tug.

—The record of contagious diseases reported to the health department for the month of June is much smaller than for the corresponding weeks last year, and is, indeed, below the average for several years past. But, while the number of contagious diseases reported is less than in June, 1879, the death-rate shows a very considerable increase, which is found to be almost entirely among children under five years of age. This is somewhat remarkable, as there has been but little continued hot weather since the last week in May, and the city is supposed to be in a better sanitary condition than usual. The following report was lately given by Dr. E. H. Janes, the assist-

ant sanitary aid: "The sanitary condition of the city at the present time is better than it has been for many years. The streets are kept in a very cleanly condition, and the working people and persons living in tenements are much more careful of the condition of their surroundings than they were formerly. The thorough examination made by the inspectors of the health department last year has resulted in great good, and with our present force of inspectors and the sanitary police we can keep watch over the tenement-house districts, and prevent any flagrant violation of the sanitary laws. We are now transferring the reports by the inspectors of their work last year into about thirty large ledgers, and these will be kept as the sanitary record of the houses, with the number of contagious diseases reported in each." Last week was begun the distribution, by the health authorities, of circulars directing parents about the proper care of their children during the summer months, and the proper course to be pursued upon the occurrence of any contagious disease in the house; and also giving directions for the prevention and treatment of sunstroke.

—The Sisters of St. Mary, of the Protestant Episcopal Church, who for several years have occupied a private building in West Thirty-Fourth Street as their free hospital for children, are now engaged in erecting a new hospital on the site of the old and on the adjoining lot, which they have purchased. The building, which is expected to be ready for occupancy about the last of October, will be fifty feet wide and eighty feet in depth, with an extension of twenty-five feet. The front is to be of Philadelphia pressed brick, with trimmings of Ohio freestone, and it will be four stories in height, with a basement. In the basement of the building will be the reception-ward and out-door dispensary, dining-rooms, kitchen, laundry, etc. The first floor will be used for a reception-room, dining-room, and office, and there will also be one ward for about twenty patients on this floor. On the second floor there will be two wards for twenty patients each, ward dining-rooms, bath-rooms, etc.; on the third, the chapel, sisters' rooms, sewing and nurses' rooms; and on the fourth the children's play-room, servants' rooms, operating and surgical rooms, and an isolation-ward for infectious diseases, in case any should occur in the institution.

—At a recent meeting of the new State Board of Health, held in New York, a resolution was adopted to the effect that the county officers in the several districts of the State should be requested to call attention to the provisions of the law passed by the legislature in May, establishing the board and defining its duties, with special reference to the sections authorizing the board to take cognizance of epidemic and preventable diseases, the investigation of sources of mortality, the sanitary and other effects of localities, employments, and other conditions of life upon the public health, the collection and preservation of information relating to deaths, diseases, and health, the registry of births, marriages, and deaths, the registry of prevalent diseases, and the security of life and

health, together with the results of preventive measures in places requiring attention to the preservation of the health and lives of the people. The following resolution was also passed: "*Resolved*, That in the best interests of the people at large the State has made it the duty of the State Board of Health, now for the first time authorized by law, to call attention to whatever may secure sanitary improvement by better systems and methods of drainage, sewerage and ventilation, vaccination, the supply of pure water, the prevention of the adulteration of food and of the pollution of wells, and the prevention of filth diseases and other destroyers of health and life, to the end that discussions, information, and the best sanitary measures may be had to avert danger. When it is understood that scarlet fever may be communicated by the breath in a second of time and from infected clothing not worn for a year, and that diphtheria often results from contact with impurities in earth, air, and water, parents and school-teachers will see the necessity of excluding children afflicted with or exposed to either disease from entering school-rooms and all places where others would be endangered. All good citizens will also realize the danger from exposure to decayed vegetables, fruits, and other sources of sickness, especially when surface or subsoil wells communicate with water polluted by proximity to drains, cess-pools, and other filth. The State Board looks first of all to an enlightened and healthful public opinion to aid it in the important and responsible duties imposed upon it by the State."

—It is somewhat to be feared that the number of lunatics and idiots may be found to be disproportionately large as compared with the general population, according to the census just completed, since the enumerators received five cents for the name of every such collected, while those of ordinary individuals were worth only two cents. One insane man, who had escaped several times from asylums, said to an enumerator in New York, "Put me down two thousand times, if you like, and you will get five cents every time."

Miscellany.

AS TO FEES: A POSTSCRIPT.

MR. EDITOR, — In regard to my note of last week, one or two points should be explained.

It was intended rather as a plea, imperfect as it was, for sustaining the integrity of the fee table, and to express the idea that its rates were the *lowest* that should ever be charged.

The question before the court was, not what were the charges in the fee table, but what were the customary charges by physicians in good standing to patients who were able to pay, that is to say, those who were neither very rich nor very poor; and upon this point the court ruled "that the fee table was not authority in the premises, but that *established custom* was." The weight of the evidence, in the opinion of the jury, went to show that the *three-dollar* fee was that most established by "*custom*."

The questions tried were not whether a five-dollar

fee for a visit was too much, or whether a three-dollar fee was too little; but simply which of these fees was most commonly charged and collected.

There is no profession or business requiring an equal amount of ability, acquirement, and devotion, which is so poorly requited in money, as that of the practice of medicine; and the number of those whom we know who have been able, after supporting themselves in tolerable comfort, to leave for those who are dependent on them even a modest competency can be almost counted on the fingers of one's hand.

This ought not to be, and it seems but reasonable and just that the profession itself should do something to advance its own interests in this regard. There appears to be no reason, therefore, why the rates of the fee table should not be advanced; nor why the larger fee should not be *made the custom*, and thus have the advantage of being sustained by the courts of law.

It costs as much to live in Boston as in London. The services of medical men are worth as much here as there. Why should we not then *expect*, I will not say *exact*, from all those who are able to pay it, the *guinea-a-visit*, or its equivalent in our money, the HALF-EAGLE?

HENRY G. CLARK.

ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION.

THE forty-eighth annual meeting of the British Medical Association, which is to be held in August, at Cambridge, bids fair to be one of the most successful on record. The university cities lend themselves with particular ease to meetings of this kind; their whole atmosphere is congenial to learned discussions; each is, in its way, a metropolis of culture; they abound in fine halls, well fitted for sectional meetings; and Cambridge, especially, is eminently qualified to receive a large medical association, inasmuch as, during the last few years, it has been raising up in its midst — thanks to the exertions of Michael Foster, Humphrey, George Paget, and others — a medical school, which is year by year taking a more important position amongst the schools of England, and which bids fair, before long, to be the finest school for physiology in this country.

The general programme of the meeting has been published, and also the detailed programmes of some of the sections. The president will be Dr. Humphrey, the professor of anatomy in the University of Cambridge. The Address in Medicine will be delivered by Dr. Bradbury, of Cambridge; that in Surgery by Mr. Timothy Holmes; and that in Physiology — as it deserves to be in Cambridge — by Prof. Michael Foster, to whom the university owes so much of the rising importance of its medical department.

The special subjects to be discussed in the section of medicine are: (1) Hysterical Anæsthesia, the debate upon which is to be opened by Dr. Bristowe; (2) Asthma, the discussion on which will be opened by Dr. Andrew Clark. In the department of surgery there is to be a discussion on The Treatment of Wounds, to be opened by Professor Lister; and another on Stricture of the Urethra, in which Sir Henry Thompson will take a leading part.

The section of pathology will have the advantage of being presided over by one who is not only a pathologist of the highest order, but also an accom-

plished public speaker, — I mean Sir James Paget, — who will be seconded by Drs. Wilks and Dickinson as vice-presidents. Two special discussions are proposed, the first on The Influence of Injuries and Morbid Conditions of the Nervous System on Nutrition, which is to be opened by Mr. Jonathan Hutchinson. The second is to be on Micro-Organisms, their Relation to Diseases, to be opened by Professor Lister.

In obstetric medicine a discussion is to be opened by Dr. Atthill on Uterine Hæmostatics, and one on The Removal of Uterine Tumors by Abdominal Section, by Mr. Spencer Wells.

In the department of psychological medicine there is to be a discussion on Alcohol as a Cause of Insanity, and a second on The Curability of Insanity.

In public medicine it is also proposed to hold two discussions: one on The General Working of the Public Health Administration in Great Britain and Ireland; the other on Diseases Communicable to Man from Diseased Animals when used as Food.

In the physiological section, which will be presided over by Professor Rutherford, Professor Gamgee will open a debate on the question, Is Urea Formed in the Liver? whilst a second debate on Sleep and Hypnotism is to be opened by Professor Preyer, of Jena.

There remains only to mention the ophthalmological section. Of this no programme has hitherto been issued.

From this enumeration it will be seen that very serious work is to be done at Cambridge, and it will, I think, be interesting to look a little more closely into the subjects which have been chosen for the great discussions in the various sections, and it will be thereby possible to see in what directions medical thought is tending in England. I think that we may couple together the debate on hysterical anæsthesia in the section of medicine and that on hypnotism in the section of psychological medicine.

Until within a very recent period hysterical anæsthesia was looked upon with the utmost skepticism by very eminent members of the profession, and even now it is the fashion to pooh-pooh symptoms of this class.

I am certainly within the mark when I say that Charcot has very considerably lost caste in this country since he began to make his investigations into the phenomena of hysteria. Not long since I heard one of the most acute physicians in London say, referring to Charcot, "He is a man who has done a great deal of good work on the spinal cord, and a great deal of very bad work in hysteria." It is curious, and not a little interesting, to find this question brought forward for discussion at the same meeting of the association as the subject of hypnotism. This has been another of the *bêtes noires* of the medical profession in England. It is a subject that up to within quite recent times men have talked about with bated breath, — fearful of the consequences which might ensue from a confession that they thought there might be something in it that was not wholly nonsensical. They have remembered the fate of Dr. Elliotson, who, for his enthusiasm in following up this and kindred subjects, — an enthusiasm that may, perhaps, have been sometimes led astray, — was practically ruined, and his name handed down to posterity as of one who had departed from the paths of medical virtue, and who deserved to be branded as either a charlatan or a fool. In vain did Mr. Braid publish his researches on the subject; except in a

very narrow circle they passed unheeded. Men have been content to remain in ignorance of a subject of the deepest physiological interest, and, as it will probably prove, of very great practical importance. To Charcot it is partly due that the profession is beginning to wake up in the matter. He has been supplementing his observations on hysteria by a series of researches into the phenomena of hypnotism. The French have not that righteous horror of the unknown which exists in the minds of a certain section of Englishmen. It would be far less easy in France to damn a physician for investigating a series of natural phenomena than it is in England. Charcot, in this question, as in those he has previously studied, has quietly gone on with his investigations, not exactly regardless of public opinion, but without the least expectation of exciting public opinion against himself. In England, to have done so would have been a perilous experiment; but the Cambridge physiologists have taken the bull by the horns, and have arranged to hold a debate on the previously forbidden subject. It is true they approach the question from the comparatively safe side of physiology; and it will yet be necessary to find a man sufficiently bold to approach it from the medical side, and to study the effects of artificial hypnotism and its twin brother, the so-called mesmerism, on disease.

There are three other subjects which may be placed together as indicative of the direction which is being taken by medical thought, and which were discussed at this meeting. I refer to *The Influence of Injuries and Morbid Conditions of the Nervous System on Nutrition; Asthma; and The Relation of Micro-Organisms to Disease*. These may not appear at first sight to have much in common, but on looking a little closer they will be found to have this common feature: each of them is essentially an attempt to get a step nearer the ultimate causation of disease, to leave the details and minute subdivisions of morbid states, and to get a glimpse at the great trunk from which these subdivisions are offshoots. Very great attention is being paid at the present time by English pathologists to the influence of the nervous system on nutrition. In this department of research, as in those above mentioned, it cannot be denied that we owe the first impulse to France. It is the French authors, amongst whom Duchenne de Boulogne and Charcot stand preëminent, who first gave accurate accounts of the pathology of muscular atrophy, and of acute decubitus; and it is to Charcot that we owe our knowledge of the connection between diseases of the spinal cord and bone disease. But many English workers have been following up the vein thus opened out; and some highly interesting facts are being gradually collected in various directions, more particularly in connection with skin diseases. There are, however, a few very able pathologists who are aiming at even higher things than the tracing of simple skin lesions to nervous influence. Investigations are being carried on to prove that diseases, such as acute and chronic rheumatism, in many instances have their primary seat in the nervous system, and that the local changes are only the secondary manifestations of the disease, resulting from alteration in the nervous influence over the nutrition of the parts affected. I am unable to say whether any of these investigations are in a sufficiently forward state for presentation at the forthcoming meeting; but I mention this as an indication of the active manner in which

this somewhat abstruse topic is being at present studied.

The subject of micro-organisms and their influence over disease is one of equal difficulty and not far behind the former in the breadth of its bearing on medicine. During the last few years investigations have tended to prove a connection between various blood diseases and organisms of the lowest kind, the latest contribution to the subject being the report on the pathology of pyæmia, drawn up last year for the Pathological Society by the committee that had been appointed two or three years previously. The most important point which was brought out in that report was the constant presence of bacteria in various parts of the body in patients dying of pyæmia. What the nature of this connection may be was not shown; but, taken in conjunction with the researches of Sanderson and Klein on some of the specific infectious diseases of the lower animals, the presence of these organisms in pyæmia is highly suggestive. Much good work is being done on this subject in Germany; but I have not heard whether any of the German workers are expected to be present at the discussion. The name of Professor Lister, however, is a guaranty that we shall have the very latest information bearing on the question.

It may perhaps surprise some of your readers that I should class asthma with the above extensive and far-reaching subjects. I do so, however, because I believe that the debate will not be confined to a discussion of the mere local phenomena of its condition, but that it will include a consideration of the relationship between asthma and some ill-defined state of the constitution, of which the asthma is only a local expression; in other words, that the whole question of diathesis will come up in connection with this debate. Here, again, we have to acknowledge our indebtedness to the French. There is no doubt that the tendency in France is to refer local manifestations of disease to constitutional causes; and that the tendency in England has been equally strong to confine one's attention to local symptoms, without looking deeper for an underlying remote cause. There is abundant evidence to show that we are beginning to wake up in this respect in England. It has latterly become much more general among specialists in skin diseases to seek for constitutional causes in explanation of morbid states of the skin. Mr. Jonathan Hutchinson, who has long taught that certain skin affections had affinities of so close a nature as to form a group worthy of the name of a diathesis, is about to extend his teaching in this respect by devoting four lectures in the course he will shortly deliver at the Royal College of Surgeons to the diathetic aspects of gout and rheumatism, including their less evident manifestations. The diathetic relations of asthma have not been much studied in this country, but in France they have been minutely investigated; and I think that in the forthcoming debate they will probably be brought into fuller notice than has been hitherto the case in this country.

The other discussions, though many of them are on subjects of great interest, do not call for much notice. We may expect to have a further advance in the statistics of surgical practice on anti-septic principles, in the discussion on the treatment of wounds; and, doubtless, Mr. Spencer Wells will advance our knowledge of the surgical treatment of uterine tumors by his opening speech in the debate on that subject.

REPORTED MORTALITY FOR THE WEEK ENDING JUNE 5, 1880.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Deaths under Five Years.	Percentage of total Deaths from				
				The Principal "Zymotic" Diseases.	Lung Diseases.	Diarrhoeal Diseases.	Diphtheria and Croup.	Scarlet Fever.
New York.....	1,085,000	501	193	16.77	15.57	6.59	2.79	1.80
Philadelphia.....	901,380	355	121	7.89	5.63	5.63	1.41	3.10
Brooklyn.....	564,400	189	76	24.34	13.23	3.17	13.75	2.19
Chicago.....	—	168	93	32.14	15.48	6.55	14.88	5.36
St. Louis.....	—	101	43	24.75	14.85	14.85	.99	2.97
Baltimore.....	393,796	197	110	32.49	5.58	25.38	2.03	1.52
Boston.....	365,000	120	35	15.00	15.00	4.17	7.50	.83
Cincinnati.....	280,000	133	79	30.08	9.02	21.05	—	2.25
New Orleans.....	210,000	150	77	26.00	5.33	10.00	2.67	1.33
District of Columbia.....	170,000	96	63	23.96	8.33	17.71	2.08	—
Buffalo.....	—	—	—	—	—	—	—	—
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	—	51	23	31.37	—	9.80	1.96	7.84
Milwaukee.....	127,000	36	22	22.22	5.56	2.78	11.11	2.78
Providence.....	102,000	39	15	33.33	17.95	5.13	7.69	10.26
New Haven.....	60,000	15	6	13.33	6.67	—	—	—
Charleston.....	57,000	35	17	30.00	5.71	11.43	—	—
Nashville.....	37,000	23	10	39.13	8.69	—	—	—
Lowell.....	54,000	18	10	5.56	5.56	—	5.56	—
Worcester.....	53,000	16	6	18.75	12.50	—	6.25	6.25
Cambridge.....	50,400	14	5	—	14.29	—	—	—
Fall River.....	49,000	—	—	—	—	—	—	—
Lawrence.....	38,600	11	5	18.18	—	—	—	—
Lynn.....	34,000	14	7	14.29	7.14	—	14.29	—
Springfield.....	31,800	11	4	27.27	—	—	9.09	—
New Bedford.....	27,200	18	7	27.78	—	—	11.11	16.67
Salem.....	26,500	11	7	27.27	9.09	—	18.18	—
Somerville.....	23,500	5	2	20.00	40.00	—	—	—
Chelsea.....	21,000	3	1	33.33	—	—	33.33	—
Taunton.....	20,200	2	—	50.00	—	—	50.00	—
Holyoke.....	18,400	12	3	20.00	20.00	10.00	—	—
Gloucester.....	17,300	3	1	—	—	—	—	—
Newton.....	17,300	2	—	—	—	—	—	—
Haverhill.....	15,350	2	—	—	—	—	—	—
Newburyport.....	13,500	4	2	25.00	—	—	—	25.00
Fitchburg.....	12,600	2	—	—	50.00	—	—	—
Seventeen Massachusetts towns.....	135,210	51	6	11.76	17.65	3.92	3.92	—

Deaths reported, 2404; 1049 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 507; consumption 313; lung diseases 256; diarrhoeal diseases 198; diphtheria and croup 111; scarlet fever 59; measles 37; typhoid fever 29; malarial fevers 25; whooping-cough 17; cerebro-spinal meningitis 15; erysipelas 15; small-pox one. From *measles*, New York eight; New Orleans seven; Brooklyn and Cincinnati five; Philadelphia and Pittsburgh three; Lawrence two; Chicago, St. Louis, Springfield, and Salem one. From *typhoid fever*, Philadelphia and Providence four; Baltimore and Charleston three; Boston, Cincinnati, Milwaukee, and New Haven two; Chicago, St. Louis, New Orleans, Pittsburgh, Nashville, Worcester, and Holyoke one. From *malarial fevers*, New York and New Orleans eight; Brooklyn four; Baltimore and District of Columbia two; St. Louis one. From *whooping-cough*, Nashville five; New York three; St. Louis, New Orleans, and Pittsburgh two; Baltimore, Boston, and District of Columbia one. From *cerebro-spinal meningitis*, New York five; Philadelphia four; Chicago three; St. Louis, District of Columbia, and Somerville one. From *erysipelas*, New York four; Chicago three; Waltham two; Philadelphia, Brooklyn, Baltimore, Cincinnati, Nashville, and Springfield one. From *small-pox*, Chicago one. In addition, Fall River reports deaths from consumption two, lung diseases one, cerebro-spinal meningitis one, typhoid fever one, — total deaths not given.

One hundred and one cases, 51 of diphtheria, 28 of scarlet fever, three of whooping-cough, and three of typhoid fever, were reported in Brooklyn; diphtheria 16, scarlet fever three, in Milwaukee; scarlet fever 16, diphtheria eight, measles six, typhoid fever six, in Providence. New York reports eight deaths from direct effect of solar heat.

Total deaths about the average; deaths under five diminishing somewhat. Diarrhoeal diseases still producing a large

proportion of deaths. In 35 cities and towns of Massachusetts, with an estimated population of 1,004,760 (population of the State about 1,690,000), the total death-rate for the week was 16.30 against 19.16 and 20.03 for the previous two weeks.

For the week ending May 15th, in 150 German cities and towns, with an estimated population of 7,706,855, the death-rate was 28.3. Deaths reported, 5673; 2069 under five; pulmonary consumption 597; acute diseases of the respiratory organs 428; diphtheria and croup 148; measles and *rubella* 82; scarlet fever 82; whooping-cough 60; typhoid fever 55; puerperal fever 12; typhus fever (Königsberg, Danzig two, Elbing, Thorn, Posen, Beuthen two, Leipzig, Braunschweig three) 12; small-pox (Beuthen 4, Grlitz, Elberfeld, Berlin) seven. The death-rates ranged from 12.4 in Potsdam to 38.7 in Strassburg; Königsberg 30.4; Breslau 28.3; Munich 28.3; Dresden 30.3; Berlin 26.6; Leipzig 31.4; Hamburg 23.3; Hanover 21; Bremen 22.4; Cologne 37.8; Frankfurt 22.8. For the same week, Vienna 33.7; Paris 31.6, with a large number of deaths from small-pox.

For the week ending May 22d, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 20.5. Deaths reported, 2949; acute diseases of the respiratory organs 241; whooping-cough 128; scarlet fever 96; measles 69; fever 14; diarrhoea 41; diphtheria 11; small-pox (all but one in London) 11. The death-rates ranged from 14 in Portsmouth to 30 in Salford and Liverpool; London 18.5; Bristol 19; Birmingham 20; Manchester 27. In Edinburgh 22, Glasgow 23, Dublin 34.

In the 20 chief towns in Switzerland for the week ending May 15th, population 445,790, there were 35 deaths from acute diseases of the respiratory organs, diphtheria and croup 15, diarrhoeal diseases 14, scarlet fever seven, measles two, typhoid fever two, small-pox one. Death-rate of Geneva 21.4; of Zurich 31.2; Basle 26.5; Berne 29.5.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direcion of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	4 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
May 30	30.092	55	62	54	63	80	97	80	E	SE	SE	3	12	6	O	O	R	7.57	.06
" 31	29.853	69	82	60	95	51	64	70	S	NW	W	15	19	9	R	F	C	8.50	.27
June 1	29.969	72	88	60	75	47	50	57	W	W	N	8	9	5	C	F	O	—	—
" 2	30.094	55	62	48	93	70	69	77	N	E	NE	6	6	7	R	O	O	9.05	.24
" 3	30.182	57	69	50	55	61	81	65	N	E	SE	9	6	6	C	F	O	—	—
" 4	30.283	56	66	53	71	63	74	69	Calm.	SE	SE	0	16	7	C	F	C	—	—
" 5	30.255	59	70	50	76	72	70	72	SE	E	SW	1	5	12	II	O	F	0.30	—
Week.	30.104	60	71	53															0.57

¹ O, cloudy; C, clear; F, fair; G, fog; H, hazy; R, rain; S, smoky; T, threatening.

REPORTED MORTALITY FOR THE WEEK ENDING JUNE 12, 1880.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Deaths under Five Years.	Percentage of total Deaths from					
				The Principal "Zymotic" Diseases.	Diarrhoeal Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	
New York	1,985,000	479	211	23.18	12.32	12.32	3.34	1.90	
Philadelphia	901,380	285	106	11.58	—	2.48	3.86	2.11	
Brooklyn	564,400	197	81	25.89	10.66	12.18	8.63	1.52	
Chicago	—	182	96	27.47	6.04	8.80	10.99	6.04	
St. Louis	—	161	104	32.20	22.98	3.11	.62	1.24	
Baltimore	393,796	211	134	40.28	33.18	2.84	2.42	2.42	
Boston	365,000	139	40	17.99	2.88	3.59	10.79	—	
Cincinnati	280,000	131	84	36.64	27.48	8.40	—	.76	
New Orleans	210,000	166	85	35.54	16.87	3.61	3.01	1.20	
District of Columbia	170,000	105	50	30.48	22.86	8.57	.95	—	
Buffalo	160,000	28	11	21.43	—	10.71	7.14	7.14	
Cleveland	—	—	—	—	—	—	—	—	
Pittsburgh	—	61	—	26.23	4.92	9.83	—	8.20	
Milwaukee	127,000	50	26	20.00	4.00	6.00	8.00	6.00	
Providence	102,000	30	6	6.67	—	16.67	—	6.67	
New Haven	60,000	16	8	37.50	6.25	6.25	12.50	6.25	
Charleston	57,000	38	22	7.90	2.63	—	—	—	
Nashville	37,000	20	10	60.00	40.00	5.00	—	—	
Lowell	54,000	28	11	11.71	—	11.71	—	—	
Worcester	53,000	18	8	16.67	—	11.11	5.55	—	
Cambridge	50,400	22	5	18.18	4.55	18.18	9.09	—	
Fall River	49,000	14	—	21.43	—	7.14	7.14	—	
Lawrence	38,600	16	5	12.50	—	18.75	6.25	—	
Lynn	34,000	6	4	16.67	—	33.33	16.67	—	
Springfield	31,800	7	1	42.86	—	—	42.86	—	
New Bedford	27,200	9	2	33.33	—	—	—	22.22	
Salem	26,500	13	5	15.38	—	7.69	7.69	—	
Somerville	23,500	3	1	33.33	—	—	—	—	
Chelsea	21,900	7	1	—	—	42.86	—	—	
Taunton	20,200	5	—	—	—	—	—	—	
Holyoke	18,400	9	2	33.33	—	—	—	—	
Gloucester	17,300	6	1	—	—	16.67	—	—	
Newton	17,300	—	—	—	—	—	—	—	
Haverhill	15,350	3	2	—	—	16.67	—	—	
Newburyport	13,500	5	2	40.00	—	40.00	—	20.00	
Fitchburg	12,600	3	0	—	—	33.33	—	—	
Eighteen Massachusetts towns	145,410	30	9	20.00	3.33	10.00	10.00	6.67	

Deaths reported 2503; 1133 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers), 637, diarrhoeal diseases 307, consumption 303, lung diseases 194, diphtheria and croup 112, scarlet fever 57, whooping-cough 37, typhoid fever 34, malarial diseases 28, measles 28, erysipelas 15, cerebro-spinal meningitis 11, small-pox four, typhus fever three. From whooping-cough, St. Louis six, New York and New Orleans five, Nashville four, Pittsburgh and Lowell three, Chicago, Baltimore, and District of Columbia two, Philadelphia,

Brooklyn, Boston, Cincinnati, and Charleston one. From typhoid fever, Philadelphia nine, New York, Chicago, and District of Columbia three, Boston, Cincinnati, and New Orleans two, Brooklyn, St. Louis, Baltimore, Pittsburgh, New Haven, Charleston, Lawrence, Salem, Somerville, and Holyoke one. From malarial fevers, New Orleans 11, New York five, Brooklyn, Boston, St. Louis three, District of Columbia two, Baltimore, Boston, Buffalo, Cambridge, and Fall River one. From measles, Cincinnati eight, New Orleans five, New York, Brooklyn, and Pittsburgh three, Chicago two, Philadelphia, St. Louis, Milwau-

kee, and Holyoke one. From *crispias*, New York six, Brooklyn and Boston two, St. Louis, Pittsburgh, New Haven, Fall River, and Newburyport one. From *crispias*, New York four, Philadelphia and Worcester two, New Orleans, Buffalo, and New Bedford one. From *small-pox*, Philadelphia three, Holyoke one. From *typhus fever*, New York, Chicago, and Baltimore one.

Thirty-eight cases of diphtheria, 37 of measles, 30 of scarlet fever, one of whooping-cough, and one of typhoid fever were reported in Brooklyn; 24 of small-pox in Chicago; diphtheria 26, scarlet fever 14, in Boston; diphtheria 14, scarlet fever two, in Milwaukee; scarlet fever 15, diphtheria five, measles three, typhoid fever three, *crispias* one, in Providence; diphtheria four, in Cambridge; scarlet fever seven, diphtheria five, in New Bedford.

In 36 cities and towns of Massachusetts, with an estimated population of 1,016,700, the total death-rate for the week was 17.64 against 16.30 and 19.16 for the previous two weeks.

For the week ending May 22d, in 148 German cities and towns, with an estimated population of 7,632,943, the death-rate was 28.1 against 28.3 and 27.9 for the previous two weeks. Deaths reported 5683: 1966 under five; pulmonary consumption 610; acute diseases of the respiratory organs 443, diphtheria and croup 144, scarlet fever 82, measles and *rötthela* 76, whooping-cough 61, typhoid fever 58, puerperal fever 15, ty-

phus fever (Königsberg, Danzig three, Thorn three, Tilsit, Benthien, Magdeburg, Hamburg, Braunschweig two) 14, small-pox (Königsberg, Königshütte three, Benthien three, Dresden, Frankfurt) nine. The death-rates ranged from 14.6 in Carlsruhe to 42.7 in Danzig and Munich; Königsberg 35.5; Breslau 29.4; Dresden 27.7; Berlin 27.8; Leipzig 20.3; Hamburg 26.2; Bremen 22.4; Cologne 27.2; Frankfurt 17.9. For the same week Vienna 29.5; Paris 30.5.

For the week ending May 29th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 20.1. Deaths reported 2887; acute diseases of the respiratory organs 208, whooping-cough 132, scarlet fever 131, measles 90, diarrhoea 43, fever 38, diphtheria 17, small-pox (all in London) 10. The death-rates ranged from 16 in Wolverhampton to 29 in Salford; London 19; Bristol 22; Birmingham 19; Liverpool 23. In Edinburgh 25, Glasgow 23, Dublin 38.

In the 20 chief towns in Switzerland, population 445,790, there were 36 deaths from acute diseases of the respiratory organs, diarrhoeal diseases 19, scarlet fever 14, diphtheria and croup four, typhoid fever four, whooping-cough one, small-pox one. Death-rate of Geneva 28.8; of Zurich 28.5; Basle 28.6; Berne 29.5.

The meteorological record for the week in Boston was as follows:—

Date.		Barom-eter.	Thermom-eter.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
		Mean.	Mean.	Maximum.	Minimum.		7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
June	6	30.006	61	66	56	88	89	94	90		S	S	E	4	8	4	O	R	F	—	.03
"	7	29.947	59	65	55	94	89	100	94		E	NE	E	3	8	10	O	G	G	—	.02
"	8	30.204	51	56	49	93	100	93	95		NE	NE	NE	12	16	9	R	R	O	—	.15
"	9	30.229	54	63	49	93	81	81	85		NE	E	NE	6	13	4	O	F	C	—	—
"	10	30.147	63	73	49	82	64	78	85		Calm.	SE	S	0	6	8	F	F	F	—	—
"	11	29.953	70	86	57	83	50	70	67		SW	SW	SW	10	8	12	C	F	O	—	—
"	12	29.690	75	87	63	70	85	51	76		W	NW	NW	7	10	4	O	F	F	—	—
Week.		30.025	62	87	49				84											14.35	0.20

¹ O, cloudy; C, clear; F, fair; G, fog; H, hazy; R, rain; S, smoky; T, threatening.

AMERICAN SOCIAL SCIENCE ASSOCIATION.

THE date for the Saratoga meeting of 1880 is from the 7th to the 10th of September, inclusive. The general sessions will be held only in the morning and evening; the department meetings in the morning, with liberty to adjourn over to the afternoon, if their business requires it. Two of the department papers may, if desired, be read at the general sessions. One hour will be the limit of addresses, except the Annual Address of the president, and forty minutes the limit of each paper in reading. There will be debates as follows: Wednesday evening, September 8th, on The Adulteration of Food, Drugs, and Domestic Articles, in the health department, after the reading of a paper by Professor S. W. Johnson, of Yale College; the debaters being Professor W. R. Nichols, of Boston, Professor S. A. Latimore, of Rochester, N. Y., Clifford Mitchell, M. D., of Chicago, Professor C. R. Fletcher, of Boston, George T. Angell, Esq., of Boston, etc.; Thursday evening, September 9th, on Railroads; Friday evening, September 10th, on Public Parks, after a paper by F. L. Olmsted, Esq., of New York. The addresses and papers already agreed upon, in addition to those above named, are as follows:—

In general session. Tuesday evening, September 7th, at eight o'clock, Annual Address by President Gilman, of Baltimore.

Wednesday, at nine a. m., reports and communications; at ten a. m., a report by Joseph D. Weeks, Esq., of Pittsburgh, Pa., on Casualties in Mining.

Thursday, at ten a. m., a session for business.

Department meetings. Wednesday, September 8th (in the educational department), at nine a. m.

Wednesday, September 8th (in the health department), at 9.30 a. m., an address by Dr. D. F. Lincoln, of Boston, chairman of the department; at 10.30 a. m., a paper by Colonel Waring, on Yellow Fever; at twelve o'clock, a paper by Dr. E. W. Cush-

ing, of Boston (secretary of the department), on The Regulation of Medical Practice by Statute.

The next meeting of the council will take place at Saratoga, September 7th, at four p. m. After the new election of officers at the September meeting of the association, the council will probably meet at Saratoga by adjournment, and attend to such business as may come before it; its next quarterly meetings will be in December, 1880, and March, 1881. The day and hour for the election of officers at Saratoga will be announced in the next circular. The headquarters of the association will be at the United States Hotel during the Saratoga meeting, where members will be received at reduced rates; the sessions will be held in Putnam Hall.

Boston, June 2, 1880.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JUNE 19, 1880, TO JUNE 25, 1880.

CROSKRITTE, H. M., captain and assistant surgeon. Granted leave of absence for two months. S. O. 134, A. G. O., June 13, 1880.

The following promotions and appointments are published:—Lieutenant-Colonel W. S. KING to be surgeon, with the rank of colonel.

Major JOHN E. SUMMERS to be surgeon, with the rank of lieutenant-colonel.

Assistant Surgeons WILLIAM E. WATERS, EDWIN BENTLEY, GEORGE A. OTIS, and GEORGE P. JAQUETT to be surgeons, with the rank of major.

RUDOLPH G. FREER, of Oregon, ROBERT J. GINSON, of Connecticut, ROBERT B. BENHAM, of Pennsylvania, WILLIAM C. GONCAVE, of Alabama, NORTON STRONG, of Michigan, and ARTHUR W. TAYLOR, of New York, to be assistant surgeons United States Army.

Lectures.

SOME OF THE SYMPTOMS OF BRIGHT'S DISEASE.¹

BY ROBERT T. EDDES, M. D.,

One of the Visiting Physicians at the Boston City Hospital.

ALTHOUGH between these two extremes we meet with intermixtures in almost all proportions, although it is hardly possible that interstitial nephritis should go on to the formation of the hard contracted granular kidney without having produced more or less parenchymatous disease, and although the same causes which give rise to well-marked parenchymatous disease may involve to some extent the interstitial tissue, yet, taking into consideration the predominant factor in the most typical cases, it is clear that we have two tolerably well-pronounced and distinct diseases, often associated with each other, it is true, but differing in pathology, symptoms, and aetiology. By far the most important difference, however, is in the relation borne by the two diseases to the accompanying symptoms. In parenchymatous nephritis we have a disease of the kidneys, local, like pneumonia or cirrhosis of the liver, upon which depend the symptoms. In interstitial nephritis we have also a local disease, but as a part of a more general one, the symptoms being partly dependent upon and partly only coincident with the renal lesion.

What name shall we give to this general disease? Dr. Mahomed speaks of Bright's disease without discriminating very clearly between the two forms, and yet including vascular changes which usually precede only one of them. This is objectionable as a name for the general disease, because it includes, if Mahomed's theory be correct, a condition which Dr. Bright did not describe and did not intend to, that is, a state of high arterial tension, without albuminuria, without dropsy, and very possibly in some cases without organic changes in the kidney. If we call it arterio-capillary fibrosis, according to the lesion described by Drs. Gull and Sutton (but which, perhaps, does not exist), we are, it may be, using as a name an effect rather than the essential lesion; and in fact I do not think the links in the chain of causation as yet well enough made out to justify a new nomenclature. I should prefer to speak of it simply as a condition liable to be followed by interstitial nephritis or contracting kidney.

It must be only from a series of accidents, as it were, that we can tell whether this condition can be detected before absolutely any change has taken place in the kidney. Probably we cannot do this, for, judging from the more advanced cases, the change goes on as rapidly in the kidneys as anywhere, but it is very certain that unless we reckon (as a sign of this change) an increased flow of light urine, which is really dependent upon increased tension, and not upon renal changes, symptoms pointing to the kidneys alone are not always among the first to make their appearance. It might be expected that, just as tuberculosis may make itself most marked now in one organ and now in another, this condition would do the same, and yet somewhat as tubercle in the adult shows a special predilection for the lungs, high tension and thick arteries seldom fail, when reaching their full development, to produce the atrophied kidney and the well-known hypertrophied heart.

There is at present a decided tendency, among those

who have investigated this subject most carefully, to make the vascular changes the primary ones; to suppose, that is, that high arterial tension is *first* developed, and as its consequence renal, cardiac, and sometimes arterial and cerebral disease. The changes in the small renal arterioles have been long known, and it was at first supposed that the resistance to the passage of the blood through them was sufficient to raise the tension of the blood and throw enough additional work upon the heart to cause hypertrophy; but it can easily be shown that the kidneys do not affect a large enough part of the total circulation to bring about such a result, even if they were totally atrophied, while it is very clear, from the amount of urine secreted, that the quantity of blood passing through them cannot be much diminished. The observation afterward made, that similar changes were found in other arteries, furnished, however, a little better basis for this theory. But it has been found that, although this thickening is frequent, it is not invariable, even when the heart is hypertrophied. So that, notwithstanding these various theories express a certain amount of truth, none of them cover the whole ground, and we must fall back upon either the theory of myocarditis and relative insufficiency of the aorta, which, though sometimes occurring, are far from being invariable, or the older notion of impurity in the blood, which prevents its easy passage through the capillaries.

This last theory is one which has much clinical evidence in its favor, albeit it is not proved true in its completeness, and in order to make it of value we must inquire, How do the arteries become degenerated, or from what source is the blood poisoned?

To this question we can give answers which, with reasonable probability, will cover a part of the ground, while the rest must be left to conjecture, approaching more or less nearly to probability. Advancing years are accompanied by rise of tension and loss of elasticity in the arteries, and these conditions are often closely connected with the cause of death in the form of organic disease of the heart, or interruption in the cerebral circulation, either from rupture or plugging of the vessels. A certain amount of interstitial nephritis and atrophy, especially in the outer layer of the cortical substance immediately below the capsule, may often be found, even when there have been no decided symptoms pointing to the kidneys. It is, however, very common to encounter, when they are looked for, a few hyaline casts in the urine of elderly people. If atrophy goes on slowly and regularly, corresponding to the lessening activity of tissue metamorphosis and consequent lesser demand upon the renal activity, there is no reason why the renal symptoms, strictly speaking, should become troublesome, and in fact in older persons, unless special search is made, we may easily overlook contracting kidneys in connection with organic disease of the heart, arteries, and brain. In such cases the exact diagnosis is a matter rather of scientific and prognostic than therapeutic interest, since the treatment would not be materially affected by the suspicion or even certainty of a moderate amount of renal atrophy. At what age this change is most likely to begin it is impossible to say, since old age is not always a matter of years, but of constitution, habits, and exposure. Of ninety-eight centenarians whose deaths were reported to the board of health in New York, only one is said to have died of Bright's disease. At the autopsy of Captain Laborbush, who was sup-

¹ Continued from page 6.

posed to be one hundred and eleven years old, one kidney was entirely destroyed, and the other very much atrophied, yet he had never had any symptoms referable thereto except the tumor in the right side connected with the right kidney. Sir Duncan Gibb reports the kidneys of Mrs. Elizabeth Leatherland, who died aged one hundred and eleven, as healthy, though soft and flabby.

Lead poisoning is reckoned a not infrequent cause of interstitial nephritis, and also often associated with high tension, especially during paroxysms of colic. Hence the occurrence of high tension in a case exposed to lead, having lead colic, or with the blue line on the gums, should lead us to warn the patient as to what to expect, even if no other symptoms are present, and the treatment of the threatened Bright's disease will be the treatment of the plumbic diathesis, demanding the change of employment, the regulation of the bowels, even by purgatives if necessary, and perhaps the iodide of potassium. We should be led into error, however, if after resorting to appropriate treatment for lead poisoning we should express an exceedingly unfavorable prognosis in all cases, even where the high tension is present. Patrick M., for instance, whom you have seen twice within a few weeks with severe lead colic, he being employed in the dustiest part of the neighboring lead works, and having a most characteristic blue line on the gums is a case in point. He has a very well-marked tracing of high tension, but his urine has a specific gravity of 1025, and contains neither albumen nor casts. Another case (William H.) was here two years ago with much more obstinate symptoms, and his urine contained (beside lead) both albumen and casts, and was of specific gravity 1020. I should feel as if the prognosis in this case were much more serious, but even here should wait for a subsidence of the acute symptoms before giving an opinion as to the existence of granular kidney.

Gout is so notoriously connected with the contracting kidney as to have given it one of its many names, — the "gouty" kidney. But this disease is seen in this country with such comparative infrequency that if it were not possible that subacute rheumatism had a somewhat similar effect it would lose much of its importance in this connection. Dr. Todd, in beginning his lecture upon the gouty kidney, says: "A knowledge of the real nature of gout and of its kindred malady, rheumatism, is, in my opinion, at the very foundation of all sound pathology."

Two cases, neither of which, it may be said, has yet furnished us with any pathological specimen, may illustrate the gouty origin. A large man of fifty-nine, whom I had not seen professionally for a number of years, came to complain of a fullness and tightness on top of his head. He cannot go up-hill or up stairs quickly. He passes a good deal of water; some passed in my office was of specific gravity 1015, with a slight amount of albumen and hyaline casts. His tracing is moderately square-topped. There is nothing abnormal to be seen by the ophthalmoscope. Seven or eight years ago I saw him with a painful and inflamed great-toe joint, which I considered of a gouty character, and treated with colchicum. Since then he says that he has been subject to similar attacks, though less severe, he having treated them himself successfully with colchicum. His headaches have been much relieved by iodide of potassium, but his urine still contains a small amount of albumen and a few small casts.

Perhaps some of you may have seen here last spring a man with finger-joints red and swollen at times, who usually passed urine of 1010 specific gravity, which at the time he left the hospital contained neither albumen nor casts. At other times it had contained a considerable amount of both. During the periods of inflammation the tracing of his pulse indicated a low tension, and was in fact a tolerably characteristic fever tracing; but as the swelling and pain subsided under colchicum the tracing became that of high tension, and corresponded very well with the character of the urine just mentioned, — that of contracting kidney. It is, I think, fair to consider this man as in the early stage of contracting kidney, due to his gouty diathesis, and, what is of great importance, I see no reason why treatment directed toward the diathesis should not be of great advantage, at least in delaying the progress of the renal cirrhosis. His general condition, in fact, improved greatly during his stay here. There is another case now in the ward (Michael F.) of a somewhat similar character, except that the renal disease is, I think, rather more advanced. Beyond this point we get more and more into the region of conjecture, but certain suggestions of a good deal of importance have been made as to the influence which may be exerted by products or results of mal-assimilation acting like the gouty or lead poison in the blood. Thus, habitual over-eating and under-exercise, if not resulting in the more obvious and perhaps sater dyspepsia of the *primæ viæ*, may keep the blood constantly charged with a much larger quantity of nitrogenous material than is demanded for the use of the tissues, which on the one hand by its difficult passage through the capillaries raises the tension in the arteries, and on the other throws a constant burden of overwork upon the kidneys. If this condition be detected before actual renal lesions have occurred the advice we ought to give is plain enough, and fortunately it does not demand that we should inform the patient that he is suffering from or even liable to "Bright's disease," but simply that he is in a state which demands care. Unfortunately, however, most people take medicine more easily than they do advice, and our warnings will have much less effect at the time when their chance of doing good is greatest than afterward, when dyspnoea, a little dropsy, or disturbed vision has excited the patient's fears. It is in such cases that Abernethy's prescription, "Live on sixpence a day and earn it," would be useful.

Dr. Merclison considers one of the functions of the liver to be the decomposition of nitrogenous material into the easily soluble urea, and thinks that when the liver fails of its functions lower products of oxidation, such as uric acid or others less well known, are found and circulate in the blood, but without necessarily giving rise to a true gouty paroxysm. This condition he terms lithamic, and describes the symptoms, which are chiefly those of dyspepsia, with constipation, headache, drowsiness, giddiness, and restlessness at night. He thinks this condition, by throwing a burden of excrementitious material upon the kidneys to be eliminated, becomes one of the chief sources of nephritis, both of acute Bright's disease and of the contracted, granular, or gouty kidney. He quotes Dr. George Johnson as saying that renal degeneration is a consequence of the long-continued elimination of products of faulty digestion through the kidney. The lesson from this is that you had better take much pains with a curable dyspepsia than be called upon to deal

with an organic disease which will prove much more intractable.

We can hardly leave this part of the subject without considering a question often raised in this connection, that is, the influence of alcohol in the causation of both forms of Bright's disease. It has been suggested that alcohol, being eliminated by the kidneys, may there set up an interstitial nephritis akin to that of the liver in cirrhosis. The objection to this comparison is that while alcohol, being taken up from the stomach, may exist in the portal vein in a state of comparative concentration, that which gets into the general circulation is of course much more diluted, and, what is of far greater consequence, is so rapidly oxidized that only a very minute proportion escapes by the kidneys, so that the irritation which may well exist in the liver does not take place in the kidneys. The question, however, is to be answered rather by observation than by reasoning, and is certainly not an easy one. We can hardly accept Dr. Dickinson's statistics, by which he shows the average number of cases of Bright's disease to be about the same in those whom he considers alcoholics and those not so, since it is by no means certain that persons whose employment gives them special opportunity to drink will do so to excess, or that those who have to buy their liquor will be comparative or total abstainers. Although a bartender is very likely to be his own best customer, yet if he and his assistants were the only or chief consumers the traffic could hardly be so profitable a one as it seems in this city. Hospital statistics are not very easy to be got in such a form as to make them of great value, since a very large proportion of our patients suffering from all sorts of diseases are more or less free users of alcohol. But I have a strong impression — although I could support it only by isolated cases, and not by means of figures — that parenchymatous nephritis, together with the granular degeneration in other organs, is not an uncommon termination to the career of an old soaker. As to interstitial nephritis, I could certainly point to a good many instances of the most typical character where no such cause could be traced. Dr. George Johnson says that "dyspeptic symptoms and consequent renal degeneration are in some cases excited or greatly aggravated by habitual excess of alcohol." If the condition of long-continued dyspepsia, which is undoubtedly frequently connected with alcohol, is supposed to intervene, it is easier to trace the connection between constant drunkenness and Bright's disease, but it is pretty certain that it is not an invariable nor even a specially frequent one.

Again, it is probable that mental strain of various kinds plays no insignificant part in the causation of granular kidney. Dr. Clifford refers no less than twenty-four out of thirty-two cases in private practice to some long-continued anxiety or great grief. It may be that the phrases "mental tension" or strain have more than a figurative significance when applied to the heart and blood-vessels.

It seems that the prophylaxis of granular kidney, the most insidious form of Bright's disease, involves chiefly the ordinary rules of personal hygiene. While the parenchymatous disease usually depends upon scarlet fever, pregnancy, exposure to cold, previous disease of heart, phthisis, or with somewhat less frequency follows chronic diseases, the interstitial depends more upon the habits of life, and is to a considerable extent within the control of the individual. Moderation in eating, plen-

tiful exercise, avoidance of too great devotion to "business," avoidance of metallic poisons, especially lead, attention to the secretions, notably of the skin and bowels, the use of pure water in sufficient quantity to dissolve urates and other excrementitious products, but not enough to retard digestion, — all these are precautions against interstitial nephritis, but against many other diseases and disorders as well.

If, however, we find ourselves in presence of a case where we have no doubt of an actual nephritis, and not merely a tendency or liability thereto, what therapeutic measures shall we take and what success may we anticipate? The treatment of some of the symptoms I have already mentioned, and they cover a good deal of the ground. The prognosis must, I think, vary with the character of the disease.

Parenchymatous nephritis is not always to be sharply divided into acute and chronic, but the former is likely to shade off into the latter. The acute form, however, has much the more favorable prognosis, and the more closely the case before us follows the acute type the better are our chances of success in its treatment. It is, I will not say, an invariable, but certainly a very frequent result of a stay in the hospital that a patient with epithelial nephritis gets better. His dropsy diminishes or disappears, his digestive disturbances are relieved, and he often goes out and to work again. This improvement, although real, is usually but temporary, yet we may see in it the advantages of rest, regulated diet and sustaining treatment, and attention to the secretions, especially those which relieve the kidneys. The same results may be obtained outside the hospital. And the period during which a person may live, and live in comfort, while all the time a distinct nephritis is going on, is by no means inconsiderable. In a case under the care of one of my neighbors and friends, puerperal convulsions occurred thirteen years ago. I have examined the urine from time to time since, and always found albumen and casts; yet the patient has had two children since this time without convulsions, is a tolerably active woman, and, though not robust, is perhaps no more of an invalid than many women who have much less serious disease than I have no doubt she has. Another case died ten years after the first general edema, having had albuminuria all the time, but increased in quantity at times when headaches were severe. This patient was treated with tannic acid for a long time. There seems no reason why cases, where the renal epithelium is not too deeply affected, even if not of the most acute type, should not recover under the same sort of treatment which leads to recovery in the acute disease, and to decided improvement or great prolongation of life in many others.

Diaphoretics and cathartics have already been mentioned in connection with the dropsy, and in fact the dropsy is likely to keep about an even pace with improvement in the general symptoms, although its disappearance is by no means to be taken as proof of a "restitutio ad integrum." Claims of course have been made in favor of various drugs supposed to have more or less of a specific effect. A recent writer in the *Journal de Thérapeutique* claims excellent results in the diminution of albumen from the use of alkalies in the form of mineral waters containing bicarbonate of soda. In two patients, to whom I have given, not mineral water, but sea-bath, and bicarbonate of soda, the amount of albumen rose from about four to about the neighborhood of eight grammes per diem. This nat-

urally may have been a mere coincidence, but certainly shows no remarkable curative effect.

Another drug lately brought forward as having great efficiency in diminishing the amount of albumen in the urine, especially in cases of parenchymatous nephritis, is fuchsin or chlorohydrate of rosaniline. Many of the cases reported, however (Bouchat, Feltz), are far from conclusive, some of them being acute nephritis, after scarlatina or exposure to cold, which very frequently do well without treatment, while in others the milk diet can hardly be left out of the account as a very important agent in the cure. Even its friends admit that fuchsin is little likely to do good to old cases, and also that it has no effect on the interstitial tissue, while others (Dienlafoy) say that all the good it does (it certainly seems to do no harm) is to render the urine pink, — a result to attain which, even though pleasing to the eye, is hardly worth any great therapeutic activity.

The prognosis of *interstitial nephritis* is somewhat different; for although, when once fairly begun, it never goes backward, yet it is true that its progress is often slow, and also that the kidneys contain secretory tissue enough in excess of the ordinary wants of the organism to allow considerable shrinking before troublesome symptoms occur. These symptoms too are often the results, not of the essential interstitial disease, but of an intercurrent parenchymatous affection, which to some extent is amenable to the same treatment as if it were the only abnormal condition present. Yet, when an interstitial nephritis has advanced to such a point that the patient, notwithstanding the activity with which he may be engaged in business, can no longer possibly conceal from himself the fact that he is very sick; when his eyesight fails, the palpitation of the heart is a constant annoyance, headaches are frequent and severe, the prognosis is of the most gloomy kind, and the treatment reduces itself to that of the most troublesome symptom.

The milk diet, which has been employed in both forms of nephritis, is undoubtedly of great value; not, he it said, that there is anything in the milk itself as an *addition* to ordinary diet of special value, but that under a diet consisting of but little or nothing beside milk many symptoms improve, diuresis takes place, and a sort of remission is gained. It is, however, no trifling matter to endure an almost exclusively milk diet for even a month, and many patients would decline to submit to it unless something better could be promised them than merely a temporary alleviation during a continuance of their fast.

Dr. Mitchell reports¹ several cases of albuminuria in which the skim-milk diet was of great benefit. Of these, however, the first was a case of acute dropsy, of which we may make the same remark as when speaking of fuchsin. The second, one of chronic contracted kidneys, in which the symptoms became greatly ameliorated after a milk diet; but the milk was not well borne after three weeks. The third, so far as one can judge from the account given, was rather a doubtful case of nephritis, and was associated with malarial infection, to say nothing of hard drinking. He recovered. The fourth was a local nephritis from inflammation connected with a carious rib, where the renal symptoms disappeared with the improvement in the local and general conditions.

We can hardly conclude our remarks on the therapeu-

tics of Bright's disease without some allusion to the various mineral waters which are supposed to work such wonders. I do not know of any common property possessed by the different springs enjoying high reputations as curing "Bright's disease," unless it is the absence of any very marked activity. It is possible for all sorts of mineral waters to be of use in the different forms of nephritis without possessing any specific curative effect. Firstly, pure water is to a certain point a diuretic, and promotes the washing out of the renal tubes. This, however, is not necessary in interstitial nephritis, but the advice, very apt to be given with these waters, which could just as well be given with Cochituate, but which is much more likely to be heeded if the accompanying beverage has a name, namely, to drink nothing else, may be of much consequence in the treatment of dyspepsia, cause or consequence of the early stages of this disease. Alkaline or cathartic salts or, in very dilute solutions, iron, may each be useful in different forms, but with all these allowances I think most of the cures reported are based either on temporary improvements, which fortunately are not exceedingly rare, or else on such diagnoses as I have before alluded to. It seems to me that we are justified in saying that the effect of medicinal treatment on therapeutics, in the narrower sense, is much greater on the parenchymatous than on the interstitial element of the disease, but that in both forms, diet and regimen, particularly if employed at an early stage, are of the highest importance.

In these remarks I have omitted a very noteworthy class of renal diseases, which, however, have a very different pathology, and especially aetiology, from those we have been considering. We may have both parenchymatous and interstitial nephritis arising from local causes either in the kidney itself or in the urinary passages. Thus pyelo-nephritis may be a consequence either of a stone in the pelvis of the kidney or of a cystitis, and result either in atrophy of the renal substance or in abscesses with more or less destruction of tissue.

With obstruction in the urethra or ureters, making the passage of urine difficult, we may have hydronephrosis, which finally leads to atrophy of the renal substance, so that only small nodules or fragments remain here and there on the surface of an immense sac, or to an atrophy not preceded by dilatation, but probably by interstitial nephritis, where mere traces of tubes are found amid a crowd of Malpighian bodies. Under all these conditions the symptoms are usually entirely different from those we have been considering (although I have known a calculus nephritis mistaken for a contracting kidney), or rather, the symptoms indicating *renal* inflammation are likely to be masked by others preceding them, and frequently of a character more likely to excite the patient's attention.

It is often interesting to observe, after a patient has been secreting an amount of urine not noticeably diminished, how small an amount of renal structure is apparently left.

These diseases form a separate chapter both in diagnosis and pathology.

— It is intended to confer the honorary degree of D. C. L. of the University of Oxford on Professor Lister.

¹ Philadelphia Medical Times, March 15, 1871.

Original Articles.

ON THE SYSTOLIC BRAIN MURMUR OF CHILDREN.

BY WILLIAM OSLER, M. D., M. R. C. P. LOND.,

Professor of the Institutes of Medicine McGill University, Montreal.

I DESIRE in the following communication to call attention to this interesting clinical phenomenon, first described by Dr. J. Fisher, of Boston, in the *Medical Magazine* for 1833. Like many other observations, this one has suffered from the lapse of time, and has been, to a great extent, forgotten and neglected. In conversation with many physicians, some of them specially connected with pediatrics, I have been surprised to find how few were even aware of the existence of such a murmur. Very cursory mention is made of it in works on auscultation and, with a few exceptions, those on diseases of children. Up to 1863 the German and French physicians had written many papers on the subject, and within the past few years interest has been re-aroused in it by the publication of important memoirs by Jurasz¹ and Epstein.² English and American physicians have not given it much attention, and in the literature as collected by Jurasz the only references are Whitney, the *American Journal Medical Sciences*, 1843, and J. W. Smith, the *Lancet*, 1839.

In the autumn of 1876, I was asked by a medical friend to see a child, aged three years, with a remarkable murmur in the head, about which the parents were very anxious. The child was a well-nourished little girl, with a ruddy complexion, well-formed head, fontanelles closed; no evidences of rickets. On placing the ear upon any part of the head a loud, high-pitched systolic murmur could be heard, variable in intensity, loudest in the temporal regions, also audible in the carotids, and disappearing entirely on compression of these vessels. There was no heart disease. The mother had noticed the noise in the head, she thought, from the time the child was a year old, and the child also appeared conscious of its presence, but said she only heard it at intervals. The medical attendant had suggested the possibility of aneurism, but there did not seem to me to be any evidence in favor of such a view. I had a distinct recollection of the fact that a murmur was described as occurring in the brains of children, but I thought it was always audible over an open fontanelle, and partaking of the nature of a venous hum, originating in the longitudinal sinus. As the child was in good health, and the murmur had persisted for nearly two years, I gave a favorable prognosis. The mother did not appear satisfied, but I heard nothing further of the case for some months, when I recognized it in the description of a Case of Supposed Gummy Tumor of the Brain, in which the murmur was attributed to the possible existence of a syphilitic growth pressing upon the vessels at the base of the brain. About the same time Jurasz's memoir came to hand, and renewed my interest in the case, which has proved to be one of unusual value from the length of time which the murmur has continued. The history of the child from the spring of 1877 to the present is as follows: she has thriven, and is now a bright, intelligent little girl of seven, perfectly healthy, head not enlarged, and no trace of swollen lymphatic

glands in the neck. I have examined her on four occasions, and found the murmur persistent, with the same characteristics. On the 15th of May of the present year I examined her again, and found it still very distinct, loudest in the temporal regions, rather more variable in intensity than hitherto, and sometimes disappearing entirely for a few moments. It was with difficulty heard in the carotids.

I have examined about sixty children for this murmur, and have discovered it in eight cases, all under three years of age; one, a case of chronic hydrocephalus; one, chronic intestinal catarrh with rickets; the others appeared healthy. Among the sick children examined in whom no murmur existed were several cases of rickets, two of tuberculous meningitis, and one of chronic hydrocephalus. Dr. James Bell, late house surgeon of the Montreal General Hospital, examined one hundred children, and found only six instances of the "brain murmur;" but, as he remarked, the difficulty of detecting a soft, low-pitched *bruit* in the head of a struggling child in a busy, "out door" room makes it probable that in many instances it was overlooked. No special note was kept in these cases of the condition of the children.

Observers differ very much in their estimation of the import of this murmur, some regarding it as pathological, others as physiological. Dr. Fisher thought it to be the former, and described variations of the murmur in such diseases as whooping-cough, congestion of the brain, acute and chronic hydrocephalus, and apoplexy. Barthiez and Killiet (1853) thought that it afforded a diagnostic sign between rachitic hypertrophy of the brain and chronic hydrocephalus. Roger (1859) and Henoch (1861) regarded it as specially connected with rickets. Wirthgen (1855), on the other hand, believed it to be physiological, and states that it is heard most frequently over the heads of robust children. The views of these and other writers are given very fully in Jurasz's monograph, and the discordance of opinion is amply illustrated. This author concludes that it is not pathological, but occurs in both healthy and diseased children, and does not stand in direct connection with any particular disease. In reading over the records of cases it is certainly noteworthy how frequent the subject of the murmur is described as rickety.

There is remarkable unanimity among all the writers as to the age at which the murmur prevails, the extremes in the recorded cases being the third month and the sixth year, the majority of instances occurring during the second year. The case of the little girl above given is of interest, therefore, in this connection, as she is now over seven years of age, and further from the fact of the persistence of the murmur since infancy. I have not found any recorded instance of the murmur persisting for such a length of time.

The seat of the production of the murmur is placed by most authors in the arteries at the base of the brain and in the carotid canal. Hennig believed it to be venous, and produced in the longitudinal sinus. It is worthy of note that in the majority of the cases a murmur is also heard in the carotid arteries.

Jurasz has brought forward evidence to prove that the murmur originates in the carotid canal, and as his explanation of it has not, so far as I know, been published in any English or American journal, it may be worth while to give a summary of his views: He measured the width of the upper and lower orifices of the carotid canal in twenty-five adults and twenty-five new-born

¹ Das systolische Hirngeraus der Kinder. Heidelberg, 1877.
² Beitrag zur Kenntniss des systolischen Schadelgerausches der Kinder. Prag, 1878.

infants. In the former the inferior aperture varied from 6.4 m. to 1 cm. in the long, and 5.4 to 7.6 m. in the short diameter; the superior aperture from 5.4 to 8 m. in the longest, and 5.3 to 7.4 m. in the shortest diameter. Measurements in the mature fetus and newborn when compared with these show a difference of from 4.1 to 6.2 m. for the long, and 3.7 to 4.6 m. for the short diameter of the inferior aperture, and 3.1 to 4.3 m. for the long, and 3.3 to 3.9 m. for the short diameter of the superior aperture. The carotid canal must therefore enlarge considerably in the course of development. Does this take place gradually, or does it occur more rapidly at one period than another? His observations and measurements go to show that up to the sixth month the canal does not enlarge, remaining unchanged; but from this date it widens rapidly, so that from the third to the sixth year the dimensions of the adult canal are attained. The enlargement is held to be due to the increase in volume of the carotid artery, and not to an independent growth, that is, expansion, of the bone; and this being the case it is not impossible that a temporary local disproportion ensues between the rapidly enlarging carotid artery and the surrounding bony wall, or, "in other words, a temporary stenosis of the carotid takes place in the carotid canal." This physiological stenosis is held to be the cause of the systolic brain murmur, which is to be regarded as a normal occurrence. It is the expression of a struggle between the artery and its bony investment, which persists until by the pressure of the pulsations the canal has been widened to a suitable degree.

Epstein¹ criticises this theory and the anatomical data on which it is based, denying the rapid expansion of the carotid canal after the sixth month and its enlargement by the pulsation of the artery. Taking the following circumstances as favoring the production of vascular murmurs, namely, wide vessels, rapid blood flow, diminished peripheral resistance, elasticity, and thinness of the walls, he proceeds to show that these prevail to an unusual degree in infancy, particularly in the vessels of the head, which, according to Beneke, are relatively larger than the others of the body. In children, also, the arterial walls are thinner, the capillaries wider, the blood flow more rapid, and consequently the blood pressure is low. The existence of such conditions, especially in anemic children, is regarded as the predisposing, if not the exciting, cause of the brain murmur. He calls attention to a fact of great importance in this connection: in two cases there were found, *post mortem*, enlarged and hard lymph glands in the course of the carotid arteries, and in all children examined subsequently, in whom the murmur was heard, the presence of enlarged glands in this situation was determined. He suggests that the murmur may be due to this cause.

So far as my limited experience goes, I am not inclined to regard the murmur as of any special pathological significance. There can be no doubt, however, from the numerous observations of French and German physicians, that it occurs most frequently in weak, rickety children, but its presence and persistence in perfectly healthy infants are sufficient to disprove the peculiar connection which some have supposed it to have with this disease. Thus I have had a strong, well-developed child under observation since birth; the murmur appeared at the fourth month, and has now continued for twenty-two months, with little or no change. Though not prepared to criticise Jurasz's ingenious

view, not having entered into the anatomical question, I think that the cases of the little girl above mentioned, in whom the murmur has lasted for six years, and the infant in which I have followed it for twenty-two months, are strongly opposed, if not fatal, to any such theory. If the carotid canal is widened by the pulsation of the artery, it is scarcely conceivable that a *physiological stenosis* could persist for six years.

I have not been able to detect any special enlargement in the cervical glands along the carotids in the cases which have come under observation since receiving Epstein's pamphlet. In one case there were two enlarged and firm glands behind the sterno-mastoid muscle on the right side. Unless the enlargement is considerable, it is difficult to feel the deep glands along the carotids, particularly if the child is well nourished. Epstein's suggestion is, however, worthy of further investigation.

RECENT PROGRESS IN GYNÆCOLOGY.

BY W. H. BAKER, M. D.

THE ANTISEPTIC METHOD IN RELATION TO DRAINAGE OF THE PERITONEUM IN ABDOMINAL SURGERY.²

J. KNOWSLEY THORNTON considers the question whether, if Lister's method be faithfully carried out, there is any need of drainage in ovariectomy. The fluid which, without antiseptic measures, we should desire to remove thoroughly by the most efficient drainage with them becomes innocuous, and may be left for nature to take care of by absorption. The objections raised to drainage are:—

(1.) The difficulty of deciding when a tube is necessary.

(2.) The tube, if not necessary, is decidedly a source of danger. It keeps open a possible track for the entry of the causes of putrefaction; it lengthens the time during which the wound is unhealed; and it may cause intestinal obstruction or chronic peritonitis.

(3.) It retards convalescence, the author having found the average stay in hospitals to be longer where it is used.

He lays stress on the importance of tapping under spray, and never feels sure that he shall be able to effect perfect antiseptic ovariectomy if any previous tapping has been done otherwise, as, in such case, the causes of putrefaction may already be present in the cyst. He alludes to some of the dangers of tapping, and never advises it unless necessary to perfect diagnosis, or in cases of so great distention that it is well to relieve the heart, lungs, and kidneys a few days before performing ovariectomy.

After citing several cases in which he had used drainage tubes, he concludes as follows: "In fresh cases and with a careful adherence to the teachings of Lister, or, in other words, with aseptic cases and proper antiseptic precautions, I believe the need of drainage has passed away; at any rate, cases requiring it must be very exceptional."

Dr. Alexander J. C. Skeue contributes an article³ on

¹ Loc. cit.

² London Lancet, August 30, September 20 and 27, 1879.

³ Archives of Medicine, vol. iii, No. 1, February, 1880.

GYNECOLOGY AS RELATED TO INSANITY IN WOMEN.

In the author's opinion the effect of disease of the sexual organs in women in causing and keeping up insanity has been more correctly studied than the influence which insanity exercises upon the sexual organs. Under insanity dependent upon uterine or ovarian disease he classes not only the comparatively few cases where the insanity is caused by reflex action, but the far larger number of cases where the uterine disease antedates the insanity by several years, the insanity being caused probably by impaired nutrition of the brain, the result in its turn of prolonged suffering.

The author has found not only in his own large experience, but also from an examination of the records of all the asylums in this country, that one of the most marked causes of insanity is frequent child-bearing and lactation among the poorer classes.

He insists upon the clear distinction that should be made, in the study of the aetiology, between insanity caused by existing active disease of the sexual organs and that arising from brain exhaustion produced by prolonged or excessive functional activity while free from any disease.

In considering the effect of insanity upon the reproductive system, Dr. Skene found that out of one hundred and ninety-two cases which were under observation for a period of six months there were but twenty-seven that menstruated regularly, thirty not menstruating at all, and the rest only at long intervals, all the subjects being between the ages of seventeen and forty-six.

The deductions drawn from these cases are: Well-developed insanity, with impaired general nutrition, causes suppression of the functions of the sexual organs. Deranged innervation tends to produce the same result. In mild forms of insanity menstruation may continue normal. Excessive menstruation among the insane is usually caused by uterine disease, and should be accepted as evidence of such. The influence of insanity upon the functional diseases of the uterus tends to cure them. Not so, however, with organic disease there; and it is to this latter class that the science and art of gynecology applies with most marked advantage. In the examination and treatment of uterine disease in the insane the author uses nitrous oxide gas as an anæsthetic.

ANATOMY AND PATHOLOGY OF TWO IMPORTANT GLANDS OF THE FEMALE URETHRA.¹

From Dr. Skene we also have the description of two glands running parallel with the lower portion of the urethra, their mouths opening upon the free surface of its membrane, about one eighth of an inch within the meatus on either side. They extend from the meatus urinarius upwards from three eighths to three fourths of an inch, are large enough to admit a No. 1 probe of the French scale, and are situated beneath the mucous membrane in the muscular structure of the urethra. In certain cases where the mucous membrane of the urethra is prolapsed, the openings of these glands are quite visible; but in other cases the labia of the meatus must be slightly everted to bring their orifices into view.

When the author first discovered them, he thought they were mucous follicles which were accidentally enlarged; but, from the further examination of one hundred cases, he found them constantly present and of

nearly uniform size and location. The most important pathological condition in regard to them appears to be a continuous inflammation, which extends from the mucous membrane of the ducts to the surrounding tissues; and the mucous membrane of the meatus urinarius, especially in the region of the ducts, becomes thickened by proliferation and deep red in color. It thus may resemble very closely in appearance caruncle or papilloma of the meatus, for which it has undoubtedly been frequently mistaken, the points of differential diagnosis being that, in inflammation of the glands, their orifices can usually be distinctly seen, and by pressure upon the urethra the escape of the purulent secretion can be detected, while there is also redness and enlargement of the tissues surrounding the mouths of the ducts. In caruncle the glands are normal, and the diseased tissue is generally limited to the lower border of the meatus between the orifices of the glands. Inflammation of these glands causes exquisite tenderness to the touch, and the patient suffers great discomfort from walking or sitting; but there is usually no pain during urination.

From the author's observation, he is led to believe that the disease which he found was caused by gonorrhœa, persisting in the glands long after all traces of the original disease had disappeared. The clinical importance of a knowledge of these glands is thus readily seen, and is fully illustrated by the report of several cases by the author, from which it appears that to effect a cure the applications or treatment must be made directly to the tubules or glands themselves.

THE FEMALE PERINEUM: ITS ANATOMY, PHYSIOLOGY, AND PATHOLOGY.²

The author, Dr. T. G. Thomas, attributes the great diversity of opinion regarding the propriety of the repair of the ruptured perineum, as well as the difficulty attending the comprehension and performance of the operation, to an incorrect understanding of the anatomy of the part. He thus describes the function of the perineum or perineal body: (1) It sustains the anterior wall of the rectum and prevents its prolapse, which would inevitably drag downwards the upper vaginal concavity and with it the cervix uteri, and so destroy the equilibrium of the uterus; (2) it sustains the posterior vaginal wall and prevents its prolapse, which would allow of rectocele; (3) upon the posterior vaginal wall rests the anterior, upon this the bladder, and against the bladder the uterus, all of which depend in great degree for support upon the perineal body; (4) it preserves a proper line of projection of the contents of the bladder and rectum, and thus prevents the occurrence of teneismus, a frequent cause of pelvic displacements.

The author mentions the following influences by which the tonic and efficiency of the perineal body may be lost: (1) feebleness; (2) feebleness, the result of prolonged over-distention; (3) subinvolution; (4) senile atrophy; (5) laceration.

— Mr. R. Barrett, in the *Victoria Review*, asserts that nine tenths of the blacks in Australia die of consumption, — "a curious commentary," says the *Medical Press and Circular*, "on the practice of sending consumptive patients to Australia."

¹ American Journal of Obstetrics, April, 1880.

² American Journal of Obstetrics, April, 1880.

Hospital Practice and Clinical Memoranda.

HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.¹

SURGICAL CLINIC BY PROF. D. HAYES AGNEW, M. D., OF JUNE 9, 1880.

SCALP LACERATIONS AND THEIR MANAGEMENT.

GENTLEMEN.—This is a case of head injury, the result of an accident which happened only night before last. It occurred in this way: the patient, a laborer, about forty-five years of age, was endeavoring to get upon a railroad train while the cars were in motion; he slipped and fell heavily upon his back, and his head came in contact with some obstacle, perhaps the rail or a stone, producing this extensive lacerated wound of the scalp, which we shall presently examine. He was stunned and bruised by the fall, and was carried into a house adjoining, and subsequently sent to the hospital. I have not as yet examined the wound, but, as you see, upon taking off the temporary dressing applied by the resident physician, we have here exposed a laceration quite large in extent. You notice that the wound commences at the external angular process of the frontal bone, passes to the squamous portion of the temporal, and then follows very nearly the direction of the temporal ridge, back almost to the mastoid portion of the temporal bone. This wound is of sufficient depth to divide everything except the periosteum.

When we speak of scalp wounds we divide them, clinically, into three classes: first, those in which only the skin and superficial fascia are involved; these are attended by very little displacement, simply from the fact that the dense connective tissue found beneath the skin binds it down to the aponeurosis of the occipito-frontalis muscle. These wounds are not of serious import, and readily unite. They can be brought together with adhesive plaster, or by merely separating a few hairs from opposite sides, and clamping them together with perforated shot. We sometimes use the twisted suture, especially if there be some bleeding, but usually the adhesive straps, or clamping the hairs, are sufficient. Secondly, the wound may divide the occipito-frontal aponeurosis as well as the superficial structures, and this complication introduces a new feature into the case, because underneath the occipito-frontalis there is very loose connective tissue. You have noticed in dissecting that this aponeurosis can be removed with the handle of the scalpel or by the finger with little difficulty; it is very loosely connected with the parts below. When you have the wound extending to this structure, it is apt to be followed by much displacement. Moreover, when pus forms, it burrows in this loose tissue, there being no mechanical obstacle to its diffusion, and being imprisoned by the denser structures above, its tendency is to accumulate, and it may extend as far forward as the supra-orbital ridge. For this reason such cases require a great deal of watching. The first thing to be done is to secure any bleeding vessels, and some of these may be large enough to require a ligature. The three branches of the temporal artery found in this situation are often of sufficient size to require a thread. After removing with a stream of water, or soft sponge, any dirt or foreign

substance between the lips of the wound and shaving the parts, the edges may be approximated, either by one suture of silver wire, or by the application of a number of adhesive straps. There has been great diversity of opinion among surgeons as to the propriety of introducing sutures into the scalp; it has been supposed that stitches encourage inflammation, and often lead to erysipelas; a result which, in my opinion, is not so much due to the stitches themselves as to the tension made in bringing the edges together, particularly where there is loss of structure. The wound should not be drawn tightly together by sutures, because when swelling occurs the tension is greater than the parts will bear, and may, therefore, lead to inflammation of an erysipelatous character. With this precaution I believe that silver sutures can be introduced into the scalp with as little risk as anywhere else in the body.

Examine the case frequently, and see that there is no accumulation of blood or pus beneath the flap. In addition to the adhesive straps, which should be applied in sufficient number to support the flaps in good position, there is another thing to be done in the present case in order to insure the accurate adaptation of the flap to the periosteum, namely, the application of a bandage and compress, so as to prevent the gravitation of the pus on the side of the head to the neighborhood of the ear. The compress is made of patent lint or muslin, and is secured by a few turns of the roller.

The third class of scalp wounds is one in which all the tissues are divided down to the bone. It is evident that these require even more care than the preceding, as there may follow purulent separation of the periosteum and exfoliation of bone. Of intra-cranial complications I will not speak. These scalp wounds unite with great rapidity in consequence of the decided vascularity of the part. A cold-water dressing is generally all that is needed.

This next patient is also a case of scalp injury. He is about forty years of age. While working at Greenwich Point he fell through a hatchway, and received a contusion of the face and right hip, and this, apparently, superficial laceration of the scalp. Upon the face we notice an abrasion in which the cuticle merely is detached; it possesses no especial interest except that these superficial wounds are apt to be attended by a burning pain, from irritation of the peripheral nerves. Occasionally this pain, in the course of a few hours after the accident, becomes very severe. I have found the best treatment to consist in keeping the part wet with cold water simply by laying a wet cloth upon it; to this I sometimes add carbolic acid, or use the usual solution of carbolic acid in sweet oil (one in sixteen). The acid itself produces an anæsthetic effect upon the sensory nerves of the skin. I believe, however, that simple cold water answers every purpose. The dressing should not be covered with oiled silk, but just laid on and allowed to evaporate. The scalp wound will receive the same treatment as in the preceding case, by adhesive straps and cold applications.

FRACTURE OF RIBS; REMARKS UPON TREATMENT.

The next patient is a man who has also received a recent injury. His name is Martin B., fifty-one years of age, admitted this morning, with the statement that he had fallen from a scaffolding a distance of about eighteen feet, and struck the railroad track. He fell

¹ Reported for the Boston Medical and Surgical Journal.

upon his right side, and upon admission he called our attention to a pain in the chest. You notice when he attempts to speak, or to take a full inspiration, how abruptly he stops. There is probably something the matter with the ribs in this case, for there is no injury that produces this interference with respiration so suddenly as a fracture of the ribs. The pain which he complains of he locates upon the right side of the chest. Before examining the ribs, please notice also the difference in mobility between the two sides. Respiration is very largely carried on by the left lung. Nature here interferes to prevent the suffering caused by the expansion of the chest.

We find, on examining the ribs, a fracture upon the anterior part of the chest involving the seventh rib; and posteriorly we also find a fracture of at least three ribs, evidently the sixth, seventh, and eighth. This illustrates a point worth remembering. When force is applied to the ribs, the part most likely to give way is near the anterior or posterior extremity of the ribs. If you will examine the preparations in the museum you will notice this fact.

The signs of fractured rib are very evident: sudden arrest of the respiratory act, pain, and impaired respiratory movements of the affected side; to which may be added mobility, and crepitus, which can be heard as well as felt.

The treatment is to keep the parts at rest for four or five weeks. This may be done by wide adhesive straps reaching from the spinous processes of the vertebra to the sternum, or we may simply apply a roller. You may find some trouble in women on account of the mammary gland, but even here the adhesive plaster is the best means of treatment that you can employ. About four broad straps (two and a half to three inches) are required, they being brought from the side of the vertebra in the lower dorsal region around and up in front, following the curve of the ribs to the median line. They should be put on as smoothly as possible. The patient generally experiences marked relief from the first strap. In a patient with fractured ribs, whom I recently had before you, there was also an injury of the lung and some superficial emphysema from the air in the areolar tissue. In the present case no such complication exists, and when it does it requires no special treatment.

ANCHYLOSIS OF ELBOW-JOINT FOLLOWING DISLOCATION IN A MEDICO-LEGAL ASPECT.

The present case has an interest for all practitioners of surgery. He tells us that his right elbow was injured fifteen weeks ago by a fall from a wagon. His arm was treated by some medical gentleman in the country, who pronounced it a case of dislocation of the bones backwards, and treated it with retentive splints. He now presents himself with the arm helpless, and the joint distorted and in a stiffened condition. There is a good deal of rigidity in this joint; only with great difficulty can I obtain any motion at all. This is now a case of ankylosis, which may follow either fracture or luxation, and is always obstinate and troublesome. Adhesions form not only in but also around the joint, and the ligamentous structures become thickened. Sometimes these changes are such that the articulation never recovers its functions. These changes occur very soon after an injury to the elbow, and dislocations of this joint are apt to become

irreducible in a short time; the reason for this is not well understood.

Notwithstanding the fact that you may break up these adhesions by force, while the patient is under an anæsthetic, you will often find that the rigidity is again established; while, strange to say, in other cases, apparently similar, good motion is secured. You will not, therefore, be able to say in any given case whether the good results of the operation will be permanent.

It is always desirable to establish passive motion, and if the operation can be borne without the anæsthetic it is well to dispense with the latter; I mean to say, if the patient has the nerve, it is better, instead of accomplishing complete flexion and extension at once, to practice the movements each day, trying to gain a little improvement from day to day. Active motion by gymnastic exercises will also be of great service in stretching the adhesions, etc.; it may take several months to do it in this way, but the cure is more likely to be permanent. The cause of the failure under anæsthesia is easily comprehended. The force that is employed while the patient is in an unresisting condition causes violent reaction of an inflammatory character on the joint, and this is again followed by adhesions. At the beginning of the treatment, however, the breaking up of adhesions under ether is often necessary; but it must be subsequently supplemented by judicious exercise and gymnastics.

I have now sent the man from the room, because I wished to say nothing before him in reference to the case which might afford him grounds for a suit for malpractice against his physician. In every large clinic or hospital, the attending surgeons are liable to be imposed upon by persons who, if they can find a shadow of fault with their physician, will seek for an opinion, which they at once seize upon as evidence, and then find some lawyer who is ready to cooperate with them in a suit for damages. I recognized this as a case of that kind, and I did not, therefore, dilate upon the original injury. There has been a dislocation of both radius and ulna backwards. Dislocations of the radius are often overlooked. In such a case, where the radial luxation is not reduced, pronation and supination as well as flexion of the fore-arm would be interfered with.

There are a few points in the diagnosis and treatment of injuries of the elbow-joint which I cannot impress too strongly upon your mind. When the arm is extended, there are three landmarks standing in line, the external condyle of the humerus, the tip of the olecranon, and the internal condyle; the olecranon in its normal position is never above the line of the condyles. Injuries of the elbow-joint should receive attention at once; luxations here are very easy to reduce when treated early, but after the expiration of a week reduction may be impossible. For a satisfactory examination it will often be necessary to give ether.

If the case is old and ordinary measures fail, the next best thing is to divide the humerus subcutaneously, about two inches above the articulation and make a false joint. The muscles remain in place, and by this means a comparatively useful arm is obtained.

PHLEGMONOUS PHIMOSIS, WITH VENEREAL SORE.

A young man of twenty-two years comes before us with a venereal ulcer and phimosis, following impure connection four weeks ago; the sore first appeared four

days after intercourse. He had it cauterized, and since then has had this swelling of the prepuce, which appears to be phlegmonous. This may be due to a bad condition of the patient's system even more than to any application. There is no eruption upon the skin, but there is some enlargement of the inguinal glands. I think, however, that he has not had an infecting sore; but if he has, it is too late now to prevent systemic poisoning. Our treatment will be directed to diminishing the swelling by means of flaxseed poultices, and by bathing the penis in water as hot as can be borne. Water should also be injected under the prepuce with a small syringe. The poultices should be applied warm twice a day, and kept covered with oiled silk.

REMARKS UPON TALIPES VARUS; TIME OF OPERATION; TREATMENT BY MASSAGE AND ELECTRICITY.

I confess that I am not favorable to operations upon children as young as this one for club-foot; she is only three months old. There are several reasons why operations for club-foot do not succeed at such an early age after tenotomy and the application of the club-foot apparatus. It is very difficult to keep the heel of the foot in contact with the sole of the shoe. This is one of the cardinal points in the treatment of club-foot. Then, again, the skin is so delicate and tender that, unless extraordinary pains be taken, you will have excoriations.

Moreover, as this deformity is very often due to a paresis of the muscles, we are obliged to depend upon some form of mechanical contrivance after operation to take the place of the muscles; but, when the limb is pressed into a tight apparatus, such as Scarpa's shoe, there is very little chance for the affected parts to recover their powers.

Exercise of the muscles by passive motion daily, with kneading and rubbing to improve their nutrition, will be of great service in preventing the wasting consequent upon the paralysis, and may enable us to dispense with an operation. I will instruct the mother how to do this, so that it shall be faithfully and persistently continued. As the child's left foot is affected, the mother should take a firm grasp at the middle of the leg with her right hand, at the same time with her left twisting the foot into position by placing the thumb on the instep and taking the anterior half of the foot in the grasp of the hand; this will stretch the tendons and exercise the muscles. Each particular muscle of the leg affected must next be manipulated: first, by rubbing and pinching the skin, and the muscles afterwards, between the fingers. I consider this *massage* as extremely important in the treatment of club-foot, and it is surprising how much can be gained by it. If we subsequently find that the tendons are too short, the operation of tenotomy can be performed at any time before the child commences to walk.

In connection with the rubbing and kneading of the muscles, the daily application of the induced current of electricity would be of undoubted service. The general health of the child appears to be excellent.

Reports of Societies.

AMERICAN NEUROLOGICAL ASSOCIATION.

SIXTH ANNUAL MEETING.

DR. ROBERTS BARTHOLOW, of Philadelphia, read a paper on

THE TRANSFER OF SENSATIONS.

In order properly to introduce the subject he first gave a *résumé* of the results which others had accomplished by the mode of experimentation which he had himself pursued, together with the present state of physiological knowledge on the particular point involved in the inquiry to which he had directed his attention. In some experiments on his own person he found that the fall of temperature produced by the refrigeration of a member affected the corresponding region of the same side and of the opposite side alike. When a large part of the anterior surface of the thigh was artificially cooled, the temperature of the anterior surface of the arm fell, and to the same extent, as on the opposite side; but this declination of temperature was never greater than one half a degree. Repeating Brown-Séquard's observation, he found that artificial cooling of one hand depressed the temperature of the other scarcely half a degree; and since quite as much variation was produced on one side as on the other, he thought the explanation was to be sought for in the connection of the vaso-motor system with the spinal. He did not ascertain, as he hoped to be able to do, whether, when a part was refrigerated, all parts having the same anatomical relation experienced a declination of temperature; but he considered it probable that such was the fact.

The experiments which he made indicated that the transfer of painful sensations was limited to the same side. Pain of considerable severity was necessary in order to develop the secondary pain, the occurrence of which was first revealed to him in a patient with sciatica, in whose thigh he was accustomed to make hypodermic injections of morphia. He learned that a needle inserted at certain points invariably caused a corresponding pain in the upper member; while, when it was inserted at other points, no secondary pain followed. He further ascertained that the branches of certain nerves of the thigh when irritated caused a reaction in nerves having the same relative position in the arm. The amount of primary pain necessary to cause the secondary pain was that produced by a large needle touching a cutaneous filament of a nerve. The secondary pain was acute and nearly instantaneous; and if not felt on the instant it would not occur at all. The writer did not think the two sets of facts thus deduced contradictory. The lowering of temperature at symmetrical points on the same and on opposite sides was probably due, as he had suggested, to the symmetrical arrangements of the vaso-motor fibres accompanying the nerves of animal life from the common centre in the cord. The secondary pain produced by the irritation of a nerve on the same side was a phenomenon which might be compared to the irradiation of pain in the neuralgia.

Dr. Putnam spoke of cases which he had seen that had a bearing on this subject, and referred to a number of experiments which had been made for the purpose of investigating the transfer of sensations. The most striking of these was that of placing a lump of

— Virchow has been returned to the German parliament for the second electoral district of Berlin, as the candidate of the United Liberals. As is well known, he has already for several years occupied a prominent position in the German legislative body.

ice in contact with one of the ears of a rabbit, when it was found that there was an enormous increase in the temperature of the opposite ear.

Dr. Beard said that he had occasionally noticed that when the faradic current was applied to the arm it caused a painful sensation in the leg on the same side, and that when it was applied to one leg a painful sensation was felt in the other. This was not at all a frequent occurrence, however, and he believed that he had invariably observed it in irritable females.

Dr. Jewell recalled in this connection the case of a gentleman suffering from hemiplegia. There was at first complete hemi-anesthesia; but this afterwards improved. If anything hot were applied to the skin no sensation whatever was experienced, and the same was true with regard to the prick of a knife or needle; but if the patient were pinched severely, decided pain was produced. This pain was peculiar; for if the foot were pinched it was felt in the hip and shoulder-joints on the same side; while later on in the disease, if the foot were pinched, the pain was felt in the knee and elbow-joints. Curiously enough, too, in this case, if the hairs on any portion of the body were caught between the thumb and finger, a sort of wave of acute pain seemed to be carried up to a definite part of the scalp on the opposite side.

Dr. Spitzka called attention to the well-known fact that hepatic disease was often accompanied by pain under the shoulder, and he also mentioned a peculiar experience in his own case. Up to the age of eighteen he had been subject to attacks of urticaria, and he found that there were certain definite spots the irritation of which produced intense itching in entirely different parts of the body. The most prominent of these was one in the right hypochondriac region, and whenever this was scratched he immediately had an itching sensation in the region of the left scapula.

Dr. Miles thought that the study of this matter might be of some practical service in throwing light on the proper points where blisters should be applied, in order that they might exert their appropriate effect on the various internal organs; a subject in regard to which there was very great uncertainty at the present day.

At the other sessions of the association a number of papers of considerable value were presented. During the evening meeting of the first day one was read by Dr. Gray, of Brooklyn, on

THE USE OF QUININE IN CONNECTION WITH NERVOUS SEDATIVES.

Great relief, he said, was to be expected from the bromides in robust patients; but not to the same extent in the case of the weak and anæmic. His own experience had convinced him that there was considerable danger in using them freely in certain instances, and he had met with one case in which a fatal result was thus produced. He was a firm believer in their efficacy in epilepsy, as a general rule; but at the same time he felt that under some circumstances they should be used, if at all, only with extreme caution. For the past two years he had been in the habit of prescribing quinine in connection with the bromides, and he could but express himself as more than satisfied with the results obtained by this combination. At first he had employed it with timidity and in very small doses, as he feared, from what he had been taught, that it might perhaps interfere with their action; and only aggravate

the trouble present; but afterward he had used it much more freely, and always with very beneficial effects. His practice now was to give first a sufficient quantity of the bromides to produce bromism, and then two or three grains of quinine three times a day in addition. He had met with a few cases in which quinine was not well tolerated, but as a rule such patients were able to stand the full sedation of the bromides; while in some instances he had deemed it advisable to stimulate the system with quinine before commencing the use of the bromides, on account of the weak condition of the patient. All his experience went to show that quinine actually increased the effect of the bromides, hyoseyamin, and belladonna, and he had also found that all these agents were much better borne by the system, as well as more efficient in their action, when administered in combination with quinine than when the latter was omitted.

The happy effect of the quinine with hyoseyamin was well shown in a case of puerperal mania which he had seen in consultation. When hyoseyamin was given alone it seemed to be of no service; but when quinine was added to it, although there was no malarial complication in the case, its use was followed by the most happy results.

Dr. Jewell stated that he had found strychnia exceedingly useful in combatting the depressing effect of the bromides when given in sufficient quantities to control epileptic attacks, and that it did not, as might perhaps at first be supposed, increase reflex irritability, and thus render the patient more liable to fits. He had not had much experience with quinine, however, in this way.

Dr. Webber said he was accustomed to use iron for the same purpose, and had always found it of great value.

Dr. Bartholow thought that, while the paper was a very excellent one, there was nothing particularly new in the measures which it advocated, since it had long been recognized that it was frequently necessary to administer tonics in connection with the bromides in epilepsy. He then went on to speak of the factors entering into the depression occasioned by the bromides, and said that, as a rule, they were not so efficient in weak and anæmic patients as in others, unless they were supplemented by tonics.

In reply Dr. Gray said that Dr. Bartholow had not seemed to appreciate the full scope of his paper, since he not only claimed that quinine counteracted the depression produced by the remedies in question, but that it actually increased their beneficial effect to a considerable extent.

The paper following was by Dr. S. G. Webber, of Boston, on

WATER AS A PROPHYLACTIC AND A REMEDY.

The subject of water-drinking, he thought, seemed worthy of more than a passing notice. A moderate quantity of fluid taken at meals he considered rather beneficial, while the abstinence advocated by many was injurious. In patients often classed as hypochondriacal or hysterical, where there was no well-defined disease, but only a sense of unrest and discomfort (sometimes amounting to pain) in various locations, and ordinarily accompanied by constipation, it had long been his custom to inquire about the amount of drink they took and the quantity of urine passed by them. Often the former was much below the average,

and there was a tendency to dryness of the skin, while the urine was scanty, high-colored, and strongly acid, and sometimes deposited a sediment on standing. Under the use of an increased amount of water the perspiration was increased, the urine became more natural, and the unpleasant symptoms diminished or altogether disappeared.

During comparatively good health the amount of blood in the system was maintained at nearly the same figure, only so much water being lost through the skin, lungs, and kidneys as could be restored from other sources. If too little water were ingested the balance each day against health was very slight, but finally there would be such an accumulation of used-up material that nutrition would be interfered with and unpleasant symptoms developed. If the person continued to eat heartily, the surplus part would either pass off by the intestines, or be deposited in the shape of fat, the nitrogenized portions of it assisting to load the urine with urea and urates. If such an individual were to drink more water, a larger amount of waste products would be taken up to be eliminated, and so there would be more disintegration of the tissues, while nutrition would be increased.

After describing the favorable effect of water upon the processes of digestion, the writer went on to inquire how much of it an adult should drink in the twenty-four hours. The quantity of liquid required as drink, he believed, would vary slightly with the activity of the skin and the character of the food taken. The amount of drink necessary, as stated by Dalton, was about fifty-two ounces, or 3.38 pints, while patients repeatedly told him that they drank only a pint or a pint and a half of fluid in a day. When an individual had for months and years averaged an insufficient amount of drink in the twenty-four hours, and the system had become charged with used-up material, it would not perhaps be wise immediately to administer large draughts, whether of ordinary water or of the mineral waters, but the quantity could be rapidly increased until the normal average had been exceeded, which for a while would be attended with advantage. Dr. Webber then related a case treated at the Boston City Hospital, which afforded an interesting example. The patient was a man sixty years of age, who said he had had rheumatism at times since he was a boy, and rheumatic fever seven years before. For more than ten years he had noticed a red sandy sediment in the vessel after micturition, which was frequent, while the quantity of urine passed was scanty. He was a large, fleshy man, with a very large tympanic abdomen, and said that he suffered from severe pains in the lower part of the back and the hips, numbness in the left leg, and considerable shortness of breath in going up-stairs. He had an idea that he had disease of the heart and kidneys, with dropsy, but there was nothing of the kind present, and no attempt was made to record all his complaints. On September 2d, 4th, 5th, and 6th he passed twenty, twenty-eight, twenty-nine, and eighteen ounces of urine respectively. He was told to drink water more freely, and was treated with fluid extract of buchu, when the amount of urine increased to forty, fifty, sixty, and sixty-eight ounces on four consecutive days, while his discomfort became greatly diminished, and he expressed himself as feeling much relieved. The writer also mentioned the case of a lady, the subject of very distressing nervous symptoms, who had restricted herself to a cup of tea night

and morning, which was the only fluid that she took, and of a physician who was suffering from many symptoms referable to overwork. He found that the latter drank very little also, and was troubled with constipation. In his case the diminished supply of fluid was not the only cause of difficulty, but, in addition to other measures, he was advised to drink more. When seen again, after eight months, he stated that the increase in the amount of fluid ingested had been beneficial, and that he was less constipated.

Human nature is such that if the doctor told his patient to drink two or three pints of Cochituate or Croton water a day, in addition to his tea or coffee, he would be likely to rebel; but if he were instructed to take that amount of Poland or Allandale, or some other similar water, he would forthwith have his keg of mineral water on tap, and drink it in the firm faith that in some mysterious way it would relieve him. In conclusion, the writer stated his belief that the insufficient ingestion of water was often a predisposing or even exciting cause of many diseases. He had found that a very large proportion of those who suffered from nervous exhaustion did not drink enough. He believed that it was an American peculiarity to ingest too little fluid, and thought that this fact might partly explain the prevalence of neurasthenia in this country. He considered also that one reason of the success of the treatment adopted by Dr. Weir Mitchell, and advocated by him in his *Fat and Blood*, and *how to Make Them*, was to be found in the large amount of milk which he gave his patients. It was not to be expected, however, that in all cases the mere increase of fluid ingested would cure. Too frequently the tissues had been so long illy nourished that that simple plan was not sufficient, so that the time to work the greatest cures with water was before the disease had begun.

Dr. V. P. Gilney, of New York, read a paper on

PACHYMEINGITIS CERVALIS,

founded on three cases which he had personally met with in children, and in all of which Pott's disease had been diagnosed by competent physicians. His conclusion was that, while absolute recovery did not take place in this affection, the results on the whole were quite favorable. In reply to an inquiry by Dr. Putnam in reference to the differential diagnosis between it and Pott's disease, Dr. Gilney said that this would be impossible from an examination of the patient; but that a close study of the history and careful observation revealed characteristic differences between the two. One of the most prominent of these was the frequent recurrence of spasmodic attacks of torticollis in pachymeningitis cervicis. Then, again, there were very few cases of cervical paralysis in Pott's disease, and by means of a digital examination through the pharynx we could determine whether the vertebrae were affected or not.

One of the papers of greatest interest was that by Dr. Hammond on

THALAMIC EPILEPSY,

an affection which, he said, had not hitherto received special attention. So far as he knew, this was the first attempt that had ever been made to differentiate it as a distinct form of epilepsy. After mentioning the six forms enumerated by Hughlings Jackson, and stating that this authority did not regard unconsciousness as an essential element of the disease, he said that

the more familiar he became with the subject, the more thoroughly was he convinced that there was no true epilepsy without unconsciousness. The cases described in the paper were all characterized by unconsciousness, and yet they did not correspond to any of the forms spoken of by Jackson. The first case that came under his observation was that of a young unmarried lady, who had been affected for about four years. At first the entire paroxysm lasted but from thirty seconds to a minute, and the period of unconsciousness was only of a few seconds' duration; but afterwards the paroxysms became rather more extended, though they were always brief. In the attack the first thing that the patient noticed was a hallucination or vision (which she herself knew to be only a hallucination), and then came the short period of unconsciousness, when her head would fall forward on her breast and her pupils become dilated. There was no convulsion or spasm whatever, no fixing of the eyes, no rigidity, no acceleration of the pulse, and the breathing remained normal. Dr. Hammond had the opportunity of witnessing seventeen of these paroxysms himself, and he found that there was always a distinct aura, which originated in some part of the cranium, and in one or two seconds was followed by the vision. The inhalation of nitrite of amyl, ether, and chloroform, if commenced in time, entirely prevented the occurrence of the period of unconsciousness, and had the effect of dissipating the hallucination. If the patient directed her whole will power to the matter the same result sometimes followed, but not always. She was ordered to take fifteen grains of bromide of sodium three times a day, and under this treatment all the symptoms quickly disappeared. She continued to take the remedy for over a year, and then, thinking herself cured, she left it off. Later she married, and soon after this event the attacks commenced again, and were now of a much more aggravated character. Unconsciousness was almost contemporaneous with the hallucination, and the affection seemed to resemble epileptic mania. She was at once placed on the use of the bromide of sodium in the same doses as before, and was ordered eight grains of bromide of zinc three times a day in addition. The result was that the attacks once more promptly disappeared, with no return of them whatever, although she still continued to take the remedies.

In the second case the sense of hearing was first affected in the attack; the patient (a male) thinking that he heard voices calling to him. Then came the hallucination, and finally the brief period of unconsciousness. Bromide of sodium was prescribed in the same dose as in the other instances, and after the third day the paroxysms entirely disappeared. Three other cases were mentioned; but full notes of them had not been preserved.

It could not be doubted, Dr. Hammond thought, that these cases were instances of epilepsy, and from their peculiar characteristics, which clearly indicated the seat of trouble to be in the optic thalami, he felt justified in designating the affection as thalamic epilepsy. The rest of the paper was mainly devoted to a discussion of the relations and functions of the optic thalami, and in the course of it he expressed the opinion that it was at least exceedingly probable that these were the centre for perceptions. When an impression was received at the optic thalami from one of the organs of sense, as the eye, for instance, an *idea* was formed if this impression was conducted to the cortex; and as a

result of this there might be a *motor impulse* carried to a certain set of muscles. If, then, the optic thalami were in an abnormal condition, there would be *erroneous* perception; but this would be corrected at the cortex, if the latter were in its normal condition. The difference between thalamic epilepsy and ordinary epilepsy with hallucinations was that in the latter the hallucinations were accepted as real, while in the former this was not the case. Dr. Hammond felt confident, therefore, that in the affection he was describing the trouble was almost exclusively confined to the optic thalami; the cortex being but little diseased. That the latter was not entirely free from trouble, however, seemed to be shown by the fact that there was unconsciousness. An additional argument against the cortical origin of the disease was the entire absence of all muscular spasm. The conclusions which he derived from a careful consideration of the subject were, then, (1) that there is a form of epilepsy the only phenomena of which are hallucination and unconsciousness; and (2) that the morbid anatomical basis of this type is located in the optic thalami.

The following is a list of the other papers presented: Tests of Pond's Sphygmograph, and Stretching of the Seventh Nerve for Facial Spasm, by Dr. Putnam, of Boston; Experiments with the Jumpers of Maine, by Dr. George M. Beard, of New York; the Bromide of Ethyl as an Anæsthetic, by Dr. Isaac Ott, of Easton, Pa.; Demonstration of Woroschiloff's Instrument for Operating on the Spinal Cord, by Dr. Isaac Ott, of Easton, Pa.; A Contribution to Jacksonian Epilepsy, by Dr. Graeme M. Hammond (son of Dr. William A. Hammond); A Case of Acute Muscular Atrophy without Lesion of the Spinal Cord, by Dr. Putnam, of Boston; A Case of Multiple Tumor of the Encephalon, with Specimens, by Dr. Birdall, of New York; Remarks on a Case of Hysteria, associated with a Thoracic Tumor, by Dr. E. C. Spitzka, of New York; History of Two Cases of Idiopathic Ulnar Neuritis marked by Extreme Pain in one and Lack of Pain in the other, by Dr. F. T. Miles, of Baltimore; The Diagnostic Significance of a Dilated and Mobile Pupil in Epilepsy, by Dr. Gray, of Brooklyn; The Structure of the Sympathetic Ganglionic Bodies, by Dr. Schmidt, of New Orleans (read by title); A Case of Peris-encephalitis and Meningitis, with Remarks, by Dr. H. M. Bannister of Chicago, (read by title); and Experimental Researches on some Points relating to the Normal Temperature of the Head, by Dr. J. S. Lombard, of London (read by title).

At the afternoon session of the last day a resolution, proposed by a committee appointed for the purpose, was passed in relation to the death during the past year of Dr. E. R. Hun, of Albany, a valuable member of the association, and in the evening an elaborate preamble and series of resolutions, offered by Dr. Gray, of Brooklyn, on the subject of asylum reform, received the unanimous support of the members present, after some slight modifications and the adoption of an amendment, proposed by Dr. Hammond, to the effect that the resolutions should be printed, and that a copy of the same should be sent to every medical journal in the country, with a request for their publication.

The following officers were elected to serve during the ensuing year: president, Dr. Roberts Bartholow, of Philadelphia; vice-president, Dr. John C. Shaw, of Brooklyn; secretary and treasurer, Dr. E. C. Seguin, of New York; members of the council, Drs.

S. G. Webber, of Boston, and Frank P. Kinnicutt, of New York; and it was decided that the association should meet again in New York on the third Wednesday in June, 1881. Altogether the meeting this year was a very successful one, and not the least pleasant feature of it was a reception on Thursday evening, June 17th, given to the association and its friends in New York by Dr. Hammond at his elegant residence in Fifty-Fourth Street, near the leafy shades of St. Luke's Hospital.

NEW YORK ACADEMY OF MEDICINE.¹

THE DANGERS OF INTERNAL URETHROTOMY.

At the last meeting of the New York Academy of Medicine for the present season, held June 17th, Dr. A. L. Ranney, adjunct professor of anatomy in the medical department of the University of New York, read an elaborate paper entitled, *Are the Benefits derived from Internal Urethrotomy, as now advocated, Commensurate with its Dangers?*

The object of the paper, the writer stated, was to question the propriety of this operation except in certain rare conditions which were clearly recognized by all the best authorities. At the outset he quoted Sir Henry Thompson, Gross, Bumstead, Ferguson, and other eminent writers to show that it was extremely dangerous, and Erickson, Spence, Thompson, Acton, Van Buren, Samuel W. Gross, Coulely, Ashurst, and Keyes in advocacy of the use of gradual dilatation in its place. In the latest work published on this department of surgery, by Dr. Keyes, the author distinctly stated, *first*, that internal urethrotomy is dangerous to life; and, *second*, that it does not cure the difficulty for which it is undertaken. Dr. Ranney claimed that it was unnecessary, because the same or better results could be obtained by other means; and he considered that the general resort to it, now practiced, was an abuse of an operation which was justifiable only within certain narrow limits. Within those limits no one at the present day would dispute that it was of great value.

Dr. Ranney then proceeded to examine into the elements of the popularity of the operation. Among these were the following claims of its advocates: (1) that it effected a radical cure, (2) that it relieved certain symptoms more readily than any other agency, (3) that it could be easily and quickly performed, and (4) that it was comparatively free from danger. The rapid and wide-spread popularity it had attained was certainly remarkable. Between six and seven hundred operations had been reported by Dr. Otis alone, and about thirteen hundred by Dr. Otis and two or three other prominent surgeons who favored it. At the present day a urethrotome was sold to every tyro in medicine, and the only result possible would be that in consequence the science of surgery would soon be brought into disgrace.

The writer next enumerated the sources of danger from the operation, and among them mentioned uræmia, pyæmia, shock, hæmorrhage, infiltration of urine, and acute urethritis. In his first series of one hundred cases, published in 1875, Dr. Otis had reported a considerable number of accidents, but no deaths. In his second series of one hundred and thirty-six cases, however, there were four fatal cases: two in which peri-

neal section was also performed, and two in which urethrotomy alone was done. Hæmorrhage, Dr. Otis stated, was not considered an accident unless it could not be controlled by the means ordinarily used. He believed that many fatal cases had occurred in this country which had never been reported. Within the last week there had been no less than three deaths in the New York hospitals in consequence of the operation, two from pyæmia and one from uræmia. If the operation were not safe in the hands of good surgeons specially skilled in this department, was it not time that the profession at large should be warned of its many dangers? In 1871, in a hospital with which he was connected, he had seen gangrene of the penis, followed by death, resulting from it, and in 1876 he had had a fatal case in his own practice, while during the past year, in a case which he saw in consultation, there was atrophy of the penis and impotency, which he was convinced were due to the operation. Several New York surgeons had told him of fatal cases with which they were acquainted, and the results had been equally unfavorable in England and on the Continent. From the collected statistics it appeared that sixty-six fatal cases had already been verified. On the other hand, the method of gradual dilatation was almost entirely free from danger if it were gently and skillfully practiced. During the past ten years he had treated fully two hundred cases of stricture by this means alone, and in only five had any unfavorable symptoms resulted at all, while in each instance these were very easily controlled.

The benefits claimed for internal urethrotomy were stated as follows: *first*, that gleet, which nature held out as a signal to indicate the presence of stricture, was thereby removed; *second*, that various reflex symptoms, often of great severity, which were dependent on stricture, could thus be relieved; *third*, that all other methods of treatment were worthless so far as a radical cure was concerned; *fourth*, that by means of the dilating urethrotome a radical cure could be made; *fifth*, that the method was comparatively free from danger, and was to be recommended to the exclusion of all others; and, *sixth*, that all these claims were supported by the records now at the service of the profession. As to the first point, it involved the old mooted question, which had never been satisfactorily determined, "What constitutes a stricture?" The writer spoke at some length of the various opinions held in regard to this, and quoted from Paget to show that the claims of the new school of urethrotomists were by no means accepted. He thought the second premise could also well be questioned, and asked how many of those present would consent to such an operation in their own persons merely for the relief of gleet and certain vague symptoms supposed to be of a reflex nature, or at least until every other means had been tried in vain. The existence of such conditions, he considered, did not afford satisfactory reasons for undertaking so hazardous a procedure. As to the third point, it was true that strictures of a resilient character and those of traumatic origin could be cured only by cutting, but these were comparatively very rare. The vast majority of strictures, which were the result of inflammatory action, could be perfectly overcome, and kept in such a condition as to give rise to no further trouble by means of dilatation. The claim that even a dangerous operation was preferable to the passage of a simple dilating instrument from time to

¹ Proceedings reported for the JOURNAL.

time could not for a moment be allowed, and, beside, he was ready to assert positively that an entire cure could sometimes be effected by gradual dilatation alone. The fourth premise he was prepared to accept to a certain extent, but, nevertheless, he could not consider even this advantage sufficient to justify the use of such a dangerous operation. In regard to the fifth, enough had perhaps already been said, but he wished to add still a little more evidence as to the dangers of urethrotomy. From statistics published last year in Paris by Dr. Gregory, it appeared that there had been forty-six deaths out of nine hundred and fifteen cases, or a mortality of five per cent.; and he also gave other statistics showing the fatality of the operation in Europe. Recently a patient, upon whom internal urethrotomy had been performed at a dispensary, was brought by the ambulance to one of the large New York hospitals in a state of almost fatal collapse, in consequence of the hemorrhage which had resulted from it, and had it not been for the merest accident, which led to the summoning of a hospital ambulance, the man would have bled to death in his room. The danger from the cutting operation was considered very much greater when the seat of stricture was more than three inches from the meatus. Another of the unpleasant results of the operation, which was of very frequent occurrence, and which was apt to cause the patient excessive annoyance, was curvature of the penis.

In bringing this paper to a conclusion, Dr. Ranney laid down the following rules for the treatment of uncomplicated stricture:—

(1.) Seldom resort to the knife unless the stricture is resilient, of traumatic origin, or situated near the meatus.

(2.) Never perform internal urethrotomy if the seat of stricture is more than four inches from the meatus. (Perhaps three inches would be a safer rule.)

(3.) If the stricture is located in the deep urethra, division or perineal section is the best procedure in case dilatation fails.

(4.) Dilatation is practicable in the great majority of cases, and is followed by the best results.

(5.) Internal urethrotomy is to be resorted to only when other means of relief have failed, and under any circumstances only when the seat of stricture is less than four inches from the meatus.

Recent Literature.

Montreal General Hospital Reports. Vol. I. 1880.
Edited by WILLIAM OSLER.

About sixteen hundred in-patients and fifteen thousand out-patients are treated in the Montreal General Hospital in the course of the year. Some of the best of the material collected from these sources has been brought together and published in the first one of a series of reports which the medical staff propose to issue at intervals, as sufficient material is collected to justify the undertaking. Four carefully observed cases of leucocythæmia, with an analysis of the same by Dr. R. P. Howard, forms the first paper. In two of the cases post-mortem examinations were performed: the marrow of the sternum, one clavicle, and a rib was found in one case of a grayish-red color and of the consistence of splenic pulp, and in the other case of a purplish-red color, semi-diffuent, and without

evidences of fat. On microscopic examination in each instance it presented (1) ordinary colorless marrow cells, with granular protoplasm and distinct nuclei, — some larger than (even double the size of) white-blood corpuscles, and some of the same size; (2) small, round, lymphoid corpuscles, with large nuclei (not numerous in Case II.); (3) ordinary red corpuscles; (4) nucleated red corpuscles, varying in size and depth of color, some not larger than red non-nucleated forms, and others double that size, — "transitional" or "embryonal" forms, the nuclei often eccentric; (5) in Case II., some large non-nucleated red discs, which presented a striking similarity to the smaller nucleated forms; (6) myeloplæques in moderate number; (7) bodies containing red-blood corpuscles. The marrow of the bones, therefore, in these two cases, presented in a well-marked degree the changes which have been observed of late in this disease. The author forms one of the number of writers who do not believe that a myelogenous form of leucocythæmia is proven and states the grounds of his belief forcibly. Nothing new was accomplished in the way of treatment. In one of the cases the interesting fact, however, was observed that though the exhibition of reduced iron and phosphorus very considerably improved the proportion of red corpuscles in the blood, proved by counting the corpuscles, the improvement being maintained for a month, the pyrexia persisted, the general symptoms grew worse, and exhaustion rapidly followed.

The second paper contains a number of interesting Medical Cases, by Prof. George Ross, among which is one of extreme dilatation of the stomach, caused by pyloric stenosis resulting from the contraction of an old ulcer, and a case of cirrhosis of the liver, with great enlargement, characterized by jaundice, fever, and hemorrhages.

Dr. T. G. Riddick contributes several papers of interest, in one of which the results of the Lister antiseptic method, as practiced in the hospital, are given. The volume also contains the second pathological report of Professor Osler, which fully equals the merit of the first one. It comprises a selection from over two hundred post-mortem examinations. The Hospital Report comprises eighteen papers, covering about three hundred and seventy pages, and though only a few articles have been specified we are pleased to say that all have a high degree of excellence, and we heartily congratulate the staff on the success of their undertaking. We look forward with much pleasure to the subsequent volumes.

— In the *London Lancet*, Dr. George Johnson, of King's College, says, "From what I have seen of the effects of cold bathing, I have arrived at the conclusion that more people are injured than are benefited by the practice; and I am confident that if the urine of all men, women, and children who paddle about in the sea until they are blue and cold were tested within a few hours after their immersion it would be found to be more or less albuminous in a large proportion of cases."

— Professor Rizzoli, of Bologna, has offered to the city 1,250,000 francs (≈250,000) for the purpose of founding an orthopaedic institution. The villa of San Michele, near the town in Bosco, has been chosen for the establishment of the institute.

Medical and Surgical Journal.

THURSDAY, JULY 8, 1880.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly by Houghton, Mifflin and Company, Boston. Price, 15 cents a number; \$5.00 a year, including postage.

All communications for the Editors, and all books for review, should be addressed to the Editors of the Boston Medical and Surgical Journal. Remittances by mail should be sent by money-order, draft, or registered letter to Houghton, Mifflin and Company, Boston, Mass.

SECOND ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF THE STATE OF RHODE ISLAND.

THE second annual report of the State Board of Health for the State of Rhode Island covers the year ending December 31, 1879. It contains the general reports of the board and of the secretary; the reports of the secretary on vital statistics, acute diseases in the towns; the annual report from towns and from town clerks, the cattle commission; and special papers on the Artificial Feeding of Infants, Ventilation of School-Houses, Sewerage of the Dwelling, Disposal of Excreta, and on Color-Blindness.

The events of the year in regard to the average condition of the public health throughout the State are said to have varied but little from the ordinary incidents of previous years, the most noteworthy feature being the occurrence of scarlatina in an epidemic form, especially in the city of Providence. The report, however, contains some interesting statistics and some useful papers. The secretary's report on vital statistics, which furnishes tables of the births, marriages, deaths, and divorces in the State for the year ending December 31, 1878, is very carefully and elaborately worked out. It was impossible to obtain returns for the year 1879 in time for publication. These statistics are classified and tabulated in condensed form, and in addition supplementary tables and summaries are given with comparative results and comments. The positive value of such statistics must depend largely, of course, upon the fullness and accuracy of the registration returns, and in regard to these the necessity of increased promptitude and exactness is dwelt upon. Their relative value for comparison with other years, though influenced in the same way, is greater.

In the chapter devoted to births we learn that the percentage of children of purely American parentage, in proportion to the whole number of births, had gradually declined for a series of years, until, in 1876, it was only 40.84; in 1877 it had risen to 42.74; and in 1878 to 43 in each 100. Of the children of purely foreign parentage the percentage has been in excess of the purely American for a considerable number of years, with the exceptions of 1873, 1877, 1878. Of the class of mixed parentage the percentage of births has steadily increased up to the year 1878. Table XXXII, which gives the number of divorces granted in each county and in the whole State for the last ten years, shows that the number has not increased during that period. Table XI, shows that the average percentage of mortality of

children of five years of age and under, for a period of sixteen years, has not exceeded thirty-six per cent., which is a lower average than obtains in some of the neighboring States having more large cities. There is a large proportional number of colored people in Rhode Island as compared with other Eastern and Northern States; the statistics touching them have been reported separately for a number of years, and the results are not without interest, showing as they do that in a period of eighteen years the excess of births over deaths is only forty-two, and this in spite of the fact that the State is having annual accessions by immigration of colored people of both sexes between the ages of twenty and forty years.

In reply to a circular of the board, addressed to its correspondents, and containing among other questions one in regard to the use of opium, the answer from Newport gives a record of thirteen well-known opium eaters in that place who together consume the equivalent of thirty-four thousand grains of opium per month; of these one, a woman, has taken laudanum for twenty-five or thirty years, and for the past seven years has used four ounces of laudanum every day.

The work of the cattle commission during the past year has been mainly in the direction of the discovery and disposal of glandered horses. The secretary of the board, Dr. C. H. Fisher, contributes a paper on Glanders and Farcy, and recommends an appropriation by the General Assembly for the payment of some part of the cost price to the owner of any horse condemned to be destroyed on account of glanders. The paper on the Artificial Feeding of Infants was awarded the Fiske prize for 1879; that on the Ventilation of School-Houses is written by a gentleman who has had much personal experience of them. His preferences are strongly, and we believe judiciously, expressed in favor of good furnaces as being superior to the most approved methods of steam heating. This subject of the ventilation of school-houses is of the first importance, and is beginning to attract the intelligent attention it deserves.

MEDICAL NOTES.

— In the *Medical Gazette* we read that at the last meeting of the Anthropological Society M. Broca exhibited a human phenomenon in the person of a young lad aged eleven, a Piedmontese, named Jacques Inaudi. He left his native place a short time ago, and, in company with a monkey, he earned his livelihood by begging. When his appeals in the ordinary way were not attended to, he offered to solve mentally in a few minutes, and without any assistance of any kind, the most difficult problems in arithmetic. He was often put to the test; and, during his sojourn at Marseilles, a gentleman to whom he had appealed for charity was so astounded with the lad's gift of calculation that he was induced to bring him to Paris as a curiosity. When M. Broca presented him to the society he gave him verbally a sum in multiplication composed of some trillions to be multiplied by billions. This he accomplished in less than ten minutes

mentally and without any aid whatever, in presence of the members, who were all struck with wonderment. The lad is far from intelligent in other respects, and can neither read nor write; and the most curious feature of his method of calculation is that he proceeds from left to right instead of from right to left. He is of the ordinary stature of his age, but his head is rather large and somewhat hydrocephalous in appearance. His forehead is high, and developed to an extraordinary degree. The question of the localization in the brain of such a function is as yet a mystery.

— To the *Indian Medical Gazette* Surgeon-Major Cameron writes that it is generally stated that sebaceous glands are absent from the palm of the hand and sole of the foot. In 1875 a police constable in good health was sent into the hospital on account of an intractable ulcer at the side of the foot, measuring three quarters of an inch in diameter. Its margins, composed of the tissues of the skin, were raw, red, smooth, and healthy-looking. Its base was covered with a brownish-colored, inert-looking membrane, which, when unfurled by means of a probe, was found to be comparatively insensitive, and to present a smooth, glistening, secreting surface on the side towards the exterior. It was removed by avulsion, and the ulcer, which had hitherto resisted treatment, healed quickly. The portion of the membrane removed had the characters of a cyst of a vein, and consisted only of a portion of the original cyst, — the external portion having been lost by ulceration. It was dense and thick, and, having a free outlet, it contained no mass of fatty, pulaceous secretion, but felt and looked greasy. The history was of a small painless swelling on the sole, of its gradual enlargement, its becoming painful and bursting, and finally the formation of the ulcer. In 1877 a strong and healthy man came with a dense resisting cyst, the size of a marble, placed under the skin of the plantar surface of the fifth metatarsal bone, the skin over it being red, painful, and adherent. It was obvious that this was an earlier stage of the affection mentioned above, and this was proved by incision and avulsion of the cyst. It was an ordinary enlarged sebaceous cyst, containing fatty, pulaceous matter.

— According to the *Medical Press and Circular* a Russian doctor, writing to the *St. Petersburg Medical Gazette*, recommends the hypodermic injection of quinine in the treatment of certain fevers in which the alkaloid is indicated, on account of the certainty and rapidity of its action. Besides, quinine thus administered had, upon the uterine contractions in confinements, a powerful and prompt influence. M. Smoliskii employs, from preference, chlorhydrate of quinine which does not cry-tallize at a moderate temperature he dissolves it in distilled water.

— "Another wonderful scientific discovery has just been introduced by Dr. Jechs, of Bethlehem, United States, by means of which persons can be made to see objects or identify individuals a thousand miles distant. The instrument which is to accomplish this simple feat is called a diaphote, and the *modus oper-*

andi is similar to telegraphy. At one end of the wire is placed a mirror composed of selenium and iodide of silver, and at the other end a second mirror, composed of selenium and chromium. Each mirror is built up of little plates, and the corresponding couples are connected by separate wires. Any object exhibited at the other end could be brought to one's sight by telegraph; for instance, a London physician could see the tongue of a patient in Belfast without leaving his study; an author could read his proofs hundreds of miles off, and by an extra payment could probably send a favorite pen through the wire to correct them. Such is a brief outline of the latest American invention. Were the said wire long enough we would send our hand across the Atlantic to congratulate our *confrère* Dr. Jechs." We clip the foregoing from the *Medical Press and Circular* of April 28th, which will probably blench on learning the true history of this remarkable invention. Over the *nom de plume* of Dr. H. E. Lix, a bright fellow communicates to the Bethlehem, Pennsylvania, *Journal* an imaginary discovery of the so-called diaphote, writing in the style of the moon hoax. This letter, a mere travesty on a scientific paper, is gravely copied in earnest by New York papers in general, and by the time the new scientific bud has bloomed into the mature flower which we cull from the *Press and Circular* the witty *nom de plume* of the roguish originator has become *Jechs*, and he receives enthusiastic congratulations which will make his heart leap for joy.

— The *London Lancet* says: The ultimate practical purpose of professional journalism is to give those engaged in the daily exercise of the calling represented information which shall be helpful in their labors, and therefore conducive to the public good. What can advantage this cause more than the prompt and rigidly accurate noting of the facts observed, knowledge acquired, and experience gained in actual practice? If busy men will jot down the little points that strike them, in their own way, without waiting to elaborate formal papers, and send them direct to this office, we shall be happy to have them collated and presented in a form available for general information. The amount of clinical and pathological material wasted for want of this saving process must be very considerable. It is practically impossible for the great majority of practitioners to write lengthy reports of their cases. They have neither the leisure nor the inclination to do this. Nor are they always able to make the local societies the medium of communication with the profession, because the reading of a paper necessitates the trouble of first writing it, and then of attending to submit it. There is not opportunity for this performance, and many men shrink from it. Letter-writing is only less troublesome. Our suggestion is that practitioners should simply jot down a note of their observations in any rough fashion that occurs to them, and forward it duly attested. What more may be necessary we will do, in the hope of securing a large mass of valuable material from loss, and securing for patient and persevering observers the professional publicity to which their labors justly entitle them.

— Says the *Medical Times and Gazette*: The occurrence of the Guy's Hospital biennial festival dinner, on Friday, last week, gave "old Guy's men" an opportunity, which they were prompt to seize, of especially expressing their sympathy with the medical and surgical staff in the present circumstances connected with the nursing arrangements. A meeting, which was numerously attended, of former students was held an hour before the dinner, and the following resolution, proposed by Drs. W. F. Cleveland and Arthur Evershed, was carried unanimously: "This meeting, consisting of former students of Guy's Hospital School, desires to express its very warm sympathy with the present members of the medical and surgical staff of the school in the extra anxiety which has been associated with their tenure of office during the past few months, and at the same time to record its conviction that in the hands of the present staff the past pre-eminence of the School of Guy's Hospital will be most worthily maintained." Such an expression of sympathy and confidence, signed, as it was, by more than a hundred of the old students, gave, of course, great gratification to the medical and surgical staff.

PHILADELPHIA.

— Dr. William Kent Gilbert, coroner of Philadelphia, died recently at his residence, at the corner of Ninth and Pine Streets, after an illness of about a week, of typhoid fever. He was born in Northumberland County, Pa., December 28, 1829, and was a son of David Gilbert, M. D., a professor in the Pennsylvania Medical College. His paternal ancestors came to America from Germany in 1734, and settled in what is now Adams County, Pa., and his mother's ancestors emigrated about the same time from the north of Ireland. He received an academic education, entered the Pennsylvania College at Gettysburg, graduating in September, 1849, and received the degree of M. D. from the Pennsylvania Medical College in 1852.

After serving two years as a resident physician in the Philadelphia (Blockley) Hospital, he commenced the practice of medicine in this city, and continued it until his death.

He was at one period a member of the Board of Guardians of the Poor, and in 1878 was elected coroner on the democratic ticket.

He was a member of the College of Physicians, of the Pennsylvania Historical Society, and served as consulting physician of the hospital committee of the Philadelphia Hospital. He leaves a widow and several children.

Dr. Gilbert spent many years in collecting books, autograph letters, etc., relating to American medical history, his library in these departments being one of the most valuable in the United States. For several years he had been engaged in compiling a history of American Medical Literature and Unpublished Biography.

—"For the week ending June 25th there were eighty-eight deaths from cholera infantum, or sixty-six more than for the corresponding week last year."

MEDICO-LEGAL.

— The Cincinnati *Lancet and Clinic* thinks this a wholesome precedent: "A rather interesting case was decided by Squire Gilligan, of this city, determining the nature of physicians' services. Dr. G. Holdt had brought suit against E. Schmelzer to recover a small amount for professional services. Schmelzer pleaded poverty, and claimed the protection of the exemption law. Herman Marckworth, Dr. Holdt's attorney, claimed that the physician's services came under the head of work and labor performed, and as such was not subject to the exemption law. Squire Gilligan took the same view of the case, and rendered a verdict in favor of the plaintiff."

Miscellany.

SOCIETY FOR THE ADVANCEMENT OF ORAL SCIENCE.

FROM Dr. W. H. Rollins, secretary, we have received the following details of the inauguration of a society for the advancement of oral science, the first and only society of its kind in America:—

Jacob L. Williams, of Boston, believing a medical education necessary for dentists, requested several persons to meet with him to form a society of physicians practicing dentistry.

In response to this call a meeting was held at the house of D. M. Parker, February 20, 1880.

After appointing a chairman and a secretary, it was voted to form a society of orists; this word having been suggested by the secretary to distinguish physicians practicing upon the month from dentists having no medical education.

Dr. Joshua Tucker and Dr. Williams said that in the early period of dentistry in Boston each student was required to graduate at a medical school. Dr. Parker remarked that Harvard University had struck the most severe blow to a thorough education for the specialty by creating a dental school, thereby sanctioning a partial education as a sufficient qualification for practice upon the teeth.

The following persons were appointed a committee to form a constitution and by-laws:—

Jacob L. Williams, George T. Moffatt, D. M. Parker, William Herbert Rollins.

At a meeting held in Boston, May 17th, the constitution and by-laws reported by the committee were accepted, and the following officers were elected:—

President, Joshua Tucker; vice-presidents, D. M. Parker, George T. Moffatt; treasurer, Jacob L. Williams; secretary, William Herbert Rollins.

It was voted to send a report of these meetings to the Boston Medical and Surgical Journal.

WILLIAM HERBERT ROLLINS, *Secretary*.

We add the constitution of the new society:—

Preamble: Recognizing that science is the foundation of every art; that in any department of a profession sound opinions and safe practice can only result from knowledge of general principles, this society is formed to promote the application of thorough professional learning to oral practice.

CONSTITUTION. Name: Society for the Advancement of Oral Science.

Article I. Membership: Each member must be a graduate of some medical school approved by the council.

Honorary membership. Persons distinguished in science may be honorary members. If they are practitioners of any department of medicine, they must be graduates of some medical school approved by the council.

Article II. Articles I. or II. of this constitution shall not be altered or abolished.

Article III. Object: The advancement of oral science. The society holds, first, that all special degrees in medicine should be abolished; second, that oral professorships should be established in the medical schools; third, that oral hospitals should be created, in which students should receive instruction during and after their medical course; fourth, that every person practicing any department of medicine should be a graduate of some reputable medical school.

Article IV. Officers: The officers shall be a president, one or more vice-presidents, secretary, and treasurer. They shall be elected annually by a two-thirds vote of the members present.

Council: The president, one vice-president, secretary, treasurer, and one other member, all of whom shall be residents of Boston, shall constitute a council, which shall have charge of the affairs of the society. The president of the society shall be *ex-officio* chairman. In his absence a president *pro tem.* shall be elected. Meetings shall be held quarterly in Boston, unless otherwise ordered.

Article V. Articles III., IV., and V. of this constitution may be altered by a two-thirds vote of the members present, but at least three weeks' notice of the meeting must be sent to each member.

DR. J. MILNER FOTHERGILL ON SPECIALISTS.

DR. J. MILNER FOTHERGILL, of London, in a letter to the *Philadelphia Medical Times*, says: "It is my experience to find that Americans, doctors and others, do not have very definite ideas on the subject of consultants, and, still more, special consultants. Even the leading and best known men in the United States of America are more general practitioners than is the case with leading men here. Talking to an American doctor one day, I casually remarked that I had sent a certain patient to another consultant; he remarked, 'Well, I should not send a patient to another doctor until I had had a good try at him myself.' And it is clear that Americans, when over in Europe, study a whole variety of departments; very rare exceptions studying special subjects, and those only laryngoscopy, ophthalmic and aural surgery. Some devote much attention to diseases of women, and others to diseases of the urinary organs. Nor does it seem that there is any strong tendency toward specialism in the United States of America; that is, men do not work and write so much on diseases of some one system, and stick to that, and that almost only, as is the case here. Here we find a certain set of men who are known in relation to diseases of the nervous system, of whom the best known are Russell Reynolds, C. Bland Ratchile, J. Hughlings Jackson, Ferrier, and others; while Bucknill, Hack Tuke, Maudsley, L. Forbes Winslow, and others are consulted rather in cases of mental derangement

than in what are known as diseases of the nervous system not affecting the intellect. Others, again, are known as specialists in diseases of the chest; some rather for lung diseases, others rather for diseases of the heart. A whole host of men are devoted to obstetrics and diseases of women, some going in rather for obstetrics, others for diseases of women. Garrod stands almost alone as an authority on gout. Here the same thing holds good of surgeons, nearly every one now devoting his attention to some special subject, as Sir Henry Thompson, who devotes himself exclusively to diseases of the urinary organs. Indeed, it is now almost essential to success that a man who decides to become a consultant shall devote himself specially to one subject, write articles on it, write a book on it, and have his name known in connection with that subject, so that the general practitioner shall know of him as a specialist in that department, and consult him accordingly. It is the quickest way to become known, and brings in patients without much delay. Then, of course, the growth of special hospitals has largely fostered this attention to special departments; the specialist heads for the special hospital, which welcomes him and is glad to have him as an addition to its staff, while an appointment to a special hospital expedites the specialist's progress towards practice. By such means a number of men readily succeed in the world who in by-past days would have had a long hard struggle, unless they had the good luck to be attached to a general hospital. The staffs of general hospitals hunt in packs; the surgeon calls in his physician colleague, and he again, if required, his obstetric colleague. Of course this is done, more or less, all the world over. Specialists, in order to attempt the same thing, are largely arranged in groups, and so are of mutual advantage to each other. There are men who will poach, but I very much doubt if that pays in the long run. Then, of course, each specialist cultivates the general practitioners who consult him or call him in,—invites them to dinner, and presents them copies of his books."

TWO ATTACKS OF SCARLET FEVER WITHIN SIX MONTHS.

MR. EDITOR.—An epidemic of scarlet fever has prevailed in the city of Providence during the last year. Since the 1st of last January, seven hundred and fifty cases of scarlatina have been reported to the city physician, with two hundred and four deaths up to the 1st day of June. As in any epidemic, every variety of forms of this disease has been exhibited, from the lightest to the most malignant, and including in its mortality even robust adults.

On December 12th of last year, I was called to attend D. P., a young girl of nine years. From her mother I learned that scarlet fever was prevalent in the school she attended, and that among other children her daughter had come home the week before, and had since complained of a violent headache, continued nausea with some vomiting, loss of strength and appetite, sore throat, severe cough, great thirst, much uneasiness at night, with "dainty spells" both day and night. She grew worse, and I was called in one week after the patient was taken sick. I found the little girl with a pulse of 140, temperature 101°, marked prostration, hot and dry skin, and high-colored urine.

Upon examination, the fauces and tonsils were found swollen and inflamed, and the tongue coated. Nothing was revealed on examination of the person. Among other things the mother was directed to give the child a hot mustard bath at bed-time. On my visit the next day, the patient was in about the same condition. Another hot bath at night. On my third visit I discovered a rash on the neck and chest, which had broken out during the night. Rash was not seen on this day on any other parts of the person. This rash was clearly and distinctly scarlatinal in its character, and in due time desquamation took place. After a few days, an indistinct rash appeared over various parts of the body, which became quite evident under the effects of hot baths. This rash was typical of scarlet fever, not of the lobster-red variety so common, but rather resembled numberless particles of red sand or cayenne pepper under a tightly-drawn skin. Exfoliation of the epidermis in these parts of the body also followed after some days, aided by friction from the mother's hands. During these days the tongue presented the well-known "strawberry-like" appearance, so marked in this disease. The rapid pulse, and high temperature persisted for about ten days and then gradually diminished. During this time the inflammation of the fauces, tonsils, and throat was quite painful, attended with much pain in deglutition and swelling of the glands in and about the neck. The patient was unable to swallow solid food for some weeks, and fluids caused much distress by coming up through the nose. A foul discharge, which excoriated the flesh wherever it struck, began from the nose and vagina, and persisted for three weeks. The vaginitis was quite distressing, the discharge profuse and foul, and much pain was caused by passage of the urine. This difficulty was relieved by the mother, by the simple and ingenious plan of pressing a lump of warm mutton tallow against the urethra, which gave the girl temporary relief enough to urinate. Incidentally, I will say that the patient's little sister happened to sit down at bed-time, while in her night-clothes, with her bare skin on a cushion of an old arm-chair used by the patient, and in consequence she suffered from vaginitis, with a foul discharge, for a week. The family cat also had inflammation of the fauces and throat for a week, and the efforts of the poor creature to get relief were amusing to the spectator, if not to the cat. The mother, who attended her child, had a mild sore throat.

Owing to lack of appetite, inability to swallow any solid food, and distress in the use of liquids, swollen tonsils, which finally broke, chronic hoarseness, marked general debility, together with ascites, the convalescence was slow. It was not until nearly three months after being taken sick that she was able to go to school again. For the next ten weeks the little girl enjoyed good health.

On June 8th I was again called to see this same little girl, who had moved a mile away from her former home. From her mother I learned that she had played three days before with a school-mate who was sick with scarlet fever, and that, during the day before my visit, her daughter had returned from school and vomited suddenly several times during the day; that she had complained of a sore throat, was hot and feverish and unable to sleep the night before; and that a bright red rash had broken out on her person. An examination of the person revealed a most perfect lobster-red scarlatinal rash, literally covering the body

from head to foot. The fauces and tonsils were inflamed, and considerable whitish deposit was seen in the back part of the mouth. The pulse was 130, and temperature 101°. Within four days the rash and all other symptoms disappeared, and desquamation, most thorough and complete, followed, and within two weeks the child was at school again. This last attack was a most perfect typical attack of mild scarlatina, and admits of no doubt. The correctness of my first diagnosis might be called into question; and I regret space does not allow me to enter into any differential diagnosis, but simply to sketch the leading points upon which I have based my diagnosis. I have briefly sought to put on record the history of two typical attacks of scarlet fever occurring in the same person within the space of six months: the first, quite severe, with some interesting complications; the second, well marked, but mild, as is usual in secondary attacks.

A. F. BLAISDELL, M. D.

PROVIDENCE, R. I., June 23, 1880.

THE AMERICAN MEDICAL ASSOCIATION.

WE clip the following editorial from the *Philadelphia Medical Times* of June 19th:—

The American Medical Association certainly is a remarkable body, and the last meeting at New York certainly was, in many respects, a red-letter day in its experience. It is also plain that the value of these annual meetings as an advertising medium is beginning to be perceived both within and without the profession. The recognition of their importance by certain New York business firms was most gratifying, and when to such clear perception is united the proverbial enterprise of New York, it is no wonder that the great body gathered together stares and admires, and its members scatter to tell how the convention was bought out and pampered by the nabobs of trade.

Probably to none is this more gratifying than to the editorial staff of this journal. We are especially delighted when the American Medical Association can be given a new usefulness; and it was a proud day when we could see American enterprise bearing this august body in triumph as a trophy of its advertising genius,—belling it, as it were, covering it over with placards, and driving it through the streets of New York and the columns of a thousand newspapers.

If Dame Rumor be not uncommonly untruthful, there was a less open exhibition of canniness, which, though it may not easily be paralleled, may be heartily admired. It is asserted that a member of the committee of arrangements rented a large portion of the available space, so that he might secure room to sublet to the business firms, which, like the foolish virgins, came late, but, unlike the foolish virgins, had an overplus of oil in their — pockets.

It is not, however, solely to commend what has been done, but also to benefit our professional readers, that we have taken pen in hand. We want all our patrons to be upon the level of the shrewdest, and therefore gather up and dispense the latest improvements of the art of success as well as of medicine. It is notably well for John Jones, chiroprapist, to have it telegraphed that he read a paper on a highly original, absolutely new, and always successful method of treating incurved toe-nails; judging from the number of titles telegraphed at the expense of the Associated

Press, this fact is sufficiently appreciated by the general profession; but certain individuals, whose professional obscurity is enlightened by a most rare advertising acuteness, have discovered a better thing than this: it is to see the special reporter,—let us say of the *New York Herald*, or the *Chicago Times*, or the *Philadelphia Ledger*. Thus it cometh to pass that after the bare announcement that Professor Sayre, or Jewell, or Pepper read a paper entitled so-and-so, appears a long analysis of the extraordinary article read, amidst great applause, by Dr. Ignotus.

On, then, to Richmond next year; and if we can learn anything further in this line which shall benefit our patrons we will be sure to inform them, for the race seems to be to the knowing.

OVERWORK.¹

WITHIN the last few years a large number of day schools of a high order have been established in most of the larger English towns, and notably in London. These schools are situated for the most part in quarters of the town where they are miles from the open country, where land is worth many thousands of pounds an acre, and where for this reason it is almost impossible to provide play-grounds for the pupils, and *à fortiori* a field for their use is quite out of the question. The girls attending these schools are drawn from the neighborhood, and are consequently placed under much the same condition whether at home or at school. With these unfortunate children (and there must be hundreds of thousands of such in London alone) anything in the shape of active exercise is almost out of the question. They cannot run, for there is nowhere for them to run, it being considered improper for them to indulge in any such exercise in the public street. They are consequently debarred from almost all the old familiar games which those of us who have been born under more auspicious circumstances remember with so much pleasure. Gymnastics are as yet by no means generally adopted as an exercise for girls. Hence a generation is growing up whose physical training is in a great measure confined to a daily walk in the streets, varied in the case of those who fortunately live sufficiently near by an occasional visit to one of the public parks; whilst their practical knowledge of nature is little more than that which can be acquired by people living constantly in a crowd. The evil is a crying and an ever-increasing one. Yet what is to be done? It is impossible to stop the mushroom growth of our great towns; it is almost equally impossible to order the owners of schools to provide adequate play-grounds at a cost of from five to fifteen thousand pounds an acre. To place the schools in the country would render it impossible for the girls to live at home; whilst to send the girls frequently into the country for exercise would involve an expenditure of time, money, and energy which would be quite out of the question in most of our smaller middle-class households. One remedy suggests itself which will, to a very considerable extent, mitigate the evil, so far as muscular exercise is concerned, in the general adoption of gymnastics for all girls living under these conditions. Gymnastics, it is true, cannot make up for the absence of active exertion in the pure air,

and amidst the delightful surroundings of the country; but where it is impossible to attain these, gymnastics come in, as the next best remedy. I have said that up to the present time gymnastics are by no means generally adopted as an exercise for girls. It would be unfair, however, not to mention that for thirty years past classes for ladies, which have been numerously attended, have been held at gymnasia established in various parts of London by an Italian gymnast named Chiosso; that ladies classes are held with great success at a large German gymnasium in London; and, as the latest step in the right direction, that an excellently appointed gymnasium, with systematic teaching in gymnastics, has been added to one of the largest middle-class schools for girls in London. Here, then, we find a remedy for one of the evils to which I called attention. The evil resulting from the effects of mental work on a frame weakened by bad home surroundings can probably be met by the institution of a system of careful medical inspection in connection with our schools. Were each large school to be provided with a medical inspector who should keep a general oversight of all the girls, it would soon be found which are the girls that require special care. For such girls special arrangements should be made. The present uniformity of discipline for all girls should be broken down; the strong should be allowed to put out their strength, but the weakly should be kept well in hand. Were such an inspector to be appointed it would often be possible to detect the causes leading to weak health far sooner than is now generally the case; and many a girl who is now allowed to go on until she breaks down would be saved a long period of ill-health. Hints could be given to parents, which they would otherwise not receive until too late to remedy evils; and altogether, provided the inspector did his work honestly and intelligently, the gain in various directions would be great. I may add that the large school to which I have referred as having established a gymnasium has also recently appointed a medical inspector, who is in this instance very appropriately a lady; and at the debate at the Social Science Association it was recognized by many of those who spoke on behalf of the large schools that such a plan is highly desirable for general adoption.

MR. EDITOR.—In the account that you give of my paper read before the American Medical Association, I am made to say that "the fresh gastric mucous membrane was cooled by gypsum, allowed to harden, and then peeled off and ground up, ready to be dispensed to any one who would take it, or sold to any one who would buy it," not one word of which is correct. For I simply suggested gypsum as a means to dehydrate or rapidly dry up the slimy mucous and glandular secretions that are obtained when we scrape the interior of the fresh stomach, and instead of giving such crude material proposed that the pepsin should be dissolved out, when needed, by water, leaving the insoluble or nearly insoluble sulphate of lime behind. I also expressed no opinion as to its keeping qualities, as reported in some of the journals, but stated I was now about to test that question. Hoping you will give this as wide publicity as your former statement, I am respectfully yours, J. R. UHLER, M. D.

234 WEST FAYETTE STREET,
BALTIMORE, Md., June 16, 1880.

¹ Concluded from page 620 of vol. cii.

REPORTED MORTALITY FOR THE WEEK ENDING JUNE 19, 1880.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Deaths under Five Years.	Percentage of total Deaths from				
				The Principal "Zymotic" Diseases.	Diarrheal Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.
New York.....	1,085,000	707	386	32.67	22.91	10.32	4.38	1.13
Philadelphia.....	901,380	335	155	6.87	—	2.99	2.69	1.19
Brooklyn.....	564,400	227	124	31.36	22.91	10.13	7.49	.88
Chicago.....	—	168	102	31.93	17.86	7.14	8.33	2.97
St. Louis.....	—	189	117	34.92	26.46	4.23	.53	—
Baltimore.....	393,796	216	133	40.74	28.70	.93	2.31	5.56
Boston.....	365,000	124	43	16.13	4.03	8.06	9.68	—
Cincinnati.....	280,000	145	101	35.17	24.14	6.21	.69	2.07
New Orleans.....	210,000	114	48	32.46	18.42	7.02	.88	—
District of Columbia.....	170,000	106	64	28.30	22.64	6.60	1.87	—
Buffalo.....	—	50	17	8.00	2.00	8.00	2.00	4.00
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	—	85	51	48.24	25.88	3.53	3.53	2.35
Milwaukee.....	127,000	38	18	18.42	2.63	15.79	7.89	2.63
Providence.....	101,500	34	15	26.47	8.82	16.70	3.34	16.70
New Haven.....	60,000	19	6	26.32	10.53	10.53	5.26	—
Charleston.....	57,000	46	23	15.22	15.22	4.35	—	—
Nashville.....	37,000	33	17	54.55	39.59	6.06	—	3.03
Lowell.....	54,000	11	3	—	—	9.09	—	—
Worcester.....	53,000	18	9	16.67	11.11	11.11	5.56	—
Cambridge.....	50,400	18	7	5.56	—	11.11	5.56	—
Fall River.....	49,000	18	3	16.67	11.11	11.11	—	—
Lawrence.....	38,600	12	6	33.33	16.67	—	—	—
Lynn.....	34,000	9	3	11.11	—	11.11	11.11	—
Springfield.....	31,800	—	—	—	—	—	—	—
New Bedford.....	27,200	9	2	11.11	—	11.11	11.11	—
Salem.....	26,500	10	8	40.00	10.00	—	20.00	—
Somerville.....	23,500	5	1	—	—	—	—	—
Chelsea.....	21,000	9	4	33.33	11.11	11.11	22.22	—
Taunton.....	20,200	0	—	—	—	—	—	—
Holyoke.....	18,400	—	—	—	—	—	—	—
Gloucester.....	17,300	4	—	—	—	—	—	—
Newton.....	17,300	—	—	—	—	—	—	—
Haverhill.....	15,350	4	—	—	25.00	—	—	—
Newburyport.....	13,500	6	3	16.67	—	16.67	—	16.67
Fitchburg.....	12,600	3	—	33.33	—	—	—	33.33
Sixteen Massachusetts towns.....	129,960	29	8	13.80	—	6.90	6.90	—

Deaths reported 2801; 1477 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup), diarrheal diseases, whooping-cough, erysipelas, and fevers) 798, diarrheal diseases 498, consumption 339, lung diseases 200, diphtheria and croup 112, scarlet fever 47, measles 44, marial fever 31, whooping-cough 24, typhoid fever 21, cerebro-spinal meningitis nine, erysipelas eight, small-pox four. From *measles*, Cincinnati 10, St. Louis, New Orleans, and Pittsburgh seven, New York five, Brooklyn four, Chicago, Baltimore, Salem, and Chicopee one. From *marial fevers*, New York eight, New Orleans six, Philadelphia and St. Louis four, District of Columbia three, Brooklyn and Baltimore two, Milwaukee and New Haven one. From *whooping-cough*, New York eight, Baltimore five, Pittsburgh and Nashville three, Brooklyn, Chicago, Cincinnati, New Orleans, and New Haven one. From *typhoid fever*, Philadelphia and Pittsburgh four, New York, and Boston two, Chicago, St. Louis, Baltimore, New Orleans, District of Columbia, Milwaukee, Nashville, Lawrence, and Chicopee one. From *cerebro-spinal meningitis*, St. Louis three, New York one. From *erysipelas*, New York five, Chicago, Boston, and Lawrence one. From *small-pox*, Chicago three, Philadelphia one.

Forty-seven cases of measles, 24 of diphtheria, 20 of scarlet fever, one of whooping-cough, and one of typhoid fever were reported in Brooklyn; small-pox six, in Chicago; scarlet fever 11, diphtheria nine, in Milwaukee; typhoid fever seven, scarlet fever six, measles four, diphtheria two, whooping-cough one, in Providence; scarlet fever two, diphtheria two, in New Bedford.

Total number of deaths increased. Number of deaths under five years of age large; deaths from diarrheal diseases increased, especially in New York. In 32 cities and towns of Massachusetts, with an estimated population of 951,110 (population of the State about 1,690,000), the total death-rate for

the week was 15.89 against 17.64 and 16.30 for the previous two weeks.

For the week ending May 29th, in 148 German cities and towns, with an estimated population of 7,721,346, the death-rate was 30.6 against 28.1 and 28.3 for the previous two weeks. Deaths reported 5541; 2408 under five; pulmonary consumption 562; acute diseases of the respiratory organs 439, diphtheria and croup 150, measles and *rötheln* 99, scarlet fever 87, typhoid fever 66, whooping-cough 56, peripneumonia 17, typhus fever (Königsberg, Thorn four, Buehen, Ratibor, Dresden, Berlin, Magdeburg, Braunschweig three) 13, small-pox (Buehen four, Götting five). The death-rates ranged from 13.5 in Kiel to 64.6 in Chemnitz; Königsberg 37; Breslau 30.9; Munich 47.1; Dresden 30.3; Berlin 33.5; Leipzig 22.1; Hamburg 29.2; Hanover 19; Bremen 25.8; Cologne 25.7; Frankfurt 26.4; Strassburg 29.7. For the same week Vienna 30.8; Paris 29.2.

For the week ending June 5th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 19.4. Deaths reported 2787; acute diseases of the respiratory organs 191, whooping-cough 114, scarlet fever 110, measles 88, diarrhoea 42, fever 36, diphtheria 13, small-pox (all in London) eight. The death-rates ranged from 14 in Portsmouth and Bradford to 24 in Liverpool; London 19; Bristol 19; Birmingham 17; Manchester 23. In Edinburgh 20, Glasgow 21, Dublin 38.

In the 20 chief towns in Switzerland, population 445,790, there were 25 deaths from acute diseases of the respiratory organs, diarrheal diseases 13, diphtheria and croup five, typhoid fever two, scarlet fever three, whooping-cough one, measles one, small-pox one. Death-rate of Geneva 18.4; of Zurich 25.5; Basle 27.6; Berne 34.4.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.				Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
June 13	29.569	73	83	64	70	49	80	66	NW	W	SW	7	6	16	F	C	C	—	—
" 14	29.736	65	75	59	61	46	67	58	NW	N	SW	7	11	2	F	O	O	—	.02
" 15	29.920	63	71	57	78	58	61	65	Calm.	E	Calm.	0	10	0	O	O	O	—	—
" 16	30.003	65	80	55	69	40	71	60	Calm.	SE	SW	0	6	11	H	F	F	—	.16
" 17	30.136	66	72	54	77	60	74	70	N	E	SW	4	3	3	F	F	C	—	—
" 18	30.235	67	81	59	69	47	54	63	Calm.	E	S	0	5	7	C	C	C	—	—
" 19	30.189	70	88	58	69	39	74	60	W	E	SW	6	5	5	C	C	F	—	—
Week.	29.964	67	88	54				64										1.53	0.18

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

REPORTED MORTALITY FOR THE WEEK ENDING JUNE 26, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zy-motic" Diseases.	Diarrhoeal Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.
New York	1,085,000	1038	713	49.32	42.38	6.74	3.46	.48
Philadelphia	901,380	427	219	6.32	—	2.34	2.34	1.40
Brooklyn	564,400	414	289	50.00	40.33	7.24	3.86	1.20
Chicago	—	268	181	50.74	32.46	6.71	9.32	2.23
St. Louis	—	177	113	35.03	27.68	1.69	—	1.14
Baltimore	393,796	245	141	44.49	33.06	2.06	1.63	3.67
Boston	365,000	126	47	15.87	7.93	3.96	—	—
Cincinnati	280,000	109	76	46.78	36.60	2.73	2.75	.91
New Orleans	210,000	115	50	27.82	13.91	3.47	—	1.73
District of Columbia	170,000	117	71	33.33	29.91	5.12	.85	—
Buffalo	—	44	19	18.18	11.36	2.27	4.54	2.24
Cleveland	160,000	—	—	—	—	—	—	—
Pittsburgh	—	82	62	52.44	34.14	14.63	6.09	4.88
Milwaukee	127,000	42	26	30.95	7.14	11.90	4.76	2.38
Providence	102,000	26	9	19.23	3.46	6.92	3.46	7.69
New Haven	60,000	28	12	32.14	17.85	7.14	—	—
Charleston	57,000	32	16	6.25	3.12	6.25	—	—
Nashville	37,000	32	16	46.87	18.93	3.12	—	—
Lowell	54,000	28	12	17.85	14.28	10.71	—	—
Worcester	53,000	20	7	35.00	25.00	10.00	—	5.00
Cambridge	50,400	16	2	12.50	6.25	6.25	—	—
Fall River	49,000	28	7	28.57	10.71	—	—	—
Lawrence	38,600	17	7	11.76	5.92	29.60	—	—
Lynn	34,000	10	3	20.00	20.00	20.00	10.00	—
Springfield	31,800	15	—	33.33	—	—	—	33.33
New Bedford	27,200	19	6	33.33	8.33	8.33	16.66	—
Salem	26,500	19	7	42.10	—	5.26	15.78	—
Somerville	23,500	4	2	25.00	25.00	25.00	—	—
Chelsea	21,000	5	1	40.00	—	—	20.00	—
Taunton	20,300	11	4	9.09	—	9.09	9.09	—
Holyoke	18,400	—	—	—	—	—	—	—
Gloucester	17,300	10	4	10.00	—	10.00	—	—
Newton	17,300	—	—	—	—	—	—	—
Haverhill	15,350	8	—	25.00	—	12.50	12.50	—
Newburyport	13,500	4	1	—	—	—	—	—
Fitchburg	12,600	7	—	14.28	14.28	14.28	—	—
Sixteen Massachusetts towns	120,910	33	6	9.09	3.03	9.09	3.03	—

Deaths reported, 3569; 2129 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 1343, diarrhoeal diseases 992, consumption 369, lung diseases 197, diphtheria and croup 126, scarlet fever 45, typhoid fever 41, malarial fevers 37, whooping-cough 34, measles 33, cerebro-spinal meningitis 15, erysipelas 12, small-pox eight. From typhoid fever, Baltimore eight, Philadelphia six, New York and Chicago four, Brooklyn and St. Louis three, Boston and Nashville two, New Orleans, Pittsburgh, Milwaukee, Providence, Worcester, Fall River, Lynn, Haverhill, and Clinton one. From malarial fevers, New York nine, New Orleans six, Brooklyn five, St. Louis and New Haven three, Chicago, District of Columbia, and Milwaukee two, Charleston, Fall River, and Salem one. From whooping-cough, Nashville seven, Baltimore five, New York four, Brooklyn, Chicago, and St. Louis three, Milwaukee two, Philadelphia, New Haven, and Gloucester one. From diarrhoeal diseases, Boston, New Orleans, District of Columbia, Pittsburgh, New York, and Cincinnati seven, Brooklyn five, New Orleans and Pittsburgh four, Milwaukee and Salem two, St.

Louis and Lawrence one. From *cerebro-spinal meningitis*, New York four, Chicago and Fall River three, Philadelphia, Lowell, Cambridge, Salem, and Chelsea one. From *erysipelas*, New York and Brooklyn three, Boston two, Philadelphia, St. Louis, New Orleans, and New Bedford one. From *small-pox*, Chicago six, Philadelphia two.

Twenty-five cases of diphtheria, 21 of scarlet fever, 14 of measles, one of whooping-cough, and one of typhoid fever were reported in Brooklyn; two of small-pox in Chicago; diphtheria 31, scarlet fever eight, in Boston; diphtheria six, scarlet fever three, in Milwaukee; scarlet fever 13, diphtheria four, measles three, typhoid fever two, whooping-cough one, in Providence; diphtheria three in Cambridge; scarlet fever 12, diphtheria two, in New Bedford.

Total number of deaths increased nearly fifty per cent. above the average; deaths under five doubled; deaths from diarrhoeal diseases very large, 607 out of a total of 992 being in New York and Brooklyn, New York alone furnishing 440. In 33 cities and towns of Massachusetts, with an estimated population of 973,860 (population of the State about 1,600,000), the total death-rate for the week was 20 against 15.89 and 17.64 for the previous two weeks.

For the week ending June 5th, in 149 German cities and towns, with an estimated population of 7,066,406, the death-rate was 27.7. Deaths reported, 5590; 2065 under five; pulmonary consumption 537, acute diseases of the respiratory organs 402,

diphtheria and croup 104, scarlet fever 101, measles and *rötheln* 97, whooping-cough 57, typhoid fever 54, puerperal fever 26, small-pox (Thorn, Königshutte, Landsberg, Schweidnitz four, Görtitz two, Elberfeld) 11, typhus fever (Posen, Braunschweig, Dortmund three). The death-rates ranged from 12.9 in Wiesbaden to 41.6 in Munich; Königsberg 28.1; Breslau 29; Dresden 24.3; Berlin 33; Leipzig 21.1; Hamburg 23.5; Hanover 22.3; Bremen 22.4; Cologne 23.9; Frankfurt 26.8. For the same week, Vienna 28.3; Paris 26.6.

For the week ending June 12th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 19.2. Deaths reported, 2765; acute diseases of the respiratory organs 230, scarlet fever 131, whooping-cough 105, measles 74, diarrhoea 43, diphtheria 11, small-pox (all but one in London) 11. The death-rates ranged from 13 in Brighton to 27 in Liverpool; London 18.4; Bristol 24; Birmingham 15; Manchester 23. In Edinburgh 24, Glasgow 26, Dublin 42. In the 20 chief towns in Switzerland for the week ending June 12th, population 445,790, there were 27 deaths from acute diseases of the respiratory organs, diarrhoeal diseases 24, diphtheria and croup 11, measles seven, scarlet fever seven, whooping-cough two, typhoid fever two, small-pox one. Death-rate of Geneva 25.1; of Zurich 36.7; Basle 26.5; Bern 20.9.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direcion of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.		
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.	
June 20	29.989	73	90	60	73	25	66	55	W	W	0	5	11	0	C	T	F	F	—	.01
" 21	29.757	71	84	61	70	57	46	58	W	W	NW	7	12	12	T	O	F	F	—	.01
" 22	29.806	64	71	55	61	33	68	54	W	NW	NW	9	23	7	C	C	F	C	—	—
" 23	29.900	69	78	56	61	34	53	49	NW	NW	0	7	17	0	C	F	T	O	—	—
" 24	29.852	73	90	63	58	50	71	60	0	E	E	0	1	4	F	F	C	C	—	—
" 25	29.861	77	92	66	68	71	52	64	0	E	SW	0	5	9	F	F	F	F	—	—
" 26	29.851	80	90	71	81	47	55	61	W	W	SW	1	16	4	O	F	F	F	—	.01
Week.	29.859	72	92	55				57											0.40	0.03

1 O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE MARINE HOSPITAL SERVICE OF THE UNITED STATES. APRIL 1, 1880, TO JUNE 30, 1880.

BAILLIACHE, P. H., surgeon. Detailed as chairman of board for the physical examination of officers of the revenue marine service. April 28, 1880.

Detailed as chairman of board for the physical examination of candidates for appointment as cadets in the revenue marine service. May 21, 1880.

Detailed as medical officer revenue bark Chase during practice cruise. June 1, 1880.

MILLER, T. W., surgeon. Detailed as chairman board of examiners to convene in New York June 21, 1880. June 4, 1880.

LONG, W. H., surgeon. Granted leave of absence for ten days from April 16, 1880. April 14, 1880.

Detailed as member of board to select a site for a marine hospital at Memphis, Tennessee. May 12, 1880.

FESSENDEN, C. S. D., surgeon. Detailed member board of examiners to convene in New York June 21, 1880. June 4, 1880.

Granted leave of absence for eight days from June 13, 1880. June 9, 1880.

SAWTELL, H. W., surgeon. Detailed as recorder of board to select a site for a marine hospital at Memphis, Tennessee. May 12, 1880.

DOERING, E. J., surgeon. Detailed as recorder board of examiners to convene at New York June 21, 1880. June 4, 1880.

FISHER, J. C., passed assistant surgeon. Granted leave of absence for thirty days from May 6, 1880. April 21, 1880.

Detailed as recorder of board for the physical examination of officers of the revenue marine service. April 28, 1880.

GODFREY, JOHN, assistant surgeon. To report to board of examiners for examination for promotion. June 4, 1880.

BROWN, F. H., assistant surgeon. To act as inspector of un-serviceable hospital property at Boston, Mass. April 13, 1880.

To report to board of examiners for examination for promotion. June 4, 1880.

GOLDSBOROUGH, C. B., assistant surgeon. Detailed as recorder of board for the physical examination of candidates for appointment as cadets in the revenue marine service. May 21, 1880.

KEYES, H. M., assistant surgeon. To act as inspector of un-serviceable hospital property at St. Louis, Mo. April 13, 1880.

MEAD, F. W., assistant surgeon. To act as inspector of un-serviceable hospital property at San Francisco, Cal. April 19, 1880.

PORTER, F. D., assistant surgeon. Granted leave of absence for fourteen days from July 2, 1880. June 29, 1880.

PROMOTION. FISHER, J. C., passed assistant surgeon. Promoted to be passed assistant surgeon. April 2, 1880.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JUNE 26, 1880, TO JULY 2, 1880.

BREWER, J. W., captain and assistant surgeon. His leave of absence on account of sickness further extended three months on surgeon's certificate of disability. S. O. 142, A. G. O., June 28, 1880.

DE LOFFRE, A. A., captain and assistant surgeon. Relieved from duty in Department of the South and assigned to duty in Department of the Missouri. S. O. 137, A. G. O., June 22, 1880.

Lectures.

II. THE PATHOLOGY OF INSANITY.

A LECTURE DELIVERED BEFORE THE GRADUATING CLASS OF THE HARVARD MEDICAL SCHOOL.¹

BY CHARLES F. FOLSOM, M. D.

INSANITY is chiefly indicated in an individual not so much by any particular extravagance of action, thought, or feeling, which in many instances may be natural, as by a departure from his ordinary habits of thinking, feeling, and acting, without any sufficient external cause. Some men's ordinary habits resemble the behavior of the insane, and, on the other hand, many a confirmed monomaniac, by carefully abstaining from any indication of his hallucination or delusion, can for a time appear like a rational and sane man, a well-known case being that of a patient ordered to be discharged from the Bicêtre as entirely recovered, and who yet would not sign to his papers giving him his liberty any other name than Jesus Christ. He had concealed his delusion long enough to persuade the commission of his sanity, but would not let the fact stand against him in writing that he was any other person than Christ, whom he claimed to be. Insanity is the symptom of a disease which observes the same pathological laws as other diseases. Notwithstanding the air of mystery which ignorance and superstition have thrown around it, insanity cannot be said to present anything really strange or peculiar. It follows the same course of incubation, development, and termination in cure, death, or chronicity as other diseases, sometimes lying dormant for months or even years, obscure to others, and unsuspected by the patient himself; at other times suddenly breaking out with little warning of its approach; and again, after being repeatedly warded off by precautions and remedies, finally establishing itself in its clearest form, just as pulmonary consumption, for instance, sometimes begins its ravages so slowly and insidiously as to be perceptible only to the most practiced observer, while many of the mental diseases are like typhoid fever and pneumonia, self-limited, and pursue a tolerably definite course.

Every type of insanity does not, in its initial stage, present to the eye a deviation from the normal structure of the brain, and the patient may die before such pathological changes appear that we can detect them. But if the disease has been of long standing, and if death has supervened from the constitutional disturbances produced by it, it will be very rarely that some morbid appearances, if carefully looked for, will not be found, more or less indicative of the disordered mental condition. Again, the disease underlying the insanity may be sufficient to produce death, directly or indirectly, and yet, as in general paralysis of the insane, for instance, there may be found in the brain no indication to the naked eye of any deviation from a healthy condition, although a microscopic examination might reveal the most marked signs of advanced cerebral disease. In the vast majority of cases of insanity the brain does show evident marks of disease even in early stages. And when we bear in mind the limited knowledge of the cerebral structure which pathologists have possessed until very lately, or even up to the

present time, and the consequent difficulty in detecting changes from the healthy state, it may well be conceded that the absence of these changes is attributable, in not a few instances, to the fault of the investigator rather than to the nature of the disease. Certain it is that the better acquainted we have become with the anatomy of the brain and with its functions and sensible qualities, and the more thorough and painstaking we have been in our examinations, the rarer it has become to find a case of insanity where no organic changes are observed after death. It is true that we do not as yet understand in all, or indeed in any, cases the exact relation between the morbid conditions observed after death and the symptoms during life, but that fact was for a long time true of diseases the pathology of which we now quite understand. A large abscess of the brain, a hemorrhage or local inflammation, a tumor or a wound of the cortex or other portion of the brain, is sometimes followed by insanity, and sometimes not; and we do not yet understand the reason for the difference. Indeed, nearly every pathological condition of the brain known in insanity, in kind if not in extent and degree, may be found in a diseased or injured brain where there has been no mental disease in consequence. It is largely due to our limited knowledge of insanity that we cannot more accurately define and classify the diseases giving rise to it.

In 261 autopsies of the insane, Pinel found only 68 diseased brains: in 277, Esquirol, 77; in 100, Chiarugi, 95; in 160, Parchappe, 152; in 72, Webster, 72; in 171 in the Vienna Asylum, 152; in 318 in the Prague Hospital for the Insane, 288. There is only one disease, general paralysis of the insane, in which the morbid appearances discoverable after death, with our present knowledge, bear a definite relation to most (not all) of the manifestations during life; and even in that disease, if with prominent tabic symptoms, the morbid anatomy of the spinal cord is identical with that observed in posterior spinal sclerosis (progressive locomotor ataxia), the one disease being now and then mistaken for the other. Still, it is not impossible that our knowledge will widen in the near future, so that we can not only identify after death, but also diagnose during life, the exact pathological changes to which all of the various forms of insanity are due. It may therefore be profitable briefly to enumerate what the changes are which are found in the brains of the insane; although, as I have already said, given the corpse only of a person who had died in an early stage of mental disease, there are only a few cases where, even with the aid of the microscope, we could be sure, from the morbid appearances alone, whether insanity was present during life or not, and if so, of what form, even where pathological changes are clearly found. That is to say, when we have discovered and described all the morbid appearances in the brain of an insane person, we have taken only the first step in accounting for his insanity; the next will follow after we have learned the physiology and pathology of thought, will, passions, and emotions.

First, however, before proceeding to a consideration of the morbid anatomy, let us briefly review the evidence as to the functions of the brain,² so far as the mind is concerned. It has been shown clearly by experiment on monkeys that electrical excitement of the

¹ Read also before the Boston Society for Medical Observation, June 21, 1889.

² Illustrated by Charcot's and Foville's plates.

cortex of the brain in the so-called psychomotor tract, the central and upper portions, including parts of the anterior and parietal lobes, produces movement in certain muscles, and that destruction of the corresponding tract in the cortex produces paralysis of the muscles contracted in the former experiment. In man, a few cases are reported where amputations and paralysis of the limbs in question have been followed by atrophy of the tracts or centres for these muscles, and in corroboration of the experiments with animals; vigorous movement of the muscles produces local elevation of temperature in their respective centres, and destructive diseases cause, each for its corresponding muscles, more or less permanent paralysis. From experiments on monkeys and a few observed cases of disease or injury in man, it is thought by Ferrier that the anterior convolution of the frontal lobe is not a motor centre, but serves more particularly the function of moral and to a less extent intellectual power, parts of the sphenoidal and occipital lobes being centres of sensation. The visual centre is thought by Ferrier to be in the gyrus angularis, by Munk to be in the occipital lobe; and the various forms of aphasia are in the vast majority of cases associated with lesion in the vicinity of the island of Reil, on the left side.

It is found that diseases impairing the mind do not produce paralysis necessarily, and conversely. It is also true that one half of the cerebrum preserved intellectual activity is often still normal except in power, large portions of the other half being diseased. The motor functions of the cortex explain some epileptic convulsions, and the brains of idiots are microcephalic so far as the cerebrum and convolutions are concerned; the cerebellum is not changed. If we examine a highly magnified section of the cortex of the brain, we shall find that the large cells of the third and fourth layers are most abundant in the psychomotor tract and quite absent in the cerebellum. All efforts to localize the intellectual and moral functions of the brain have thus far failed of success, the most careful observers still thinking that local lesions, when apparently causing insanity, do so by injuring the action of the brain as a whole, and not of any particular part.

To return to the morbid anatomy of insanity, in chronic cases of quiet, delusional insanity, with never anything like acute or subacute disease, and where death occurs from the weakness of old age or some intercurrent disease, we cannot detect any difference between their brains and those of sane people whose brains have worn out with their bodies. This class is comparatively small, and every year decreases under the investigations of thorough workers.

The most important and constant changes are in the cortex of the brain, especially in the fore, upper, and middle parts of the periphery, involving also the membranes. Surgeons, too, have found that wounds in this region oftener result in insanity than if in other parts of the brain. Virchow has observed that local inflammatory troubles (pachy-meningitis fibrinosa) in this portion of the brain are not very infrequent during pregnancy, and thinks the morbid ideas so common among women at that time may be thus at least partially explained. In the early stages of insanity, the pathological changes are often due to impaired nutrition or disordered circulation; anaemia and hyperaemia of the brain are exceedingly common, the hyperaemia being generally limited to the membranes and the cortex, or its superficial layer. The anaemia of the brain

during convalescence from severe acute diseases, especially typhoid fever and scarlet fever, is not infrequently the probable immediate cause of insanity; and in acute mania the pathological changes in the cortex and ganglionic cells are probably as nearly identical with those in the acute stage of pneumonia, certain forms of typhoid fever, cerebro-spinal meningitis, and other diseases, as the symptoms of the mania are now and then difficult to differentiate from those of the other diseases just mentioned. Traube has described a form of typhoid fever so like mania that one of the professors in the university at Berlin was committed to the insane asylum, after a full consultation, while suffering from it. The period of incubation, however, is not so marked in mania, the temperature is lower, abdomen not distended, and the delirium is more constant day and night. Cerebro-spinal meningitis, and occasionally pneumonia are also mistaken for insanity. During the presence of the acute symptoms in these and other diseases, a positive diagnosis must often be deferred until the continuation or cessation of the mental symptoms renders a correct judgment of the case possible. In insanity following acute disease or due to it, there is commonly an interval of clearness before the outbreak of the insanity, and after the delirium from the former has ceased. In rheumatic families, the disease occasionally affects the fibrous tissue enveloping the brain, either alone, or after subsidence of the inflammation in other parts of the body. The differential diagnosis in all these cases is quite important, in order to prevent sending people to insane asylums unnecessarily.

Functional or chronic degenerative disease of the walls of the arteries with hæmorrhages and capillary aneurisms, is very often found; irregularities in the skull both in shape and size; changes of nutrition or pressure from thickening of the skull; syphilitic and other osteophytes, especially in more or less demented epileptics; early synostosis of sutures or compression of the skull by artificial means; thickening, adhesions, and purulent inflammation of the dura mater.¹ Congestion, thickening, cloudiness, and hypertrophy of the arachnoid are very common, with not infrequent hæmorrhage and formation of pseudo-membrane or serous effusion in the sac. The ependyma of the ventricles is often somewhat thickened and granular in chronic cases. The size of the brain is sometimes increased, owing to hypertrophic conditions, particularly in epilepsy, but far oftener there is general atrophy with enlargement of the ventricles dependent upon long-standing disease. General dropsy is sometimes found in old cases, or when patients die in the acute stage with violent excitement, and is probably not infrequent. Sclerosis of the white substance, with fatty and granular degeneration of the nerve cells and fibres, is universally found in paralytic dementia: recent investigations show a possible relation of syphilis to the disease. Cancers of the brain, parasites, syphilitic and other tumors and tubercles, are now and then found in autopsies in insane asylums. The early symptoms referable to them, however, are more commonly convulsions and paralysis, so that they are oftener observed in general hospitals. When insanity is due to tumors of the brain it is usually the deepest melancholy or violent mania, persisting until death, the complete destruction of the mental faculties generally being a late symptom. The temperature of demented (taken in the axilla) is a trifle below that of sane people; of all the other insane, the average is

¹ The latter also occurring perhaps as often in those not insane.

not far from a degree higher, according to Dr. Clouston's records of two thousand cases, the extreme being found in general paralytics with an elevation above the normal sometimes, after a fresh convulsive attack, of even 5° F.

Congenital defects also doubtless have a great influence in the production of insanity. Of all infants born in various countries, from one fifth to one fourth die in the first year of life, and very largely from want of complete development of the respiratory, circulatory, or cerebro-spinal systems. A large number must reach maturity with this defective development still seriously deranging the action of heart, lungs, or brain. Unlike the organs whose deformities are readily perceived by our unaided senses, — as, for instance, club-foot, — the brain is out of sight, however, and can only manifest its deficiency by mental or moral obliquity, incapacity, drunkenness, pauperism, crime, or predisposition to actual insanity. In any of these suspected cases, if careful search reveals an incompletely developed ear, or finger, or other member, in any part of the body, there would be some reason for suspecting a similar deficiency in the brain, and for questioning how far sanity and full responsibility exist. If the manifestation is periodic and beyond the control of the will, like dipsomania, there is almost certainly a morbid condition of the brain.

If asked whether there is a fixed lesion of the brain or any of its parts corresponding to given psychological changes, we should be obliged to say No, except in the case of incurable dementia. If asked whether there are important morbid changes corresponding with all cases of insanity, we can say Yes, always, except that in some of the milder forms of delusional insanity we have not yet discovered any. There are certain lesions which invariably cause marked deterioration of the mind. These are, general inflammation of the cortex of both hemispheres, general meningitis in the convexity of the hemispheres, marked and general oedema of the brain, general atrophy, extensive thickening and granulations in the plexus of the ventricles.

As regards diseases of other organs than the brain, the insane, like the sane, die of all of them, and in especially large numbers of pulmonary consumption. Very painful affections, and some not causing pain, of the abdominal and pelvic cavities, especially in women, seem at times to be the sources of delusions, and the constant irritation of the corresponding motor centres in the brain is now and then the apparent source of insanity.

To summarize the relations of pathological changes to insanity, we have the following conclusions:—

(1.) Insanity may, both in its acute and chronic form, be the result of simple anomalous excitation or nutrition of the brain without any noticeable change in its appearance.

(2.) Generally, however, it consists in recognizable diseased conditions, which become more manifest the longer the duration of the disease. These are in the majority of cases hyperæmic, anæmic, and inflammatory processes, which appear first for the most part in the pia mater and cortex of the brain, extend to various depths of the cortex and of the medullary portion, and end either in resolution and cure or in incurable destruction of the brain tissue and more or less general atrophy of the brain, with the corresponding symptoms of partial or complete loss of mental power and intelligence.

(3.) Non-inflammatory changes in nutrition also are very common, and these are recognized only in their late stages, ending in atrophy of the brain, which corresponds to an advanced period of the disease; in their early and developmental stages they are still not yet made out.

(4.) In the functional mental diseases there is no lesion of the brain as yet recognizable, except in the latest stages, and then the changes may be no more than are to be found in the brains of persons dying simply of old age.

(5.) The organic mental diseases are associated with diffuse, as opposed to localized, lesions of the brain, chiefly of the cortex.

(6.) In insanity arising from marked organic disease of the brain, syphilis, general paralysis of the insane, tumors, etc., the morbid changes are very marked, but not confined to one region.

(7.) There is, as yet, no evidence to indicate any localization of the intellectual functions of the brain farther than that they belong, without much doubt, to the cortex. When apparently local injuries or disease cause insanity, they probably do so only through a general disturbance of the brain, or through diffuse disease resulting therefrom, and for the most part affecting both hemi-spheres.

(8.) The molecular changes in the cortical ganglionic cells, which give rise to insanity, and their relation to the grosser pathological conditions of the brain just enumerated are still not clearly made out.

Original Articles.

TEN CASES OF LITHOLAPAXY.

BY WILLIAM WARREN GREENE, M. D.,

Professor of Surgery in the Medical School of Maine; Surgeon to the Maine General Hospital.

THE operation for complete removal of calculi from the bladder by crushing and evacuation at one sitting, prolonged, if need be, for several hours, has already been thoroughly brought to the notice of the profession. The instruments have been described, and the different steps of the process carefully defined. The remarkable tolerance of instrumentation of even a diseased bladder, once believed to be rarely exceptional, has proved to be the very general rule, and the facility and safety with which large tubes and other instruments can be passed *per urethram*, for some time known to a few, are now within the knowledge of all surgeons.

Not only has the practicability of thus, at a single trial, removing large stones, even, been demonstrated, but, what is much better, the comparative safety of the operation has been established. So that, among adults, in a large majority of patients afflicted with stone, this method properly takes the place of lithotomy, as less formidable to contemplate and less dangerous to undergo.

The marked improvements in lithotrites and evacuating apparatus, as compared with Clover's, Thompson's and others, and the demonstration of the practical and safe working of the new plan certainly warrants its author in christening it with the very appropriate name of litholapaxy. In perfecting this operation and publishing its details and results, Prof. Henry J. Bigelow has rendered solid service to the profession, and, through its members, to a large class of sufferers.

For it he deserves hearty congratulation and unstinted praise.

Although every one conversant with the current surgical literature is familiar with litholapaxy theoretically, and quite a number of cases have been reported in the journals, yet the statistics of the operation are at present too meagre for satisfactory or accurate conclusions with regard to many points, and the publication of all new cases is very desirable. It is therefore merely to give additional testimony with reference to the new method of dealing with vesical calculus that I offer the following report:—

CASE I. John A., Scotch, aged fifty-two, farmer. Had suffered from the ordinary symptoms of stone for four or five years. Had passed "gravel stones" at different times. Urine alkaline, and contained a large amount of mucus and some blood. The sound revealed a rough stone at the *bas fond* of bladder. Urethra normal. Capacity, as shown by the urethrometer, thirty millimetres.

Lithotomy had been advised one year before, but he shrank from "cutting." He was etherized, and I proceeded to lithotribe and evacuate. The stone was seized quite readily, and proved to be moderately soft. I used No. 29 (Charrière's) evacuating tube, which passed readily after slitting the external meatus. At the end of one hour and fifty minutes the fragments ceased falling into the reservoir, and I could detect none in the bladder. No shock of consequence, and three weeks subsequently the patient reported himself, by letter, as well.

Weight of fragments, 250 grains.

CASE II. J. F. D. Irish, aged sixty-one, laborer. Had suffered from severe cystitis for over two years. Frequent and painful urination, with intermittent stream of small size; urine offensive, alkaline, and cloudy, with pus. Pain in glans penis and testicles frequent, as was retraction of the latter. The sound encountered a firm stricture in the membranous urethra, which admitted only No. 10 bougie, and carried on into the bladder struck a calculus clearly. After divulsing the stricture a 32 tube was passed without difficulty. I now lithotribe and evacuated the stone in two hours and twenty minutes. Twice during the operation the pulse flagged in a marked degree, but promptly responded to hypodermic doses of whisky, and he rallied well after the operation was completed. Recovery rapid and perfect.

Weight of fragments, 347 grains.

CASE III. James L., native, age sixty-seven, jeweler. Had suffered with distinctly marked calculous symptoms for six years, although no one of several examining physicians had ever recognized the stone. Exploration revealed a large, tender prostate, and also a stone behind it. I had great difficulty, however, in finding it, and became finally convinced that it was encapsulated just behind the gland.

I passed a lithotrite, and for several minutes made futile efforts to seize the calculus, and it was not until I introduced the female blade alone, and used it patiently and most carefully as a lever-scoop, at the same time inserting the five fingers into the rectum, that I brought it into the general cavity and was able to grasp and reduce it. A 22 straight tube was first used, then a 27 curved one with the point turned downward, so as to drive the *débris* out of the sac-

ulation. So much did this irregularity of surface retard the complete clearance of fragments from the bladder, that I twice had him turned on the face to secure the aid of gravitation, and, apparently, with good effect.

The entire mass was finally removed at the expiration of two hours and forty-two minutes. This prolonged instrumentation was well borne, and after two moderate doses of brandy he rallied well.

His physician wrote me three days later that he was suffering from severe prostatitis, and this resulted in an abscess in the left lobe of the gland which nearly cost him his life. He survived this peril, however, and has quite steadily improved, until now, six months since the litholapaxy, he is in fair health, and entirely relieved of cystic irritation. Curiously, as fortunately, whether entirely from the suppuration process or this and additional effects of the severe and long-continued pressure of the large instruments, the prostatic enlargement and suffering have disappeared.

Weight of fragments, 658 grains.

CASE IV. Mrs. W. C., native, age thirty-eight, had endured "great agony" in passing water for over three years. The very significant symptoms need not be detailed. She had, at different times, discharged quite a number of calculi, varying in size from a mustard seed to a large pea, several of which I saw. The sound struck a large, rough stone at once.

Under ether I rapidly dilated the already capacious urethra until I could pass my forefinger readily into the bladder and touch the stone.

The bladder was so firmly contracted and its walls were so thick and dense that it was with difficulty I distended it sufficiently to give room for the lithotrite to work. This being accomplished, the crushing was rapidly done, as was also the evacuation readily effected, through a 36 tube, and the operation was completed in thirty-two minutes. When the tube was first inserted, and before I could connect with the bulb, three small but distinct calculi, the size of buck-shot, escaped and fell on the floor. She recovered without an unpleasant symptom. Three days ago, and four months since the operation, Mrs. C. called on me, in excellent health and spirits.

Weight of calculi, 1015 grains.

CASE V. Samuel F. S., Irish, aged seventy-one, blacksmith, had suffered from enlarged prostate for ten years or more, and it was difficult to determine just when the calculoid modification of symptoms obtained. The present suffering was, however, characteristic, and the sound touched the stone readily.

I relieved him by litholapaxy in two hours and twelve minutes, using a curved evacuating tube No. 22, which, on account of the glandular hypertrophy, entered the bladder more readily than the straight instrument. There was considerable shock, but under stimulants he rallied slowly, and in three and a half months has made a good recovery.

Weight of fragments, 189 grains.

CASE VI. H. F. C., native, age seventy-five, merchant, had endured calculoid symptoms for over six years and had often "passed gravel." He was much exhausted by his sufferings, and I approached the operation, after detecting a stone in the bladder, with reluctance, and gave a very guarded prognosis.

A firm stricture existed two inches within the urethra, admitting only a No. 5 bougie, and a long irregular contraction in the membranous portion still further

¹ All the numbers given in this article refer to the French scale of measurement.

complicated the case. A large and irritable prostate added a third not unimportant factor to the extra difficulties. However, he being etherized, I divided the first stricture, dilated the membranous urethra, and, after considerable difficulty, crushed and evacuated the entire calculus through a 27 tube. Time occupied, after treating the strictures, two hours and fifty-seven minutes. Appreciable shock, which promptly yielded to judicious stimulation. On the third day he had a severe and prolonged chill, followed by a temperature of 104°, and complained of much pain in prostatic region. Large doses of quinia with morphia and whisky allayed fever and relieved the pain promptly. On the fifth day another chill, followed by reactive fever of 103° gave warrantable anxiety. But similar treatment controlled the unfavorable symptoms, and he thenceforward entered upon a slow but quite steady convalescence. At present date he is still weak, but able to walk and ride moderately, and seems likely to reach a fair health level for a man of his age. He remains, now two months since operation, free from all symptoms of stone, although he suffers more or less from the enlarged gland.

Weight of fragments, 447 grains.

CASE VII. D. B. R., native, aged seventy-four, clergyman. Four years previous to my first examination he suffered retention from an enlarged prostate and too long holding of his water. So long was it before he was relieved by a competent physician that the bladder lost all contractile power, and has remained perfectly paralyzed ever since, requiring constant resort to the catheter, which he had learned to use himself. Urine was alkaline, very offensive, and heavily loaded with triple phosphates, mucus, and pus. No blood. The sound readily detected stone, and the urethral canal was found of large size.

Under ether he sustained the operation of litholapaxy well. I completed the operation in one hour and fifteen minutes, removing a calculus weighing 425 grains. The symptoms of cystic irritation promptly disappeared, and he has made a good, though, from previous feeble health, slow recovery. The paralysis of muscular coat of bladder remains, necessitating the use of a catheter. He is now, ten weeks since the operation, in fair health.

CASE VIII. G. B., native, aged fifty, carpenter, was operated upon for stone in a Western city four years ago, and after five different sittings the bladder was pronounced cleared. Amount or quality of fragments unknown. Severe cystitis with general fever followed and nearly proved fatal, according to his own account, and he found, as he recovered from the acute attack, the old symptoms returning. I readily detected stone, and he consented to the "new method." A very narrow and elastic stricture $3\frac{1}{4}$ inches within the external meatus required division, which I effected with an Oud's urethrotome, and I then proceeded to crush and evacuate a large stone without difficulty. Time, one hour and six minutes. Weight of fragments, 708 grains. Now, six weeks later, he is well.

CASE IX. S. T. T., Nova Scotian, aged fifty-seven, miner. Had suffered from symptoms of stone for three years, and I readily touched a calculus on exploration with sound. Urethra normal. I performed litholapaxy without difficulty, using No. 32 tubes, both straight and curved, and completed the clearance of the bladder in one hour and thirty-nine minutes. Operation was well borne. He has been entirely relieved, and

now, three weeks afterwards, all mucus and pus has disappeared from the urine, which is normal, and he is rapidly regaining his flesh and strength.

CASE X. This was not a case of litholapaxy, but an attempt and failure, and its main features should go on record.

J. B., Irish, aged sixty-eight, laborer. Had for over two years sustained great and increasing pain and tenderness in hypogastric and perineal regions, with constant vesical tenesmus, and very frequent micturition, the stream, which was of normal size, being often interrupted, and the pain at its maximum at the close of the act.

I first saw him on the 23d ult., and found him very weak, with an unhealthy, cachectic look, suggesting organic disease of kidneys, and in every way presenting an unfavorable aspect. His suffering amounted to agony. The terrible tenesmus was constant, and so little urine was voided at any one time that for this and other reasons not essential to relate I failed to secure a proper sample for analysis. A large proportion of blood and pus told of extensive ulceration of the bladder, which was evidently very much contracted. The urethra was capacious, and on carrying a sound into the bladder I quite readily struck a calculus with a rough surface. He had, so he said, often passed "small gravel stones."

The parts were so tender, and he was so timid with regard to any examination, being constantly under the fear that I would in some way perform some cutting operation clandestinely, that I did not determine the capacity of the bladder before he was etherized; but I warned him of its small size, and of probable firm contraction, with thickened, hardened, and ulcerated walls, and on account of these conditions I suggested lithotomy as a possible necessity, provided clearance of the bladder was undertaken, and indeed as perhaps a desirable procedure for the sake of direct drainage and perfect rest of the organ. He had, however, an insurmountable prejudice against any cutting operation whatever, declaring, although very anxious for litholapaxy or any means of relief but the knife, that he would never, under any circumstances, be cut. On this point he made me commit myself definitely just as he began to inhale ether, and also delegated sworn and trusty friends to see that I was true to my promise.

On the 26th ult., while he was profoundly anesthetized, I sounded, and found the stone, which was distinctly felt by several medical practitioners and students present. But from the first it gave the impression of being firmly fixed at the *bas fond* of the bladder, which impression became a conviction when the finger was introduced per rectum, and distinctly felt the calculus as the sound touched it within the bladder. I could not appreciably move it, nor could I rotate the instrument to any considerable degree. At first I thought of sacculation, but later I became convinced that it was merely grasped in the myriidding coats of the containing cavity. Then proceeding to distend the organ with warm water, I found, to my great regret, that the organ was indistensible. Again and again did we test it, until finally, convinced that, while the membranous urethra was very capacious, and so would hold a larger amount of fluid than the average canal, the bladder proper would not contain an ounce of liquid. Both lithotrite and tubes were repeatedly passed into the bladder with perfect ease, each time feeling the stone distinctly, but with all possible distention I could

not separate the blades of the lithotrite more than three fourths of an inch. I could neither move the stone by any manœuvre nor grasp it, nor could I rotate any curved beak, however short, in the cavity. The stone was evidently firmly held or imbedded in a very much hardened, thickened, and *contracted* bladder.

After conclusive demonstration of the true state of things all attempts at litholapaxy were of course abandoned, and as I was sworn not to lithotomize him, although at this juncture his friends consented, I was obliged to let him awake to his old suffering.

The exploration, etc., caused some but unimportant hemorrhage, and it immediately ceased on desisting from instrumentation. I gave him a hypodermic dose of morphia, — one third gram. I had him put in bed. I found him, two hours later, in considerable pain, and repeated the anodyne. During the night he got thirty drops of deodorized tincture of opium, and got considerable sleep. The urine passed in but small quantity, *guttatim*. Next morning, 27th ult., I saw him at eight o'clock. He was quiet, very pale, but with a fair pulse, and temperature of 100° F. The tenesmus was moderate. I passed a catheter, and drew only about a teaspoonful of urine. He took gruel and beef tea during the night, and also while I was there in the morning. I was called out of town, and on returning at six p. m. learned that he had died an hour before.

The statement was that after my morning visit he gradually sank; not much pain, no hypogastric swelling or tenderness, profuse sweating, entire suppression of urine, ataxic delirium in the middle of the day, followed by coma and death twenty-six hours after the attempt at litholapaxy. No autopsy was obtained.

In this brief sketch of cases I have given only the main features, valuable for the statistician, avoiding any description of the operations in detail, for the reason that the readers of this article are presumed to be already familiar with this matter.

It is proper, however, to make a few statements as supplementary or explanatory. All the patients were thoroughly etherized. None of the cases except the tenth gave any evidence of renal disease. In all but this the urine was previously analyzed and the capacity of the bladder approximately estimated. In each of the nine cases of litholapaxy consent was obtained and arrangements were made for immediate lithotomy in case of failure, from any cause, to complete the litholapaxy. In five out of the nine cases slitting of the external meatus was necessary. It is noticeable that in no case was the operation followed by cystitis or septicæmic fever. In the first six cases I used some one of my familiar lithotrites, employing at different times Cinnale's, Thompson's, Teevan's, and Mercier's. In the seventh, eighth, ninth, and attempted tenth, I used Bigelow's instrument. At first I could not obtain the new lithotrite, as the first lot manufactured had been exhausted, and so with Professor Bigelow's bulb and evacuating tubes I essayed my first operation. I found that the same instruments (lithotrites) that had served me for so many years still worked so well that I did not hurry as much as I otherwise would to obtain the Bigelow instrument. The fact is that in the hands of a skillful surgeon any good lithotrite may do the crushing satisfactorily in litholapaxy. In days gone by I have never been troubled with the retention of fragments within the blades, simply because of exceeding care. I always, after

driving the male blade down with crushing force upon a fragment, and before making any movement that would endanger the mucous tissue, move it back and forth several times to insure clearance of any fragments. Still I like Professor Bigelow's instrument best, and for the reasons that he clearly states in his monograph. But even this lithotrite will sometimes clog or hold fragments unless the surgeon is over careful. This I have proved by repeated trials with the instrument out of the bladder. I have twice experienced some embarrassment from a *piling up* of the fine powder, wet, as it is in the bladder, so that by repeated movements the thoroughly pulverized calculeoid material not only fills up the concavity of the female blade even to its edges, but goes on building up the width of the blades, until in two instances the edges of the blades were thus separated, in one case one fourth and in another one third of an inch, by this solid *mortar*. So firm was it that all the force of one hand rotating the ball only made it more dense, without molding it out through the heel slot at all. One of these cases happened in the Maine General Hospital, and was witnessed by the superintendent, Dr. Hunt, by several members of the hospital staff, and several other physicians, among whom were Drs. Small, Pendleton, and Dudley, of this city. It will readily be seen, as was demonstrated in this case, and I have repeatedly tested the matter since with similar results, that in such a condition, the blades being separated by a substance that, for the moment, in its resistance, may be compared to leather, ragged fragments or spiculae may be caught, and without extreme care do harm. This clogging or filling will not often occur, and probably only in the softer and more porous varieties of stone that are so finely powdered under the powerful crushing and grinding process, and that retain so much moisture. But that it has happened more than once with the exercise of extreme care shows that great caution is to be exercised with any instrument. In the two cases named the urethra was none too large to allow safe withdrawal of the clogged blades. Professor Bigelow, in his monograph, has not overstated the difficulties, constant or occasional, pertaining to this operation, or the accuracy of knowledge and perfection of skill necessary to the best performance of it. No instrument, however excellent, can compensate for lack of these qualities on the part of the surgeon. The objection has been made to the Bigelow lithotrite that it is unnecessarily large and heavy, and I cannot help sharing such a feeling. It is a fault, if fault it be, on the right side, and that it is *strong* all admit. But it seems to me that a lighter instrument, with the same style of teeth and a large accurately fitting spur, like the one in the Mercier instrument, may answer every purpose. I am having such a one made for trial.

In each of the first nine cases reported the bladder was completely emptied at the first operation, and the patients all remain free from any symptoms of calculus up to date. In no case has incontinence or any other unpleasant consequence followed the use of the large tubes.

In no instance was there but the most trifling hemorrhage, — the tenth case gave much more than all the rest, — and in four cases not a drop of blood was seen from first to last, and one of these was the case in the Maine General Hospital, in which the peculiar filling up of the female blade, already alluded to, occurred.

PORTLAND, June 30, 1880.

RECENT PROGRESS IN THE TREATMENT OF DISEASES OF CHILDREN.

BY D. H. HAYDEN, M. D.

CONSTIPATION IN CHILDREN.

DR. J. LEWIS SMITH contributes a paper on this subject in the January number of the *American Journal of Obstetrics and Diseases of Women and Children*. After considering the various kinds of so-called symptomatic and idiopathic constipation and their causes, the author refers to a peculiar class of cases where there seems to be a constitutional tendency to constipation,—a tendency quite independent of the usual conditions (obstruction, disease, sluggish muscular contractility, improper diet), and coexisting with perfect health, where defecation takes place every second, third, or even fourth day, unless produced by measures employed. These cases are the exception, however, and a large majority of children require a daily evacuation of the bowels to do well.

In the treatment of this complaint the author dwells largely on the idiopathic form. The importance of establishing a daily habit at the same hour is insisted upon.

Chicken tea and to a certain extent beef and mutton tea are laxative, and when made plainly are useful in connection with other articles. The various kinds of berries and fruits have also a decidedly stimulating effect on the intestinal surface, and aid in removing constipation. The apple scraped or baked, or apple sauce, may be given to quite young children; and for those that are older currants, cherries, and, among dried fruits, prunes and figs are laxative. Unfermented cider in its season, which has been found so useful for adults, may also be given to children in moderate quantity, at least to those who have reached the age of two or three years.

It is generally believed that the small size of the salivary glands in the first months of infancy prevents the conversion of starch into glucose, except in very inadequate quantity. It appears, however, highly probable that there is an epithelial ferment which converts starch into sugar,¹ so that young infants can digest starchy food. Nevertheless, the theory that the infantile digestion up to a certain age is incompetent to effect the change led to the preparation of food for infants in which the change of starch into glucose was accomplished by a chemical process. Now glucose, administered in considerable quantity, is laxative, and Dr. Smith has found it necessary to give it sparingly or not at all during the hot months, when infants are so prone to diarrhoea. This laxative effect renders the glucose preparations of the shops very useful in the treatment of habitual constipation of infants, whether we employ the "maltose" or "granulated sugar of malt," or the preparations of Liebig's food. Of four constipated infants in the New York Infant Asylum to whom Horlick's "sugar of malt" was administered, three were relieved. Any of the glucose preparations can be given quite freely to a constipated infant, without impairing the digestive function or producing other ill effects, so long as no more than the normal evacuations follow. Dr. Smith considers them among the best and safest of the foods for the relief of constipation in infants; but glucose or grape sugar is only

feebly laxative, probably not more than cane sugar. The laxative effect of oatmeal gruel for nursing infants is well known. Bread or pudding from coarsely ground or unbolted flour or meal and vegetables which contain saline and fibrous substances have a stimulating and laxative effect on the surface of the intestines, and therefore are useful for constipated children of the age of two or three years and upward. There can be no doubt that the free use of water in the ingesta materially aids in relieving costiveness; and it is probable that the laxative effects of the broths, gruels, fruits, and mineral waters are partly due to the amount of water which they contain. A liberal quantity of water has doubtless a laxative effect in children, and its judicious use is proper for them. Frequent kneading of the abdomen is an important aid to overcoming constipation, and the author relates a case in which obstinate constipation occurring in a child of three years, from peritoneal bands and adhesions, was to a great extent corrected by friction over the abdomen, for three or four minutes at a time, with cod-liver oil three or four times daily. The manipulation probably did the good, and not the oil; but the use of one of the oils for innunction renders the kneading less painful, and insures its more thorough performance by the nurse.

Cold-water bathing, the sudden application of a cloth wrung out of cold water to the abdomen, and in certain obstinate cases even the douche may be used to stimulate the muscular coat of the intestines and the abdominal muscles to a greater activity.

For temporary constipation and for many cases that are habitual, enemata should be employed. The belief that the frequent use of warm clysters produces a relaxing effect is probably correct, so that if it is necessary to employ clysters often in consequence of the torpid state of the intestines, cool water is preferable. For infants a clyster of one or two ounces generally suffices. In certain long-continued aggravated cases the frequent injection of a large quantity of tepid water is indispensable, and perhaps in extreme cases the dilatation of the sphincter ani and the introduction of the speculum may be desirable. Suppositories may be sometimes usefully employed in place of enemata. Cocoa-nut butter, molasses candy, or soap cut in shape of a pencil may be used for this purpose. Dr. Nagel speaks highly of a suppository of brown gelatine. This is steeped in water for twelve hours, and having been thus softened is introduced into the rectum, and an evacuation obtained. The doctor attributes the laxative effect to the hygroscopic action of the gelatine. Those who have employed the galvanic current to relieve constipation speak favorably of its use.

The ordinary purgatives should not be given habitually to relieve a constipated habit. One or two doses for present relief, both in habitual or temporary constipation, are sometimes required, provided that an injection is for any reason not preferred. For this purpose castor-oil or a few grains of calomel mixed with syrup of rhubarb, the syrup of senna, or the compound licorice powder of the German pharmacopœia may be administered with advantage. But for habitual constipation the ordinary purgative medicines should be discarded.

Belladonna, so highly recommended by Trousseau, has not seemed to the author to possess any decided purgative effect; and from its known physiological properties there is no evidence of its increasing the intestinal secretions or the action of the muscular fibres,

¹ See Chemical Phenomena of Digestion, by Charles Richet. *Revue des Sciences médicales*, October, 1878.

one or the other of which results we expect from the use of an agent which is really laxative. Nux vomica and strychnia, its active principle, are, on the other hand, valuable adjuncts to purgative mixtures.

Physicians are not unfrequently at a loss what to prescribe for the habitual constipation of nursing infants, which is by no means infrequent. But recollecting that the colostrum is more laxative than ordinary milk, and that it differs from it in containing more sugar, salts (largely phosphates), and butter, we have a hint as to what is probably lacking in milk, and what therefore should be supplied. Dr. Smith is in the habit of giving these ingredients in the following formula, and usually with the desired laxative effect:—

Ry Ol. morrhue	two parts.
Aq. calcis,	
Syr. calcis lactophosphat.	aa one part. M.

One quarter, one third, or one half teaspoonful may be given with each nursing, or a larger quantity, as a teaspoonful or more, three times daily. Breast milk with this addition becomes more nearly like colostrum in its laxative properties, while it does not possess those properties of colostrum which disturb the digestive process. The author knows of no agent of a medicinal nature which meets the indication so well as this for infantile constipation. He has found it necessary, however, in his practice in not a few instances to rely mainly on simple enemata for the relief of the constipated habit till the infants reached the age where a mixed diet was proper.

For the habitual constipation of older children, when it is desirable to employ active purgatives of the pharmacopœia, since the portion of intestine which is chiefly implicated is the colon, such should be selected as produce little or no irritation of the long tract of the small intestines, while they simulate the function of the colon. The aloetic preparations are preferable for this purpose, as the tincture of aloes and myrrh, or the simple tincture of aloes, which may be given in doses of a part of a teaspoonful in a convenient syrup, as the elixir adjuvans of Caswell and Hazard, or in coffee or milk.

THE USE AND VALUE OF SALICYLATE OF SODA IN CERTAIN FEBRILE DISEASES OF CHILDHOOD.¹

Whilst Riegel, Becker, and Brazina speak in high terms of salicylate of soda as an antipyretic remedy in typhoid fever, Riess regarding the same as a specific in this disease, Filatow expresses exactly opposite views, declaring that, with the exception of lowering the temperature, all the other symptoms remain unchanged or are more developed, the pulse becoming slower and at the same time weaker, and that of thirty cases of children sick with typhoid fever two died. Filatow arrives at the conclusion that salicylate of soda has no effect at all in typhoid fever, and can therefore not be recommended in this disease.

On account of this diversity of opinion the writer instituted a series of experiments, the observations extending to over two hundred cases.

Salicylate of soda was administered during three years, and especially cases were selected of febrile diseases characterized by a constant and typical fever course. Prominent among such diseases belongs typhoid fever, which it is well known runs a milder course

in childhood, and in which disease the experiments of Riess have been particularly conducted, with beneficial results. Moreover, it was used in diphtheritis, inflammation of the joints, and malarial fever.

During these three years there were one hundred and twenty-eight cases of typhoid fever, of which ninety-two were treated with salicylate of soda, thirty-two partly with quinine and partly with mineral acids. The latter circumstance was due to the fact that the disease was not recognized in its early stages on account of its irregular appearance, or on account of complications, or because the children came first into the hospital after the disease had run its course, and consequently needed nothing but rest. The daily dose of the salicylate of soda was two to four grammes (one-half to one drachm); to smaller children given in solution in teaspoonful to dessertspoonful doses; to older children this amount was given divided into ten powders, of which one was taken every hour in wafers. Immediately afterwards the children were given water to drink.

The author directed his attention principally to the course of the fever, and for this purpose the temperature was taken night and day every two hours so long as the temperature continued to rise after its fall; and it was thus easy to determine in what time and for how long a time a certain quantity of the remedy was able to keep down the fever.

The beginning and duration of the fall in temperature was very various. One time this took place half an hour after administering the remedy; a second time one hour afterwards; in a third case, where the temperature rose to 105.8° F., not until four hours. The fall was generally one to two degrees, often down to the normal. The remission varied in length on an average ten to fifteen hours; then the temperature began again to ascend, and gradually to reach its former height. In a few obstinate cases, after the first three grammes, there was no, or only a very little, fall in the temperature observed; and it was only after this dose was repeated the second or third time that the working was observed. There was generally found a large fall in temperature when large doses were given in rapid succession, whilst the same effect was not produced once where the same doses were given at long intervals. In addition to the fall in temperature other effects were noticed after administering salicylate of soda. In a small number of the patients there appeared, especially on the face and thorax, a slight transpiration, which lasted fifteen to thirty minutes, the skin then becoming dry again. In other cases, — and these formed the majority — there was no sweating at all. With the youngest children the author was often able after large doses to notice a certain depressed and languid condition. In no case was there any complaint made of noises in the ears, deafness, headache, or vertigo, as is the rule with quinine. In a few cases where the remedy was used for a long time there was nausea, and older children complained of a tickling in the throat and pain in the stomach. The symptoms, however, disappeared rapidly as soon as the remedy was left off for a short time. There was no noticeable effect produced upon the pulse, this becoming slower in proportion as the temperature fell. A marked weakness of the pulse, as described by Filatow, the author never met with. Salicylate of soda seems to work on the bowels; and in several cases where there was a diarrhœa this ceased with the use of this remedy. A shortening of the typhoid fever, however, was not noticed in a single case, so that salicylate

¹ Ign. Weiss, Emeritus Assistant in the Clinique of Professor Bokai, in the Budapest Children's Hospital. Allgemeine Medicinische Central-Zeitung, April 7, 1880, No. 28.

of soda cannot be regarded as a specific in this disease, such as quinine is in intermittent fever; but as the high fever, which is always present in typhoid fever, and threatens to exhaust the patient, is materially and permanently kept down by this remedy, in this way a part of the danger is averted.

In addition to typhoid fever the author has employed salicylate of soda in cases of diphtheria, acute inflammation of the joints, and intermittent fever.

The effect upon the temperature in diphtheria was in no way so striking as in typhoid fever, nor was there any effect produced upon the course of the disease by this remedy.

In acute articular inflammations there were seen about the same changes as in typhoid fever; moreover the pain was relieved.

As an example the author relates the case of a young girl, ten years old, who was attacked with acute articular rheumatism three weeks after a scarlet fever. The pains were so intense that the patient groaned and sobbed continuously day and night. After the first three grammes (forty-five grains) of salicylate of soda the pains and fever both yielded in a very short time. The temperature fell from 104.3° F. to 101.1° F.

In intermittent fever a paroxysm was prevented only when the remedy was given immediately before the paroxysm was expected. An effect was noticed only on the day of the fever, and when the remedy was not given on the fever days it always returned at the regular time. Quinine has this great advantage in malarial fever, that it has the power to cut short the disease completely, whilst salicylate of soda is only effectual to cut short the paroxysm when given just before it is expected. From the fever curve of a case reported it is seen that the paroxysm returned every afternoon at the same hour; the high temperature lasted three hours, then sank gradually, and the child was free until the next day. Immediately before the expected attack three grammes of salicylate of soda were given, and there was no paroxysm. On the two following days, when the remedy was not used, there was, in the afternoon, a considerable rise of temperature. On the third day eighty centigrammes of quinine (twelve grains) were given, and the paroxysms did not return.

The author sums up the result of his observations in the following conclusions:—

(1.) Salicylate of soda is a powerful antipyretic remedy in the typhoid fever of children, which, whilst it does not shorten the course of the disease, renders it much milder.

(2.) The results with this remedy in typhoid fever are better than have hitherto been obtained by quinine, cold-water baths, cold wrappings, and the various mineral acids.

(3.) The beneficial effect can only be obtained when large doses are given at short intervals, and the author has never observed any ill effects following its use.

(4.) In diphtheritis salicylate of soda has no influence upon the course of the disease.

(5.) In acute articular rheumatism the effect both upon the fever and upon the pain is a remarkably favorable and quick one.

(6.) In intermittent fever salicylate of soda is only of service when given immediately before the expected attack. As quick as the remedy is left off the paroxysms return.

TWO CASES OF POISONING BY MORPHINE AND OPIUM RESPECTIVELY IN INFANTS.¹

Wertheimer² relates a case of poisoning by one centigramme (one sixth grain) of morphine in an infant fourteen days old. For an hour and a half after the administration of the above dose the child was cyanotic, completely comatose, and pulseless, the heart's beat being weak and intermittent. The extreme contraction of the pupils led to an accurate diagnosis of the cause of the child's condition, which had previously not been known. The employment of artificial respiration by a rhythmical compression of the thoracic walls continued for a long time, combined with the use of black coffee and of liquor ammoniæ anisatus, led to recovery.

In a case reported at the meeting of the Academy of Medicine, held February 17th of this year, by Le Roy de Mirecourt, and observed by Nicolas and Demony, a child three weeks old took by mistake a teaspoonful of Sydenham's laudanum (vinum opii). The first symptoms of poisoning made their appearance two hours afterwards, and consisted of a deep somnolence, which was interrupted by attacks of convulsions. After such an attack the weakness would be so great that at times the heart ceased to beat. Here, also, artificial respiration was resorted to, and especially put in operation during the convulsive paroxysms. To the perseverance in these measures must be attributed the fact that eight hours after the appearance of the first symptoms of poisoning the somnolence seemed to diminish a little, and the infant's condition gradually advanced towards recovery. On the following day there were violent reactionary symptoms. There was not complete recovery until the fourth day. Micturition took place for the first time twelve hours after the beginning of the symptoms.

Reports of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

THE last stated meeting of the season was held on Monday, June 28th, and on this occasion Prof. John C. Dalton, of the College of Physicians and Surgeons, gave a demonstration of

A READY METHOD OF MAKING BRAIN SECTIONS FOR POST-MORTEM EXAMINATIONS.

The apparatus employed consisted of a wooden frame-work having a deep slit on each side, by means of which a long knife could be used for making thin sections of the brain, and provided with a false glass bottom and a transverse glass plate, against which the brain was to be pressed. By keeping the brain pressed against this glass plate with one hand, while the cutting was done with the other, the whole organ could be divided into even sections of eight millimetres in thickness. In order that the sections might be made with greater facility and smoothness, a vessel containing a lubricating fluid consisting of glycerine and ammonia, and provided with a rubber tube and stop-cock, was suspended just over the space for the knife; while the knife itself was soaped before being used. The only point requiring any special care or knack was that the

¹ Berliner klinische Wochenschrift, April 19, 1880.

² Deutsches Archiv für klinische Medicin, Bd. xxiv, Heft 3.

brain should always be pressed evenly against the glass plate, in order that the sections should be symmetrical on the two sides; and Dr. Dalton had found that this even pressure could be better secured by covering the convex surface of the brain with a layer of cotton-wool than if it were grasped simply by the hand. In order that the appearances observed in the various sections thus made might be permanently preserved, a convenient arrangement was exhibited by means of which accurate tracings of all the outlines could be made with a pencil upon ground-glass; and if a number of such tracings were required they could be multiplied indefinitely by the aid of photography.

At the conclusion of Professor Dalton's demonstration Dr. J. G. Kiernan read a paper on

THE PSYCHOSES OF THE SECONDARY FEVER OF SYPHILIS.

This subject, he said, had attracted but little attention on the part of the profession, and therefore he thought that some account of four cases which had come under his observation might prove of interest. The first patient was a tailor, a man of criminal antecedents and criminal tendencies, who was of intemperate habits and whose sister was a prostitute. Four weeks before his admission to the institution with which Dr. Kiernan was connected the initial lesion of syphilis had made its appearance, and one week before it was noticed that he had become very taciturn and morose. Three days before admission, fever, with an eruption, set in, and he became the subject of hallucinations, the most common of which was that some one was trying to shoot him. When he was admitted he was in a state of great terror and agitation, and it was found that there was a well-marked syphilitic roseola upon his person. He was treated principally with quinia internally and mercurial inunction externally, and during the next three weeks his hallucinations gradually became less and less frequent. He remained a month longer in the institution; when all symptoms both of insanity and syphilis had disappeared. He was seen a year and a half afterward, and up to that time had continued in good health.

The second case was of a very similar character. Twenty-five days before admission the initial lesion of syphilis had appeared, and it was one day while looking at the animals in the Central Park menagerie that the patient began to suffer from hallucinations. He there evinced great terror lest he should be torn to pieces by the wild beasts, and these fears continued up to the time of his admission. Quinia, chloral, and other remedies were administered, and the fourth day after he was admitted a roseolous eruption made its appearance. At the same time he was troubled with many hallucinations and delusions, which continued for three weeks, when the eruption disappeared under treatment. As in the preceding case, the patient made a perfectly good recovery.

In the third case there was the history of hereditary insanity. Finding that there had been present the initial lesion of syphilis, Dr. Kiernan put the patient at once under specific treatment by wrapping him in a sheet smeared with mercurial ointment, and the third day after admission a roseola broke out. Nine days afterward this was fading, and the hallucinations, which resembled those seen in the other instances, began to disappear. In this case the patient had previously been in an insane asylum in Massachusetts for a year.

The fourth patient was a man seventy-five years of age, and a mason by occupation. He also had been previously insane, and one peculiarity of his case was that he was constantly looking for individuals who had long been dead. His memory of objects to which he had been accustomed long ago was quite good, while in regard to recent ones it was very defective. He was quite oblivious, too, of the fact that he had been married, although he had children who were past middle age. He imagined that spiders were crawling over him, and was at times very violent. It was found that he had ulcers upon his penis, and two weeks after admission a roseola came out. The treatment consisted of quinia, hyoscyamine, and chloral, with wrapping in a sheet smeared with mercurial ointment.

It was thus seen that two of the cases were complicated with chronic insanity, while in the other two this was not the case. From a consideration of the above cases a number of interesting inquiries naturally arose:—

(1.) Is the insanity due to the syphilis? The writer believed that it was.

(2.) Is there anything peculiar about this insanity dependent upon the presence of syphilis? He was convinced that the delirium noticed was quite analogous to that produced by alcohol and other similar agents.

(3.) What changes are to be found post mortem? The answer to this was only conjectural; but he thought that in all probability none would be found.

(4.) What is the character of the fever present? The fever he believed to be very much like that produced by alcohol and other such agents.

(5.) What are the predisposing causes? Judging from the above cases, hereditary tendency had much to do with their causation.

(6.) What are the best means of treatment? Wrapping the patient in a sheet smeared with mercurial ointment, in connection with quinia and such agents as the nervous condition seemed to indicate, had proved of the greatest service.

(7.) Should the patient be sent to an asylum or not? This would depend to a great extent on the character of the institution and its medical officers. Undoubtedly such patients could be attended to better in a well-regulated asylum, presided over by a superintendent of ability and skill, than at their own homes.

ANNUAL REPORT OF MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY TO THE MASSACHUSETTS MEDICAL SOCIETY.

BY D. M. EDGERLY, M. D.

In April a circular was addressed to the members of the Middlesex South District Medical Society, requesting each to state any facts in his possession which would show the condition of public health in his circuit; also to report if there had been anything unusual in the character or amount of disease that has prevailed. Such a call being a new thing, and coming rather late in the season, many had not prepared themselves to respond in any but the most general way. On the whole the response was as satisfactory as could be expected.

A very large number call attention to the unusual prevalence of bronchitis, tonsillitis, and influenza of severe type. The onset of the attack has usually been

sudden, attended with high fever, rapid, full pulse, severe headache, and pain in the back and limbs. These symptoms have generally yielded readily to treatment, but the coryza, sore throat, and cough which resulted have been severe and obstinate.

Almost all cases have been followed by marked debility, and sometimes by actual prostration, attended in some cases by irritability of the stomach and stranguency, and often by troublesome and intractable facial and intercostal neuralgia.

From the report of Dr. Hosmer, the following extracts may be of interest. He says,—

"For the first time in my life I have seen the disease [diphtheria] relapse. A little girl who was recovering from the disease in the pharyngeal form, with slight dysphonia and some ringing cough, suddenly became worse, and there appeared in the fauces a deposit of false membrane, much more extensive and thicker than the original one, and at the same time the laryngeal symptoms returned with increased severity. The patient recovered.

"Another little girl, whose infant sister had died of the disease, and who was almost the last of the family to suffer from it, was taken ill upon a Monday morning, the disease being extremely light and confined to the pharynx. In forty-eight hours she was decidedly better, and in one week was supposed to be well. On the Wednesday of that week, nine days from the date of the first attack, there was marked dysphonia, which continued for thirty-six hours, without constitutional symptoms. From that time we had to deal with a well-marked case of laryngeal diphtheria, in which there was a sudden and decided change for the better on the fifth day, and which furnished the first instance of recovery that my experience includes."

"In some instances the diphtheritic exudation was scarcely more than a point, yet its true character was established both by the external relations of the case and by the prostration which attended and followed. The only sequel of the disease was paralysis, in some cases impairing vision by interfering with the accommodation; in some, by its effect upon the soft palate, rendering articulation and deglutition difficult, disagreeable, and unnatural, and in others inducing marked anesthesia of the limbs, especially the lower ones, impeding locomotion to a serious extent. One fact which has struck me with especial force is the marked and surprising suddenness with which muscular power returns to those who are suffering with post-diphtheritic paralysis, so that a convalescence which, covering a period of weeks, has been slow and tedious is completed in the most abrupt manner. This phenomenon of what almost deserves to be called instantaneous improvement I have seen only in cases in which the extremities were the seat of the paralysis.

Recurrence is so interesting a phenomenon that it is entitled to particular notice. It is well illustrated by the following facts: In a family which has been using well water of dangerous quality, there were two children who had the disease a second time, having already passed through it in the spring of 1878, in another part of the State. A third child, who escaped at that time, had the disease in January last, and again in April. The patient was described by her mother as a 'croupy' subject, and I was called to a supposed case of croup. But on the fourth day the appearance of a pseudo-membranous deposit on the tonsils, the engorgement of the cervical glands, and a peculiar fetor, which

is associated only with one disease, established the diagnosis of diphtheria. The child did perfectly well, and made a rapid convalescence."

The following extracts are from the annual address of Dr. J. T. G. Nichols, entitled Cases in Obstetric Practice:—

A CASE OF CONCEALED ACCIDENTAL HÆMORRHAGE.

Mrs. L., thirty-eight years old, at term, sixth pregnancy. Two weeks before had an attack of vomiting, apparently from indigestion, lasting twenty-four hours. For several hours there was a dark-colored discharge from the vagina. At four A. M., December 4th, she was roused from sleep by a profuse gush of blood from the vagina. The bleeding had stopped when I saw her; there was no pain; the os was closed, and no presentation could be made out by digital examination. Palpation showed that the child lay across the axis of the uterus. The fetal heart could not be heard; the placental souffle was most distinct near the fundus. Six hours later slight pains came on. At two P. M., six hours after the bleeding, the membranes burst, and an unusually large quantity of liquor amnii was discharged. The pains gradually grew stronger, and at seven P. M. a profuse flooding began. I saw her in a short time; the hæmorrhage was still going on. She was blanched, faint, restless, half unconscious, skin cold and wet, the pulse nearly imperceptible at the wrist. The os would barely admit a single finger, and was very rigid. The vagina was at once thoroughly plugged with sponge, and the treatment directed to restoring the patient from the dangerous prostration which had followed the loss of blood. There was no more hæmorrhage, but for many hours the result was very doubtful. During the next day reaction came on. The pains, which been suspended for hours, returned, and at seven P. M., twenty-four hours after the last hæmorrhage, the feet expelled the plug, and a dead child was soon born. The placenta was expelled without unusual hæmorrhage. On the edge of the after-birth was an ecchymosed, ragged spot, not larger than a silver dollar. The patient suffered from anæmia for many months, but at last recovered fully. She has not been pregnant since. This case will illustrate very well the wisdom of conservative practice. An early attempt to deliver the child, would, I think, have turned the scale against the patient. Nor do I see that anything would have been gained by the attempt to dilate the os by Barnes's bags. As soon as the patient rallied from the immediate effects of the loss of blood, labor went on naturally. Contrary to the usual rule, the hæmorrhage occurred after the discharge of the liquor amnii. The gradual change from a transverse to a longitudinal position was well shown. This change, usually from an abnormal to a normal position, seems to be by no means uncommon in the later months of pregnancy. One writer, Valenta, quoted by Playfair, found that in one thousand cases, carefully examined during the later period of gestation, a marked change in the position of the fetus occurred in forty-two per cent."

THREE CASES OF PLACENTA PREVIA.

"CASE I. Mrs. F., sixth pregnancy. During the last months of gestation there were three slight attacks of hæmorrhage. Labor began at term, with profuse bleeding. The placenta was partially over the os, the head presenting. Rupture of the membranes and plugging

the vagina controlled the bleeding. Labor was rapid, the child being born, alive, in an hour. The mother did well.

"CASE II. Mrs. H., fourth pregnancy. Quite a smart hæmorrhage occurred at the end of the third month. There were several slight attacks of bleeding during the last two months. Labor began at term, with profuse hæmorrhage. The placenta was partly over the os, which was so far dilated that version was soon accomplished. Mother and child did well.

"CASE III. Mrs. M., first pregnancy. Labor began with brisk hæmorrhage at term. There had been a slight loss of blood the day before. The bleeding had been going on three hours when I saw the patient, and she was in a bad condition. The placenta was entirely over the os, which was dilatable and admitted three fingers. She was etherized, and the hand carried to the edge of the placenta and the bag of waters ruptured. The feet presented and were at once brought down, and the child soon delivered, dead. The uterus did not contract well, and a good deal of blood was lost after the placenta was removed. Ice was used, and the hand carried into the uterus and kept there until contraction was secured. The woman died of peritonitis six days after delivery.

"In this case I believe the mistake of too rapid delivery was made. Had I waited, after bringing down the feet, until the effects of ether had passed off and the woman had rallied in some degree from the effects of the loss of blood, the uterus might have escaped the rough handling which was necessary to secure contraction, and possibly the result would have been different.

"In these cases, as in some other emergencies of practice, it requires greater resolution to wait than to act."

Recent Literature.

Pharmacology and Therapeutics; or, Medicine Past and Present. By T. LAUDER BRUNTON, M. D. London: Macmillan & Co. 1880.

The scope of a course of lectures limits an extended discussion of this broad subject; and the reader of these Goulstonian lectures will be disappointed if he expects a detailed treatise on the history of medicine in the past and present, and to be enabled to measure by this standard its progressive march. An enumeration of the heads embraced in these two hundred pages will show more fully than a detailed criticism the vast amount of material which is at hand for a more complete disquisition:—

The history of medicine past and present, and its progress. The rational and scientific study of medicine, including an historical sketch of the progress of anatomy, physiology, and pathology. The history of pharmacology and its relations with therapeutics. The illustrations of the results of pharmacological methods, and the application of pharmacology to clinical medicine. Next a very brief illustration of the scientific application of certain therapeutical remedies in a limited number of diseases, the object of respiration, the effect of anæmia and the action of iron, and a very succinct account of digestion, with the action of digestive ferments and local stimuli upon the primæ viæ.

Here are materials for an enormous cyclopædia, and

it is hardly reasonable to expect that the student of medicine could in these few pages learn much more than a synopsis. The advanced physiologist and well-informed physician will read with appreciation this *mutum in parvo*, but it is modestly suggested that many topics and facts omitted by Dr. Brunton will frequently recur to the highly cultivated physician, so that if he will read between the lines he will enjoy this outline; and yet the less cultivated physician will regret that Dr. Brunton did not use these lectures, which show a vast resource of information, for the basis of a more exhaustive treatise, so that the subject could be appreciated by a larger class of readers and students. What he has here given us is good, but we wish there were ten times as much more, for we are reminded of a finished professor of mathematics evolving a problem, the steps of which are so wide apart that our feeble steps cannot climb with him.

Atlas of Histology. By E. KLEIN, M. D., and E. NOBLE SMITH, L. R. C. P. Part XI. Philadelphia: J. B. Lippincott & Co. London: Smith, Elder & Co. 1880.

The part before us is one of uncommon importance. It treats of the urinary and generative organs. The kidney is always an interesting organ, owing to the ease with which its structure is understood up to a certain point, and the difficulty of determining certain questions that lie beyond it. We will venture to say that many who think themselves pretty familiar with the organ will be surprised at the number of segments into which the authors divide the urinary tubule. A good diagram makes it very clear, though we are still rather doubtful if the work of subdivision has not been overdone.

There has been so much writing of late about the development of the spermatozoa and of the ovaries that such accounts as are given in this work will be very welcome to those who have not had opportunities to follow the rather voluminous literature. The plates, as usual, are excellent.

A Guide to the Examination of the Urine. Designed for the Use of Clinical Clerks and Students. By J. WICKHAM LEGG, Fellow of the Royal College of Physicians of London, etc. Fifth edition. Philadelphia: Presley Blakiston. 1880.

This little volume, which is intended to supply the physician and student of medicine with a concise guide to the recognition of the more important characters of the urine, was, when first issued, the best work of this nature in the English language. In noticing the later editions, however, it is impossible to keep out of one's mind the admirable little work of Professor Tyson, of Philadelphia, on the Practical Examination of the Urine, successive editions of which have been favorably noticed in the JOURNAL. The latter, although but little larger, contains all that the former does and much more, and is of much greater value both to the physician and student. By comparison Dr. Legg's work suffers, in being altogether too limited. Whatever use it may have served originally, it certainly does not now supply any requirement of the profession this side of the water.

Medical and Surgical Journal.

THURSDAY, JULY 15, 1880.

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MORTALITY RISING WITH THE THERMOMETER.

THE month of June just past was a very hot and an extremely dry month, as the following comparative mean temperatures and precipitation for the Junes of the last decade, as taken from the weather reports of the Signal Service Station in Boston, will show:—

COMPARATIVE TEMPERATURES.

June, 1871.....	66.2°
" 1872.....	67.6°
" 1873.....	67.2°
" 1874.....	65.8°
" 1875.....	66.5°
" 1876.....	67.6°
" 1877.....	65.2°
" 1878.....	64.2°
" 1879.....	64.2°
" 1880.....	67.7°

COMPARATIVE PRECIPITATION.

June, 1871.....	5.35 inches.
" 1872.....	4.84 "
" 1873.....	0.54 "
" 1874.....	3.94 "
" 1875.....	7.25 "
" 1876.....	1.72 "
" 1877.....	3.21 "
" 1878.....	2.28 "
" 1879.....	5.36 "
" 1880.....	0.75 "

Much the same thing is shown in an even more striking way by the mortality reports from various parts of the country.

	FOR THE WEEK ENDING					Estimated population July, 1879.
	June 5th.	June 12th.	June 19th.	June 26th.	July 3d.	
Total deaths	2494	2503	2801	3579	3835	—
Total deaths under five years	1049	1133	1477	2129	2359	—
Under five years, New York	133	211	356	713	863	1,085,000
Under five years, Brooklyn	76	106	124	229	326	554,460
Under five years, Philadelphia	121	166	155	219	328	901,250
Under five years, Baltimore	110	134	133	141	117	294,796
Under five years, Boston	35	40	43	47	79	365,000
Deaths from diarrhoeal diseases	158	157	738	592	1294	—

The total deaths are for all cities and towns reporting all over the country; the above sea-board cities are selected merely for comparison.

The preceding table might easily be made more full, but it could scarcely be more striking, and requires very little comment. It will be remembered that in the first part of June the temperature was rather moderate as succeeding to some very hot days in May, and the excessive heat of June culminated on the 27th, when the thermometer marked 93° F. All this is clearly exhibited in the table, if we bear in mind the fact that the effects of excessive heat upon the mortality are to be sought after a little delay. One very striking feature of the above table is the enormous proportion of deaths under five years of age furnished by New York and Brooklyn. Of a

total number of deaths under five years reported for the week ending July 3d, that is, 2359, New York alone furnished 863, or more than a third, and New York and Brooklyn together 1189, or almost exactly one half. But if we compare New York with her own record last year, the figures are perhaps even more impressive.

The total number of deaths from all causes in New York, as reported for the weeks ending June 7, 11, 21, 28, 1879, respectively, were 490, 441, 473, 562. In each of the last two weeks of June, 1880, the mortality of those under five in New York far exceeds the total mortality of the corresponding weeks last year in that city. The comparatively small number of deaths of children in Boston is noticeable. For the purpose of general comparison the average weekly total deaths for all towns reporting may be roughly stated at 2300 to 2400, the average total deaths under five years of age at 900 to 1000. The total deaths from diarrhoeal diseases are available for comparing this same factor in the different weeks, but owing to the absence of reports under this head from Philadelphia the value of these figures for comparison is restricted.

It is to be hoped that the almost pestilential effects of the heat in June will rouse the municipal, sanitary, and charitable organizations of our large cities to put forth every effort to anticipate and counteract the trying weeks of August. The temperature may be less elevated, but the human system likewise will have less power of resistance.

THE BOYLSTON PRIZE.

WE would call the attention of our readers to the following announcement of the committee who have in charge this time-honored prize, which for several generations has been competed for by men in this vicinity whose names have since attained a world-wide celebrity. Occasionally a stranger has appeared to carry off the honors, but we believe that this is the first occasion that the prize has gone across the Atlantic. An advertisement which recently appeared in the JOURNAL states that "at the annual meeting, held June 2, 1880, it was voted that a prize of one hundred and fifty dollars be awarded to W. Watson Cheyne, F. R. C. S., Assistant Surgeon of King's College Hospital, London, for a dissertation on Antiseptic Treatment: What are its Essential Details? How are they best carried out in Practical Form? It was also voted that, in view of the great excellence of this dissertation, there be added to the award the Boylston Prize Gold Medal."

The successful competitor is, we understand, one of Professor Lister's assistants, and has probably given, therefore, an authoritative statement of the "antiseptic system" as it is now carried out with all the latest improvements. We shall therefore look forward with much interest to the publication of the paper.

The following are the questions proposed for 1881:

(1.) The Effects of Drugs, during Lactation, on either nurse or nursing.

(II.) Injuries to the Back, without apparent mechanical lesion, in their surgical and medico-legal aspects.

The author of a dissertation, considered worthy of a prize, on either of the subjects proposed for 1881, will be entitled to a premium of three hundred dollars.

The questions proposed for 1882 are:—

(1.) Sewer Gas (the gas found in sewers): What are its Physiological Effects on Animals and Plants? An Experimental Inquiry.

The author of a dissertation on the above subject, considered worthy of a prize, will be entitled to a premium of three hundred dollars.

(II.) The Therapeutic Value of Food, administered against, or beyond, the Patient's Appetite and Inclination.

The author of a dissertation on the above subject, considered worthy of a prize, will be entitled to a premium of two hundred dollars.

NEW METHODS OF TREATING CANCER.

THE monotony of the treatment and prognosis of cancer has been varied of late, for the moment at least, by the suggestion of two new methods of treatment. Professor Clay, of Queen's Hospital, Birmingham, has called the attention of the medical world, in the *London Lancet*, of March 27th, of this year, to his successes with a medicine, Chian turpentine, which he is disposed to regard almost as a specific in the treatment especially of uterine cancer: and Professor Beneke, of Marburg, in the second number of the *Berlin klin. Wochenschrift* for 1880, again solicits a fair trial of his previously suggested dietetic treatment of those afflicted with malignant growths.

Chian turpentine is by no means a new substance, either in commerce or in medicine. It was well known to the ancients, is mentioned by Theophrastus, and is carefully described by Dioscorides in his work on materia medica, written about the year 78 of the Christian era. The writer says of Chian turpentine that "it acts as a diuretic, and is used in wine for diseases of the finger-joints; it is very fit to give in cough and wasting away, and is given either by itself or mixed with honey." He also mentions other diseases in which it was formerly administered. In Greece it is now used for flavoring cordials or mixing with wine. Professor Clay has used Chian turpentine in combination with sulphur, either in the form of pills or of an emulsion; when given in the pill form the proportion was three grains of turpentine to two of sulphur.

Whether the favorable results are to be attributed to the essential oil, to the resin, to the sulphur, or to the combination, the future must disclose.

The amount of the drug which finds its way into the market is very small, the annual product being estimated at only about eight hundred and fifty pounds, of which the largest part is sold by the Jews in Turkey. Even in the days of Dioscorides this oleo-resin was subject to adulteration, and the art has not

been lost, for Professor Clay tells us that scarcely five per cent. of a very large number of samples submitted to him were genuine. Should the hopes entertained in regard to Chian turpentine as a foe to cancer not prove delusive, there will of course immediately be enough for the whole world, as there always is of champagne; and in any case it is probable that the quantity of this drug demanded by the public, and of resin sold as such, will be largely increased for some time to come.

The pretensions of Professor Beneke in behalf of his treatment are somewhat more moderate than those of Professor Clay. He is persuaded that by properly regulated and rigid diet much may be done to control the cellular hyperplasia, especially of the less highly organized forms of cancerous growths, and thus to prolong, at least, the lives of those affected by them. Starting with the assumption that cancer cells are comparatively rich in cholesterolin, leucin, and the alkaline and earthy phosphates, he excludes these as well as the albuminates as much as possible from the diet. Milk is prohibited; bread and meat reduced to the smallest possible quantities, of the latter only two ounces, weighed before cooking, are allowed daily. Fruits and vegetables may be eaten without restrictions. Professor Beneke claims that if his diet table is followed the usual ratio of the nitrogenous to the non-nitrogenous constituents of a mixed diet may be changed from 1.5 to 1.8 or 2. This diet is consistent with life and general health, as shown by actual experience; of how great value it may prove in combating cancer, that experience is as yet too limited to permit of any positive opinion. Eight cases only are reported: of these two were too far advanced for operation, and died shortly; two died after several operations; one, treated simultaneously with Fowler's solution, was operated on without a return; and three were alive when Professor Beneke wrote his article. This of course proves nothing.

The truth is, the affection is so desperate and distressing that the profession, only in a less degree than the public, is ready to lend an ear to any suggestion not too unreasonable, and to allow the hopes to outstrip the reason in saluting any new champion who enters the lists in this conflict.

MEDICAL NOTES.

—From the *Medical Times and Gazette*: At the Berlin Obstetrical Society, Dr. Runge related a case (*Berlin klin. Woch.*, April 26th) in which he had performed Cesarean section, saving a living child, while the mother was in the agonies of death from a cerebral tumor. She died while the ligatures were being applied. Adverting to the general question, he observed that the prognosis of the child's life was more favorable than in the post-mortem section. He admitted, however, that great difficulty often attended determining the indications, especially in diseases which are not absolutely fatal. He thinks, however, when the mother's death can in a short time be cer-

tantly predicted, and delivery by the natural passages does not offer a better prospect, the operation should be proceeded with as soon as the symptoms indicate that the child's life will be lost before that of the mother unless interference promptly takes place. [This line of procedure seemed to meet with the approbation of the members present. We think, however, that in such a case the Italian practice of delivery by the natural passages, which is usually easily effected under these circumstances, is far more humane.]

— Dr. Danillo, after observing that little has been done with reference to the influence of phosphorus-poisoning on the spinal cord, furnishes an account (*St. Petersburg med. Woch.*, May 8th) of the results of a series of experiments which he has performed in Professor Mierzejewski's laboratory, by administering large doses of phosphorus to dogs. He describes at length the appearances of the spinal cord, and thus sums up the results of his investigations: (1.) Large doses of phosphorus given at short intervals induce parenchymatous myelitis, with massing of pigment and extravasations of blood. (2.) Continued for a longer time in smaller doses, it gives rise to myelitis centralis in all its stages. (3.) According to the dose of phosphorus exhibited, myelitis of different degrees of intensity may be produced. (4.) In phosphorus-poisoning a large amount of pigment formation takes place, — a fact which no one has hitherto recorded. (5.) As myelitis can be produced by phosphorus, it becomes highly probable that a portion of the complex nervous symptoms which poisoning by this substance gives rise to may be the clinical expression of the myelitis which has been induced.

— In the *Therapeutical Gazette* Dr. Gundrum reports the particulars of a case of chronic knee-joint disease, in which hyperdistention of the abscess sac with a carbolic-acid solution, strength 1:40 (Callender's method), was followed by symptoms of a most alarming and almost fatal collapse, due to carbolic-acid poisoning, as was clearly proved by the abundant formation of carbolic-acid crystals in a portion of the patient's urine after evaporation.

A great variety of treatment was tried, without success, to produce a reaction. The patient was almost moribund. A profuse, cold, clammy perspiration stood out all over his body. The forehead, face, and extremities were as cold as they could well be. The trunk was very cool. The patient lay with his eyes closed, breathing very slowly and superficially. The pulse was perceptible at the wrist only part of the time. In this extremity, Dr. Gundrum proposed the hypodermic injection of atropine as a last resource, having found it useful in several other cases of shock and collapse. Seven drops of a solution, containing one grain to the ounce, were injected into the upper part of the right arm. This was followed by the happiest results.

In fifteen minutes the perspiration was much less, and the skin felt less cold. In twenty-five minutes the whole surface of the body was dry, and the trunk began to feel warm. In one hour from the injection

the hands and feet, as well as the whole body, were warm. The pupils were slightly dilated, and there was slight redness — a feeble blush — about the cheeks, neck, and back of hands, and the lips and ears were of a pale red color. Entire consciousness rapidly returned, and the patient began to take beef-tea, gruel, etc., etc. He now told those in attendance that he had known nothing since the time the upper abscess had been distended for the third time.

— At the recent Surgical Congress, in Berlin, says the *British Medical Journal*, Herr Gluck reported the results of some observations which he had made on the transplantation of nerves. His experiments had been performed on twelve common fowls, from the sciatic nerves of which he had removed portions three or four centimetres (0.12 to 0.16 inch) long, and substituted for them portions of the sciatic nerves of rabbits. At the end of eleven days, the conducting power of the nerves was found to be restored; irritation of the sciatic nerve above the transplanted portion (the nerve being carefully isolated) producing muscular contraction. The restoration of the conducting power occurred even when the position of the peripheral and central ends of the transplanted nerve were reversed, the latter being fastened by suture to the central end of the divided nerve in the fowl, and *vice versa*. In order that the result may be successful, union of the ends of the nerves by the first intention is indispensable. This, according both to the present and the former researches of Herr Gluck (described in Virchow's *Archiv*, Band 72), is a true regeneration, consisting in the development of ganglionic cells (neuroblasts), which, at the end of three days, have united the axis-cylinders of the central and peripheral portions, while the change of the rows of nerve cells into young nerve fibres sets in between the sixth and the eleventh day. Herr Gluck expressed the hope that his researches might prove to be of considerable practical value. He was able to show animals which, after the nerve-grafting, walked as well as others on which suture of nerves had been practiced long before; while, on the other hand, fowls, from whose sciatic nerves large portions had been simply removed, still remained lame at the end of eight weeks.

— The *Medical Press and Circular* thus crisply tells the story of the recent medico-royal marriage in Germany: "We opine there are few instances on record of members of the medical profession being allied matrimonially with royalty. An instance of this, however, occurred in Germany a few days ago, when Princess Pauline, daughter of the king of Wurttemberg, married, at Calzruhe, Dr. Wilm, a young medical practitioner of Breslau. It appears that the happy man had been attending professionally, in the absence of his superior, the mother of the princess; the latter became enamored of him, and intimated to her parents her determination to marry him. Consent was obtained only on her renunciation of all the privileges, rights, and honors due to members of royal families. During the performance of the marriage ceremony, to which many princes and princesses lent their presence, the officiating minister took upon him-

self the liberty of lecturing the bridegroom upon the honors and privileges his bride had renounced in order to marry one of so lowly a station, a fact he seemed most anxious to impress upon him. Whereupon the princess, with becoming dignity, effectually obliterated the officious parson by boldly declaring before the assembled guests that, far from being ashamed of the alliance, it was the proudest moment of her life to make so noble a man her husband, and that her present and future happiness was much more precious to her than the supposed privileges she had lost."

NEW YORK.

—The extra corps of fifty physicians, which is annually appointed to visit the tenement houses throughout the city, with the special purpose of caring for the health of the children which swarm in them, commenced their service on the first day of July, and will continue on duty for five weeks. The great advantage of such a systematic visitation of the tenement districts is that cases of disease are frequently detected in their incipency, when there is some chance of affording relief, and as the physicians are provided with tickets for the sea-side sanitarium and the excursions of the St. John's Guild Floating Hospital (thus enabling the children to have that change of air and surroundings which they imperatively need), many lives are no doubt saved by the system. The hot weather prevailing during the last week of June caused a very marked increase in the mortality among young children, which was already unusually high for such an early period of the summer, and therefore all the agencies that can possibly be brought to bear in the matter will be needed to prevent the season from being characterized, as a whole, by a large death-rate.

—In order to render the sanitary condition of the city as excellent as possible, the board of health has commenced a special series of meetings for the discussion of sanitary matters with experts in various departments. The first of these was held on the 29th of June, to consider the extent to which corner lots should be occupied by tenement and lodging houses, including French flats, and representatives of the Society of American Engineers and the Society of Sanitary Reform were invited to be present, and express their views. The next meeting was to be for the purpose of discussing the subject of house-plumbing, in regard to which the health authorities are anxious to have certain reforms made.

—On the 29th of June a certain Dr. S. H. Tanner, of Indiana, commenced, under observation in a public hall, what he claims will be a fast of forty days; but whatever may be the result of this absurd attempt, the fairness of it will always be open to question, since the only medical men in attendance are eclectics and other irregular practitioners. At the time of the commencement of the experiment his weight was one hundred and fifty-seven and one half pounds, his body temperature 99° F., and his pulse 88. By the end of the first forty-eight hours, according to the record, he had lost more than four pounds, and by the end of five days he had lost exactly ten pounds. At this

time his pulse was 80 and his temperature normal. By the end of eight days he showed very great nervous irritability, and even ordinary sounds were so annoying to him that talking in the room had to be forbidden. It then seemed altogether probable that if the attempt were persisted in the man would soon suffer from insane delusions, so that it would become the plain duty of those having the affair in charge to bring it at once to an end. On the morning of the eighth day he walked nine times around the hall, and the pulse was thereby increased from 88 to 116, but three minutes after he ceased walking it had fallen to 96. At six in the evening his temperature was 97.4° F., and at this time he had lost eighteen pounds since the beginning. It was also noticed that there was extreme emaciation of the face and considerable contraction of the pupils, indicating increasing cerebral anæmia.

—The secretary of war has approved the request of the surgeon-general of the Marine Hospital service for the loan of a large hospital tent for use on Bedloe's Island. There are more patients in the hospital building there than can be accommodated, so that the hospital tent is an absolute necessity, and it will be put up in a few days. The Marine Hospital steamer, recently launched at Philadelphia, will be commissioned for service in New York harbor.

—The first recorded birth of a Japanese child in this city was reported to the bureau of vital statistics not long since. The parents are both natives of Nagasaki, Japan, where they were married, and they have been in this country about two years. The happy event was celebrated with festivities, which lasted for three days, when, in accordance with custom, it became necessary to give the infant a name. The manner in which this was done is thus described in one of the daily papers: "It appears that on this subject the parents have little or nothing to say. The Japanese colony assembled in convention at the house of the father, Renzo Yezoye, to perform the important duty. The convention was duly organized and called to order by an excellent but somewhat unpronounceable gentleman, who announced that he was ready to consider propositions having a bearing upon the object in question. The first name suggested was voted down as unfitting, the second as too democratic, and the third as too Christian. A name for the child was not agreed upon the first day, nor the second day, nor the third day, but on the fourth day the opposing factions compromised, and the child was christened (or Japanned, as the case may be) Yasolaro Yezoye. This having been accomplished, the convention adjourned *sine die*."

—Of the National Association for the Protection of the Insane and the Prevention of Insanity, which has just been organized at Cleveland, the following officers are from the State of New York: president, Dr. H. B. Wilbur, superintendent of the Asylum for Idiots at Syracuse; treasurer, Dr. George M. Beard, of New York; members of the council, Drs. Mary Putnam Jacobi and E. C. Seguin, of New York, and Dr. John C. Shaw, of Brooklyn.

Miscellany.

LETTER FROM PHILADELPHIA.

THE DIPLOMA TRAFFIC.

THE prosperity of Philadelphia is so intimately dependent upon its manufactures, for which it has a world-wide reputation, that it is with some concern that we herald the startling fact that an industry which has grown up among us and has existed so long as to be generally regarded as one of our institutions is now threatened with extinction; or at least can in future only be carried on under such restrictions and with such a reduction of income as to be no longer profitable. While the census returns give a most gratifying exhibit of all the other branches of manufacturing, this trade is so seriously crippled by officious and meddling interference as to be at present almost paralyzed,—we refer to the traffic in diplomas. The diploma mills are closed, and are in possession of arbitrary officials of the board of health, while the proprietors are obliged to spend a large part of their time away from their business in hunting up bail to meet the various charges as they are successively brought against them. And yet there are people who say that this is a free country!

In a former communication the announcement was made of the downfall of the Philadelphia University of Medicine and Surgery, under the charge of Dean Miller (now ex-reverend), which was a go-as-you-please institution, with three charters, from which the person paying the money could take his choice, with a license to practice medicine within fifteen minutes of matriculation thrown in. For these unparalleled advantages only a modest charge was made; it is therefore not surprising that quite a number of students, male and female, embraced the opportunity of graduating (?) upon such easy terms; and, since it appears to be the business of no one in particular (nor in general, for that matter) to examine into the qualifications of practicing physicians in Pennsylvania, it is no more surprising that the holders of these diplomas are now engaged in practicing upon a too confiding community. In glancing over the college (!) lists, the names of many prominent peripatetic and advertising doctors are seen; while some are active abortionists, others are temporarily passive, and boarding at the expense of the county in some penal institution. It has been previously noticed by the press that a large number of rascals, indicted in the quarter sessions for criminal malpractice, have diplomas of the now defunct Philadelphia University of Medicine and Surgery.

One of the most thriving of these diploma mills was that known as the Eclectic College, or American University, owned by Dr. Buchanan, who not long since was a porter in an oil-cloth store in this city. A few years ago, being in trouble in connection with the death of a young girl upon whom abortion had been practiced, he left the city and took a tour in Europe for his health, while the court forfeited his bail. He subsequently returned to Philadelphia, where, for the last two years, he has (without further interruption until recently) pursued his business so industriously that when arrested, a few days ago, evidence was discovered in his office of the sale of about three thousand diplomas. This enterprising and interesting individual was apprehended through the efforts of the city editor of the *Public Record*, Mr. John Norris, who also

brought Dean Miller to the bar of justice. Buchanan was first brought before the United States Circuit Court for a violation of the postal laws; and when released on bail he was re-arrested by the local court to answer the old charges. He is now again out on bail, but there are some doubts whether he will remain long enough with us to satisfy any curiosity he may have concerning the possible verdict of a jury. One of the interesting points in this case was the arrest of the so-called faculty of the institution, or at least those who could be found. Among these was Dr. Polk, who reluctantly testified that he delivered lectures at Buchanan's institution last winter.¹

It is a matter of general regret that Dr. Paine, who has been longest engaged in this business, has thus far eluded the clutches of the law; and probably will remain unmolested in his specialties of cancer cured without the knife, consumption cured by ozone inhalations, etc. (which, by the way, must be quite lucrative, if we may judge from the amount of money he spends in advertising). Here is what the report of the legislative investigation committee said about him in 1872:—

"An examination of many witnesses has convinced your committee that the Philadelphia University of Medicine and Surgery, under the management of Dr. William Paine, and the Eclectic Medical College, under the management of Dr. John Buchanan, have for a long time been openly engaged in the sale of diplomas to persons who did not attend even a partial collegiate course, and who, in many instances, were without any medical or scientific attainments whatever.

"It is in evidence that Dr. Paine made an agreement for the sale of diplomas for the consideration of two hundred dollars, conferring the degree of M. D. and LL. D. on a person of whom he knew nothing except the name, and that in pursuance of this arrangement said diplomas were regularly made out and signed. The person named in this instance is said to have been an infant but two years old. It was also proved that Dr. Paine entered into an arrangement with other parties to furnish diplomas for sale. In many instances there was positive proof that he had issued the diplomas of the Philadelphia University of Medicine and Surgery, for a consideration, to persons who had never attended any course of instruction, and to others who had only attended a few lectures in the course, and almost invariably without requiring an examination of the persons so graduated or the writing of a thesis. In a number of cases witnesses testify to having received meritorious degrees in medicine without study, examination, or even payment. An examination of the books of the Philadelphia University of Medicine and Surgery disclosed the fact that many honorary degrees from that institution were disposed of for money, the entries stating specifically the amounts paid for such degrees, and the names of the persons to whom they were sold."

James McShane, the janitor at the college, said he had been offered diplomas, having at one time filled the vacant chairs of three professorships in the institution.

Joseph F. Morong, an herb doctor, received a diploma from Paine's College, although he had never attended a lecture.

The American College of Medicine, which was the

¹ This may be compared, or contrasted, with the ingenious disclaimer upon page 143, last volume.

parent institution of those mentioned above, was incorporated February 26, 1853. Seven years later a supplemental act was passed by the legislature, changing the name to The American College of Medicine in Pennsylvania and the Eclectic Medical College of Philadelphia. It is seen that this is the running title of one institution, and should so appear on all advertisements, announcements, and diplomas, but it suited the purpose of Dr. Paine and his colleagues much better to consider it as a double title, using one or the other according to circumstances. In 1865 an act was passed changing the name again to the Philadelphia University of Medicine and Surgery. Under these three titles this discreditable institution has flourished for fifteen years, openly engaged in the traffic in diplomas. The most difficult thing to understand is the complete indifference manifested by our civil authorities throughout this entire business, until the now famous letter of Minister White and the action of United States Commissioner Eaton compelled them to take some steps in the matter. Now that the *Public Record* has shown us the way, it is seen also that our University of Pennsylvania and Jefferson College, with the aid of the testimony collected by the legislative committee, might have gone into the courts at any time during the last eight years, and have compelled a surrender of the charters under which these diploma mills claimed a legal right for existence. The medical profession has not taken any active measures for two reasons: in the first place, the public have the right to decide what kind of medical attendants they will have, certainly the regular profession has no right to compel them to confine their choice to the graduates of any particular colleges; and, secondly, experience has shown that any steps taken by the profession to protect the public would be misconstrued, and at once inspire the old cry of persecution, and create popular sympathy for the offenders. Moreover, the public is manifestly more deeply interested in this question than physicians are, and it is right and proper that the *exposé* should be made by the public press. Since the closure of Miller's and Buchanan's institutions an electro-pathic college that has been conferring degrees and granting licenses to practice medicine has also been closed by the efforts of the ubiquitous reporter, and several other establishments are threatened with a like fate. The application of a proposed American electro-pathic institute, for the court's approval, of a charter as a medical college, empowered to confer the degree of doctor of medicine, was, last week, refused by Judge Fell, although the offer was made to substitute the words a "degree in electricity" for the "degree in medicine." The agitation of this subject is certainly producing a good effect, and it is barely possible that it may educate our people to such a high standard as to enable us ultimately to have a state board of health. Who can tell?

FAMILY POISONED BY STRAMONIUM.

A family of five persons were poisoned by stramonium in this city a short time since, the stramonium being mistaken for "pick-weed," which is said to be a common article of food in the East, where the people formerly lived. The subjects were all adults, three female and two male, who ate very freely of the weed, which had been boiled as greens for dinner. About half an hour afterwards the ladies complained of ex-

treme thirst and vertigo, with burning sensations in the throat, mouth, and stomach. Subsequently these symptoms were accompanied by partial blindness and difficulty of swallowing. The men were delirious. An active emetic followed by opium relieved the immediate symptoms shortly, but great prostration remained for several days. The sickness was not attributed to the greens until the doctor inquired into the subject.

CHOLERA INFANTUM.

The oppressively hot weather of the last few days has greatly increased the mortality among young children, and a large number of cases of cholera infantum have occurred. Associated with this is the similar condition among adults of cholera morbus, coming on very often without any known error in diet or other assignable cause, beyond the sudden summer heat. This would give some support to the view of an identity in pathological characters between true cholera infantum and cholera morbus, it being conceded that very young children possess far less power of resistance to the disease than do adults. Meteorological conditions, and especially the organic atmospheric impurities, which are greatly increased at this time of year in all large cities, have very much to do with the causation of sporadic cholera, whether in adult or infant. A sustained high temperature is undoubtedly a factor, both directly and indirectly: directly by favoring atmospheric contamination, and indirectly by prostrating the nervous system, reducing those processes whose end is the maintaining of animal heat. Thus by diminishing both nerve force and nutrition heat forms a potent predisposing cause of summer cholera, but we believe that it is not the sole cause of the phenomenon in question, as some have maintained.

In a subsequent letter two of our benevolent institutions, the Sick Diet Kitchen and the Philadelphia Society for Organizing Relief and Repressing Mendicancy, both of which are active for good, will be referred to and their methods discussed, which want of space forbids us to enter upon here. W.

LETTER FROM JAPAN.

HUMAN ENDURANCE.

BY J. C. CUTTER, M. D. HARY, PHYSICIAN TO KAITAKUSHI, SAPPORO, JAPAN.

THE Ainos, the Indians of Japan, the people found in "Dai Nippon" at the dawn of history, and now limited to Yesso and Saghalien, are stout, thick-set, very hairy, and with very marked muscular development. They take but little sleep. Their digestive and assimilative powers are most excellent. They require only half as much rice per day as the Japanese coolie (one half *sho*—about three fourths of a quart—instead of a full *sho*), and without making it up with fish or meat the Ainos will do more and endure more hardship. On such a diet they will carry two thirds of their weight upon their backs; will cover eighteen to twenty miles per day through swamps and over hills; will continue such exertions for a series of days, and yet keep their condition, under the influence of an atmosphere surcharged with moisture on a July day.

The Japanese *sendo*, or boatman, upon a diet of boiled rice and weak tea, with pickled *daikon* (a kind

of radi-h not unlike dock-root) for a relish, will row or pole for hours without intermission. Upon a similar diet, with an occasional bit of dried fish, "Jin-riki" will whirl you along in his two-wheeled "Pullman" at the rate of five to seven miles per hour. These men have been known to draw an adult Japanese gent-man fifty to sixty miles in one day, — the same man going the entire distance. I am credibly informed that a Tokio man drew in his *jūn-riki-sha* one man ninety miles in twenty-four consecutive hours.

In Yesso it is of annual occurrence for many persons to lose their way in the forests primeval, in the bamboo thickets, or in the high grass swamps. Lacking means for a fire, no habitation or friendly light for a guide, weary and anxious from vain wanderings, and night coming on, they lie down in the snow and sleep. In the morning their stiffened limbs and their senseless extremities rudely awaken them to their unhappy state and helpless condition. The night's severe cold has driven all vitality from feet and hands. They are unable to travel, — scarcely able to move!

On March 22, 1880, M. Soma, aged fifteen years four months, son of a "farmer soldier" stationed in Sappow, accompanied by two young men of sixteen and eighteen years respectively (as a child in Japan is one year old when born, their ages are fourteen, fifteen, and seventeen of the Western World), left Tsuischari to walk to Sappow, five *ri* (twelve miles). Just before starting out, about twelve m., they partook of a lunch of rice, *daikon*, and tea. Each took with him two handfuls of cold boiled rice. Soma had in addition enough *shoga* (ginger pickled in plum-vinegar and salt) to serve for relish for two meals. They had no alcohol or tobacco about them. They had no compass or means of making a fire. Each had a small half blanket in addition to the dress of their class in life, that is, a cotton towel over their ears, an under *kimono* (garment like a tunic reaching to the knees, opening in front, with large sleeves into which the hands can be drawn) of simple cotton, a cotton-wadded kimono, and a rough Aino coat made from the inner bark of a forest tree, cotton leggings, cotton *tabi* or shoe socks, and straw sandals.

After coming about half-way, owing to the falling snow, they lost the path, with which they were not familiar. On account of the depth of snow they had become wearied, so they took a brief rest. As evening was rapidly approaching they again endeavored to find the lost trail. After wandering about until tired nature could do no more, until objects were scarcely visible, they sat down upon the snow midst the high swamp grass and ate all the rice they had with them, as well as most of the *shoga*. They soon sank into a deep sleep. That night, according to the records at the weather station, Sappow, the wind was N. N. W. (direct from the ice-bound Gulf of Tartary), minimum temperature 24° F.

In the morning they had no sensation in their feet or legs. They were unable to move from their resting-place. They knew not which way to turn. Their united voices attracted no attention, except of the wolves and crows. On the 23d, 24th, and 25th, they disposed of *all* their food. On the night of the 28th the eldest ceased to speak; his companion could not get to his side. On the next day the middle one spoke his last audible words. From this time Soma lay in the same place, eating snow while it lasted, sipping water out of the adjacent pool, gesticulating and shout-

ing to keep the carnivorous crows from their prey, his companions, having one desire — "to get home;" these occupations filled his conscious hours. On account of the constant pain in his legs, he did not sleep well nights. He heard horses and men pass twice, but could not make his position known.

On the 23d, on account of their non-arrival, parties of the "farmer soldiers" went out daily to scour the woods and swamps for the young men. On the morning of April 19th, attracted by the swarms of crows circling about and perched on the neighboring trees, they found the two dead, and Soma speechless, pulseless, scarcely able to comprehend the saving party, staring at them with a most vacant expression. They crushed some cold rice, added a little pool water, which they placed in his mouth, and a little of it reached his stomach. He was wrapped in blankets, and on a rude blanket litter reached the hospital at five p. m. April 19th, twenty-eight days from the time he left Tsuischari, and twenty-five days since the last *shoga* was eaten. He was found about six *cho* (2160 feet) from the horse path almost daily used.

When he reached the *Bigo-in* he could not speak, opened the mouth with great difficulty, could not protect his tongue, which had a white coating. Movements of the chest or abdomen scarcely to be detected; a low respiratory murmur to be heard with the stethoscope; no pulse at the wrists; impulse of heart very feeble; valve sounds indistinct. There was profound torpor of the brain and intellectual faculties. His body was excessively emaciated, fat and flesh had vanished, abdomen was retracted, eyes sunken deep in the sockets. No reflex action of arms or limbs when irritated. The buttocks were black, and had commenced to fall off; the feet were black, and both legs were dead as far as the middle third.

Under the influence of warmth, stimulants, and mild food, the pulse returned to the wrists the next day. Urine passed involuntarily when he came to the hospital. On the third day there was a small black discharge from the bowels. On this day he was able to answer a few questions, but slowly and with a very low and indistinct voice. Since the first week he has steadily improved, intellectually and bodily. The buttocks are now sloughing; the line of demarcation is forming on both legs. His appetite is fair and steadily improving. His wan and vacant look is slowly vanishing. His mind is buoyant.

During these twenty-eight days the lowest daily "minimum" temperature was 18° F.; the average minimum was 33.6° F. The lowest daily "mean" was 26.67° F.; the highest "mean" 47.6° F.; and the average mean 37° F. On six of the days it snowed; on five of them it rained; but few of them were cloudless, genial days.

The young man Soma is of medium stature and weight, of fair physique, and is inured to daily labor and exposure in this northern land. He belonged to the "soldier class." The following are the measurements of forty students in the college here located. Soma was an average young man.

College average: Age, 20.5 years; weight, 52.2 kilos.; height, 1.600 metres; grande envergure 1.597 m. Chest, inspiration .811, expiration .756; fore-arm, .210; arm, .264; leg, .329.

This case is of interest, as showing how long vitality can be prolonged under the influence of exposure, cold, and want of food. It is of interest as showing the

length of time during which existence can be maintained if water alone be taken.

SAPTOW, JAPAN, May 1, 1880.

REPORT OF THE METRIC EXECUTIVE COMMITTEE OF THE AMERICAN MEDICAL ASSOCIATION FOR 1879-1880.

WE are indebted to Dr. E. Seguin, of New York, for the following report:—

At the last session of our meeting at Atlanta, Ga. the following resolutions relative to the metric system were unanimously adopted:—

Resolved, first, that the American Medical Association adopts the international metric system, and will use it in its transactions.

Second, requests that those who present papers at its future meetings employ this system in their communications or reprints thereof.

Third, requests the medical boards of the hospitals and dispensaries to adopt the metric system in prescribing and recording cases, and that the faculties of the medical and pharmaceutical schools adopt it in their didactic, clinical, or dispensing departments.

Fourth, requests the physicians familiar with the metric system to help their *confrères* and the druggists in its application, and the delegates present at this session to work up the acceptance of the metric system by their respective county and state societies.

Fifth, requests our president to name a metric executive committee, of which he shall be the ex-officio chairman, and whose task will be to give unity and rapidity to this metric movement.

Sixth, the committee was composed, besides the ex-officio chairman, of Drs. Edouard Seguin, of New York, Edward Wigglesworth, of Massachusetts, J. R. Weist, of Indiana.

Not to release the causes which have provoked the nomination of this metric executive committee, let us point out the new ones which render a prompt resolution necessary.

Great changes are constantly taking place in our profession. As long as physicians had to deal almost exclusively with quantities sensible to the naked and unaided senses, the duodecimal computation—though tedious and unsafe in complex quantities—could have been serviceable. But now, and every day more and more, the vital questions of our art rest upon the analysis of quantities too small to be appreciated by the senses,—quantities comprehensible and manageable only through the rational uniformity of which the metro-decimal system is the simplest exponent and expression.

We are not alone in this plight. In England, famed old surgeons like Th. Holmes (see his letter of August 4, 1879, in *Metric Note* No. 7), men in the prime of their talent, like Burdon Sanderson, Sydney Ringer, Ernest Hart, and the younger graduates of the London University Medical College, all agree that the metric system is the future quantitative language of our profession.

We stand about in the same relation to this progress as the English. You have created the present executive metric committee; they have appointed Dr. Clifford Allbutt, of Leeds, Dr. Lauder Brunton, F. R. S., Dr. Sieveking, Professor Frazer, Q. V. Edinburgh,

Professor Harvey, University of Aberdeen, Dr. Quain, F. R. S., chairman of the pharmacopœia committee, of the general council, and Mr. Ernest Hart, chairman of council, a committee to report on the means of introducing the metric system in medicine in Great Britain. This committee will report at the next meeting of the British Medical Association in August, as we report to you now. Last year we ran with our English *confrères* the same noble race. Who will reach the goal first this time?

Considering also and above all the home question, any delay in the teaching of the metric system brings up new crops of physicians, who—however capable otherwise—are incapable at first, and soon become unwilling to learn and use the quantitative language common to medicine, chemistry, pharmacy, physics, etc., your metric executive committee submits to your action the following propositions:—

The American Medical Association first recommends the teaching and practice of the metric system in medical colleges, clinics, dispensaries, etc.

Second, charges its executive metric committee with the duty to report annually on the above institutions which teach and those who do not teach the metric system.

Third, authorizes said committee to enter in communication with the metric committee of the British Medical Association, in order to concert such plans as may render the use of the metric system simultaneous and uniform in both countries.

The conclusions of this report were adopted by the American Medical Association at its meeting of June 3, 1880, in New York. THEOPHILUS PARVIN, chairman ex-metric committee, EDWARD WIGGLESWORTH, F. R. WEIST, EDOUARD SEGWIN, secretary.

PROFESSOR VON NUSSBAUM ON PERITONEAL SURGERY.

THE following interesting editorial is from the *Medical Times and Gazette*: Professor von Nussbaum, of Munich, is well known as a bold and fearless operator. He has already introduced many new operations—among others, nerve-stretching and rectotomy—which our forefathers would hear of with something akin to incredulity. Now we find him attempting to remove the pylorus for what was diagnosed as cancer. On cutting down on it, the pylorus, however, proved to be healthy, and the tumor or induration was found to affect the liver. Nothing daunted by the mistake, Nussbaum, who was conducting his operation under the strictest antiseptic precautions, decided to incise the organ and put in a drainage-tube, in the hope that irritative softening might ensue, and so lead to its absorption. It was in an address before the Munich District Medical Society that he referred to this subject and to peritoneal surgery in general. In a manner all his own the celebrated operator contrasted the results of peritoneal wounds under the present methods of treatment with those which were formerly obtained under the older methods. He says (*Ärztliches Intelligenz-Blatt*, January, 1880), “When nowadays one reads that the peritonæum may, fearlessly and with impunity, be punctured, incised, lacerated, bruised, or burnt, provided we keep off all infectious germs, one might be inclined to think that our predecessors had lived

under a gigantic error in regarding abdominal injuries as almost fatally dangerous, while in reality they have proved themselves to be quite unattended with danger, seeing that we now remove from the belly tumors weighing fifty to sixty pounds, the patients scarcely feeling ill the while, and not experiencing either elevation of temperature or even a rise in the pulse-rate." Fortunately the facts are beyond dispute, and yet the older surgeons were nowise in error, for peritoneal wounds were dangerous, and in similar surroundings are so to day. "The difference between the old times and the present simply consists in this: that we have learnt the sources of the danger. An enemy whose strength and position are known is easily overcome."

Among the principal dangers attending this kind of injury must be reckoned, he says, the great susceptibility to the influence of cold which the peritoneum is known to possess. "This enormous, constantly moist surface, when exposed, leads to such a rapid cooling of the blood that immediately reflex paralytic conditions of the heart, and even death, are threatened." The second source of danger is the almost unlimited power of absorption which the peritoneum possesses; and thus any exudation into it which may have undergone unhealthy metamorphosis is liable to bring about rapid and severe septic conditions. Thirdly, peristaltic action, by means of which any exudation that gets into the peritoneal cavity, an enormous surface, is stirred up and smeared over the whole of its contents. Fourthly, movements of respiration, the rise and fall of the diaphragm and small intestine aiding the absorption. Fifthly, peritoneal wounds are dangerous because of the little spaces which everywhere exist, into which secretions may find their way and lie hidden and decompose. And, finally, there is the danger of infection through the ill-smelling intestinal gases, which especially favor sepsis; and, he continues, even if the bowel itself be not injured, gases find their way in or out. Thus it is that the pus of all abscesses forming in the neighborhood of the intestines smell of faecal gases; and not only of gases, for after concussion and its consequent paralysis, owing to the phenomena which attend it, an exsmosis of fluids may actually take place. On the whole, therefore, we see that there were good grounds for the dread which has hitherto always been felt of peritoneal injuries, whether accidental or applied by the surgeon for surgical purposes. Since, however, the causes of this great danger have come to be understood, and the means by which they may be overcome have been learnt, the indications for operation and prognosis afterwards have been greatly modified.

Professor Nussbaum then considers enterotomy and gastrotomy, and the cases in which these operations may be practiced. In speaking of cases of internal strangulation, he said that "thousands now lie in their graves who have died from this distressing disease, while surgeons have stood by as mere lookers-on, unable to help their patients." For although opium could relieve pain for a while, it generally failed to cure the obstruction. And as regards laparotomy, formerly the mortality was seventy per cent.,—that of Littré's operation forty-seven per cent., that of Amussat thirty per cent.,—while those who did recover were, on account of their infirmity, often very miserable and quite unfit to associate in society.

Now, in consequence of greater skill, and of the experience of past operations, the results are much more

favorable. He thinks that a small opening, just large enough to let out feces, is all that is required at first; for often, after tension of the distended intestines has been relieved, the twist will right itself; or, if the obstruction be due to invagination, the gut will slough and come away. The opening is then allowed to close; but, if a cure cannot be effected, the opening should be enlarged, and a permanent artificial anus established.

As regards gastrotomy, he speaks most hopefully. Quoting some Vienna statistics of cancer, he mentioned that of 903 cases affecting the stomach 542 occurred at the pylorus, and that of these about sixty per cent. offered favorable chances for operative interference. He pointed out that portions of the stomach and pieces of gut had been successfully removed in animals in many instances; and he believed that we were not only justified, but called upon, to operate when circumstances seemed to call for it.

In support of this doctrine he relates the following case: A man, aged fifty-six, was sent to him with what was believed to be a cancerous tumor of the pylorus, and which could be felt as a swelling of the size of an egg over the pyloric region. It was accompanied by intense pain. An indurated cicatrix on the abdominal wall led to the discovery that he had been accidentally injured with a pistol, and it was then thought that the wound might have lodged. After watching the case for a while, it was decided to cut down upon it, and explore, being ready for any eventuality. The lesion proved to be an "inflammatory exudative process" in the liver. It was not sufficiently circumscribed to be removed; and, furthermore, it seemed not to be a deposit in, but rather a part of, the liver. Professor Nussbaum, under these circumstances, put in a drainage-tube, in the hope that absorption of the indurating material might be brought about. The pain almost ceased, and the induration lessened. The patient left the hospital very much better for his operation, but not quite cured. He wrote to his doctor after some time, asking to undergo a second operation, in the hope that he would thus get quite rid of his trouble.

Nussbaum thinks that with antiseptic precautions we shall be able to extend our peritoneal operations to an almost unlimited extent. He believes we may excise the pylorus, when cancerous, with confidence of success. If this should prove to be the case, we have indeed in antiseptics (so called) a valuable addition to surgical science. But we trust that in this, as in other arts, discretion will be regarded as the better part of valor.

CUPRIC TEST PELLETS.¹

BY JOS. NEFF, A. M., M. D.,

Lecturer on Urinary Pathology at the Jefferson Medical College, Philadelphia, etc.

At a meeting of the Clinical Society of London, held January 23, 1880, Dr. Pavy introduced to the notice of the profession a new qualitative test for sugar; strictly speaking, a new form of an old test, for it was nothing more than Fehling's solution transferred into a solid form, but the method of obtaining this form was not explained.

As is well known, of all the tests for sugar in the

¹ From the Medical and Surgical Reporter. Exhibit to the Philadelphia Pathological Society, March 25, 1880.

urine the copper tests are the best, at least when delicacy and precision are aimed at. The best of these are Fehling's or Pavy's solution, which contain cupric sulphate in combination with an alkaline tartrate, and in such a condition that when brought in contact with grape sugar, at a temperature of 100° C. (212° F.), the cupric salt is reduced to its lower oxide (cuprous oxide).

These solutions, although of well-attested value, have one great objection, namely, the change which takes place when kept for any length of time, or when light and air have access to the fluid. This change allows the cupric sulphate in solution to become deoxygenized when the fluid is boiled without necessarily the presence of sugar. Another slight objection is that the stopple of the bottle in which the solution is kept is apt to become fixed unless in constant use.

These points were given by Dr. Pavy as his reasons for undertaking the incorporation of the ingredients of the ordinary test solution into a solid and permanent form, and at last, after many fruitless attempts, his efforts have been crowned with success, as shown by the presentation of his "cupric test pellets" to the society, as above stated.

The great practical use of these pellets at once suggested itself to me, and I endeavored to have some made in this country, that their use might be made practicable without the great expense of importation.

In the report of Dr. Pavy's remarks,¹ no mention is made of any formulae, so it is fair to suppose that the doctor himself was ignorant of the processes by which he arrived at the result, stating that "his chemist surmounted all obstacles," etc. Therefore it is impossible for me to say whether the pellets to which I now call attention are made in the same manner as the English. I suggested the idea to Mr. McKelway, chemist, of Philadelphia, having first called his attention to the matter, and desired him to make the necessary experiments, in which he has been so successful, and it is through his aid I can now present to the profession the "cupric test pellets," being not only a convenient and practical means for detecting the presence of sugar in the urine, but also one for obtaining the exact amount,—a quantitative, consequently, as well as a qualitative test.

Qualitative.—For detecting the presence of sugar proceed as follows: Place a pellet in a test tube, add a small quantity of water (better distilled), heat until perfect solution is obtained, when a clear, deep blue fluid will be the result. Then proceed in the same manner as when using Fehling's solution,—for, in fact, it is now almost identical with it,—add a few drops of the suspected urine, and if glucose be present, upon boiling, the cupric sulphate which is held in solution becomes deoxygenized by the sugar present, and we have the cuprous or sub-oxide, which shows itself by the change in color, first as a yellowish precipitate, due to the hydrated sub-oxide, which subsequently loses its water and becomes the red sub-oxide.

Precautions.—The same precautions are of course necessary here as when using any of the copper tests. The English pellets, up to this time, have been prepared only for qualitative analysis; we have therefore advanced a step in being able to determine the amount as well, as each pellet represents accurately five milligrams of grape sugar.

Quantitative.—The quantitative analysis is per-

formed by the volumetric process in the same manner as with the ordinary copper test solutions.

The only simplification by using the pellet in this form of analysis is that it does away with the necessity of measuring or weighing, which is necessary when either Pavy's or Fehling's solution are employed.

Approximate.—With this new form of test a very accurate approximate result can be arrived at, which is practicable, simple, and requiring but a few moments for its accomplishment, and will doubtless meet a long-felt want to the busy practitioner, who may not have a laboratory at his disposal, or the time required for quantitative analysis by the ordinary methods.

Allow the urine to be tested to drop slowly into a large test tube, containing one cupric pellet in solution, at a boiling temperature, until the cupric sulphate is entirely deoxygenized, which will be known by the disappearance of the blue color. Now, as the amount of sugar required to accomplish this result is known, the only thing that remains is to have some means of determining the quantity of urine used. This can be done by using a graduated pipette or minim glass.

It may be mentioned here that it is better to dilute the urine, as then the test becomes more accurate, and the precise moment when the blue tint leaves can be readily determined.

Example.—For example, fill a pipette graduated in cubic centimetres with a solution of one part urine to nine parts distilled water. Then keeping the test solution (one pellet having been dissolved) at a boiling point, over a spirit lamp, allow the diluted urine to flow slowly into the test tube until all blue disappears, when a glance at the pipette will indicate that it has taken, for example, 10 cc. to accomplish this; therefore 10 cc. of diluted urine represents 5 milligrams of diabetic or grape sugar, but as only one tenth or 1 cc. of this solution was urine, then in 1 cc. of urine examined there is .005 gram of sugar. If in 1 cc. of urine there is .005 gram of sugar, in 1000 cc. of urine there must be $1000 \times .005$ gram, or 5 grams. In this way, with a little calculation, the amount of sugar in any given quantity of urine can easily be determined. If a minim glass is used it is only necessary to substitute the word minim for cubic centi netre.

By using a little precaution, keeping the pellets in a well-stoppered bottle, free from moisture, they may be kept for an indefinite time. It is better to avoid shaking them too much, as the edges may become broken and interfere with the accuracy required for quantitative analysis.

Before closing I must mention that Dr. H. G. Piffard² has suggested, under the title of A New Glycosuric Reagent, a pasty mass containing cupric sulphate, crystallized tartrate of sodium and potassium, and sodium hydrate, which is said to remain permanent. But here again we have a qualitative test only.

—The *Wiener Med. Wochenschrift*, No. 13, 1880, gives the following anecdote: A poor woman at Pri-chitina, not far from the Servian frontier, was in the pains of labor for three days, but to no purpose. In her perplexity she seized her husband's razor, cut open her abdomen and uterus, and got a neighbor to sew her up again, after the removal of the child! And now, after several months, mother and child are doing perfectly well.

¹ British Medical Journal, February 7, 1880.

² New York Medical Record, March 23, 1880.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 3, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal Zymotic Diseases.	Diarrhoeal Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.
New York.....	1,085,000	1297	863	54.04	48.26	4.77	2.38	.61
Philadelphia.....	901,380	609	368	5.74	—	1.64	1.64	1.97
Brooklyn.....	564,400	466	326	56.65	51.71	4.07	.85	.85
Chicago.....	—	—	—	—	—	—	—	—
St. Louis.....	—	162	101	33.33	25.92	5.55	.61	.61
Baltimore.....	393,796	208	117	44.23	35.09	2.40	.96	2.40
Boston.....	365,000	169	79	27.81	18.75	6.51	5.32	—
Cincinnati.....	280,000	105	49	30.47	17.14	8.57	2.85	.95
New Orleans.....	210,000	112	49	30.35	21.43	4.46	.89	—
District of Columbia.....	170,000	106	61	32.07	22.64	3.77	—	.94
Buffalo.....	—	32	12	34.37	21.88	6.25	—	3.12
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	—	75	62	56.00	38.66	5.33	5.33	2.66
Milwaukee.....	127,000	43	29	16.28	9.30	9.30	2.32	—
Providence.....	102,000	51	19	17.64	9.80	15.68	—	5.88
New Haven.....	60,000	43	25	55.81	39.53	6.99	4.65	—
Charleston.....	57,000	46	25	17.39	15.21	—	—	—
Nashville.....	37,000	18	15	61.11	16.66	5.55	—	5.55
Lowell.....	54,000	30	17	26.66	23.33	10.00	3.33	—
Worcester.....	53,000	30	16	26.66	23.33	3.33	—	—
Cambridge.....	50,400	24	11	29.16	29.16	—	—	—
Fall River.....	49,000	39	20	30.76	28.20	2.56	—	—
Lawrence.....	38,600	19	12	15.79	15.79	21.05	—	—
Lynn.....	34,000	15	3	26.66	6.65	—	—	—
Springfield.....	31,800	13	9	7.69	7.69	—	—	—
New Bedford.....	27,200	11	5	45.45	19.09	—	9.09	18.18
Salem.....	26,500	5	2	20.00	—	20.00	—	—
Somerville.....	23,500	12	7	41.66	25.00	16.66	—	—
Chelsea.....	21,000	3	—	—	—	—	—	—
Taunton.....	20,200	—	—	—	—	—	—	—
Holyoke.....	18,400	14	11	50.00	42.85	—	—	—
Gloucester.....	17,300	5	1	20.00	—	—	20.00	—
Newton.....	17,300	—	—	—	—	—	—	—
Haverhill.....	15,350	5	—	20.00	—	—	—	—
Newburyport.....	13,500	5	1	20.00	20.00	—	—	—
Fitchburg.....	12,600	4	2	50.00	—	—	25.00	—
Eighteen Massachusetts towns.....	141,960	59	22	16.10	5.08	6.78	5.08	—

Deaths reported, 3853; 2339 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 1484, diarrhoeal diseases 1204, consumption 342, lung diseases 172, diphtheria and croup 75, scarlet fever 41, malarial fevers 38, whooping-cough 33, measles 31, typhoid fever 26, erysipelas 17, cerebro-spinal meningitis 16, small-pox one. From *malarial fevers*, Brooklyn nine, New York six, St. Louis and New Orleans five, District of Columbia four, Baltimore and New Haven three, Charleston, Nashville, and Worcester one each. From *whooping-cough*, New York nine, Nashville six, Philadelphia five, Baltimore and Pittsburgh three, Brooklyn, St. Louis, and Boston two, New Orleans, District of Columbia, and Salem one. From *measles*, Cincinnati eight, Pittsburgh four, New York and Brooklyn three, Boston, New Orleans, and Milwaukee two, Baltimore, New Haven, Worcester, Fall River, Somerville, Haverhill, and Chicopee one. From *typhoid fever*, Baltimore five, New York and District of Columbia four, Philadelphia, St. Louis, Boston, Cincinnati, and Marlborough two, New Orleans, Buffalo, and New Haven one. From *erysipelas*, New York six, Philadelphia four, Buffalo two, Brooklyn, Providence, Lynn, Somerville, and Fitchburg one. From *cerebro-spinal meningitis*, New York eight, Worcester and Lynn two, Philadelphia, St. Louis, Holyoke, and Pittsburg one. From *small-pox*, Philadelphia one.

Seventeen cases of diphtheria, 20 of measles, 13 of scarlet fever, three of whooping-cough, and one of typhoid fever were reported in Brooklyn; 18 of diphtheria and eight of scarlet fever in Boston; eight of diphtheria and six of scarlet fever in Milwaukee; five of diphtheria, 12 of measles, 10 of scarlet fever, one of typhoid fever, four of diarrhoeal diseases, in Providence; four of diphtheria and two of scarlet fever in New Bedford.

Total number of deaths again increased, two thirds of the increase being among those under five years of age; deaths from diarrhoeal diseases again largely increased, 626 out of a total of 1204 being in New York, this city and Brooklyn furnishing

867 deaths under five years of age. In 35 cities and towns of Massachusetts, with an estimated population of 993,110 (population of the State about 1,690,000), the total death-rate for the week was 23.98 against 20 and 15.89 for the previous two weeks.

For the week ending June 12th, in 148 German cities and towns, with an estimated population of 7,678,900, the death-rate was 29. Deaths reported, 5437; 2319 under five: pulmonary consumption 561, acute diseases of the respiratory organs 362, diphtheria and croup 115, scarlet fever 105, measles and *röteln* 73, typhoid fever 57, whooping-cough 39, puerperal fever 21, typhus fever (Königsberg two, Ellbing, Magdeburg, Braunschweig two, Dortmund, Berlin seven) 14, small-pox (Thorn, Königsberg three, Berlin, Götting, Elberfeld, Mainz), eight. The death-rates ranged from 16.3 in Erfurt to 40.2 in Königsberg; Breslau 32.8; Munich 35.3; Dresden 25.3; Berlin 26.6; Leipzig 23.1; Hamburg 26; Hanover 22.2; Bremen 20.4; Cologne 30.1; Frankfurt 17.5; Strasburg 25.2. For the same week, Vienna 31.3; Paris 27.1.

For the week ending June 19th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 18.9. Deaths reported, 2717; acute diseases of the respiratory organs 198, scarlet fever 134, whooping-cough 118, measles 55, diarrhoea 51, fever 41, diphtheria 14, small-pox (all in London) six. The death-rates ranged from 12 in Portsmouth to 27 in Nottingham and Liverpool; London 17.7; Bristol 19; Birmingham 18; Manchester 21. In Edinburgh 19, Glasgow 22, Dublin 29.

In the 20 chief towns in Switzerland for the week ending June 19th, population 145,790, there were 21 deaths from acute diseases of the respiratory organs, diarrhoeal diseases 19, diphtheria and croup 12, measles nine, scarlet fever five, typhoid fever three, small-pox one. Death-rate of Geneva 25.1; of Zurich 26.2; Basle 17.3; Bern 30.7.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
June 27	29.923	77	93	69	44	42	56	47	W	E	0	2	10	0	C	F	F	—	—
" 28	29.749	81	91	68	72	56	63	63	S	SW	SW	1	12	8	T	T	F	—	—
" 29	29.824	81	92	71	78	39	57	58	W	W	W	10	15	1	T	C	C	—	—
" 30	29.916	78	88	69	90	45	52	62	S	W	SW	5	14	3	O	T	C	—	—
July 1	30.015	78	89	63	58	31	64	51	W	W	SW	4	13	6	C	F	O	—	—
" 2	29.803	63	74	61	94	100	100	98	E	NE	NE	4	12	11	R	R	R	—	.77
" 3	29.863	63	66	60	100	89	89	92	NE	E	N	1	1	4	R	O	O	—	.35
Week.	29.870	74	92	60				68										14.45	1.12

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JULY 3, 1880, TO JULY 9, 1880.

BYRNE, C. C., major and surgeon. Assigned to duty as post surgeon at Angel Island, Cal., relieving Assistant Surgeon Hubbard. S. O. 93, Division of the Pacific and Department of California, July 1, 1880.

HUBBARD, VAN B., captain and assistant surgeon. Assigned to duty as post surgeon at Alcatraz Island, Cal. S. O. 93, C. S., Division of the Pacific and Department of California.

BARTHOLO, J. H., captain and assistant surgeon. Assigned to duty at Fort Coeur d'Alene, Idaho Territory. S. O. 103, Department of the Columbia, June 19, 1880.

WYNN, C. K., captain and assistant surgeon. To report in person to commanding general, Department of the East, for assignment to duty. S. O. 148, A. G. O., July 6, 1880.

DE LOFFRE, A. A., captain and assistant surgeon. Assigned to duty as post surgeon camp on White River, Colo. S. O. 144, Department of the Missouri, July 5, 1880.

COMBES, E. T., captain and assistant surgeon. Relieved from duty in Department of Texas, to proceed to Cincinnati, Ohio, and report arrival there by letter to the surgeon-general. S. O. 148, C. S., A. G. O.

REED, W., captain and assistant surgeon. His leave of absence extended one month. S. O. 146, A. G. O., July 6, 1880.

The following-named assistant surgeons, recently appointed, will report in person to the commanding generals of the departments set opposite their respective names: R. G. ENERT, Department of the Columbia. R. J. GIBSON, Department of the Missouri. R. B. BENHAM, Department of Dakota. W. C. GORGAS, Department of Texas. NORFOLK STROSG, Department of the Plate. A. W. TAYLOR, Department of the Missouri. S. O. 149, A. G. O., July 7, 1880.

O'REILLY, R. M., captain and assistant surgeon. Granted leave of absence for one month on surgeon's certificate of disability, with permission to leave the department. S. O. 73, Department of the South, June 18, 1880.

BOOKS AND PAMPHLETS RECEIVED. — Treatise on Therapeutics. Translated by D. F. Lincoln, M. D., from the French of Tronseau and Pidoux. Vol. 1. Wood's Library of Standard Authors. New York: William Wood & Co. 1880.

Lessons in Gynecology. By William Goodell, A. M., M. D. Second Edition. Philadelphia: D. G. Brinton.

Wood's Library of Standard Medical Authors. The Surgery, Surgical Pathology, and Anatomy of the Female Pelvic Organs. By Henry Savage, M. D. Lond. Third Edition. New York: William Wood & Co. 1880.

Eleventh Report of the State Board of Health of Massachusetts for the Six Months ending June 30, 1879. Boston: Rand, Avery & Co. 1879.

The Fifth Annual Report of the State of the Lunatic Asylum for the County of Nottingham, and the Sixty-Ninth of the Original Institution, formerly the General Lunatic Asylum. 1879. Southwell: John Whittingham. 1880.

The Irritable Bladder in the Female. By L. S. Oppenheimer, M. D. (Reprint.)

School Document No. 13. Report of the Examination of Twenty-Seven Thousand Nine Hundred and Twenty-Seven School Children for Color-Blindness. By B. Joy Jeffries, A. M., M. D. Boston: Rockwell and Churchill. 1880.

Kolpo-Cystotomy by Electro-Cautery, with Remarks on other Methods of Operating. (Reprint from Gynecological Transactions.) Also, Contributions to Gynecology, No. X. (1.) Fibro-Sarcomatous Tumor of the Uterus. (2.) Cancer of Rectum. By John Byrne, M. D. The latter published by G. P. Putnam's Sons, New York.

An Inquiry into Certain Points connected with Albuminuria. By Robert Sandby, M. D. Edin. London: British Medical Association.

Salicylate of Sodium in the Treatment of Iritis. By Julian J. Chisholm, M. D., Professor of Eye Diseases, University of Maryland. (Reprint from Archives of Ophthalmology, Vol. IX, No. 2.)

On Division of the Sphincter Ani Muscle as a Therapeutic Measure. By C. B. Kelsey, M. D. New York: Appleton & Co. 1880.

Clinical Notes on the Elongation of the Cervix Uteri. By William Goodell, A. M., M. D. (Reprint from Vol. IV, Gynecological Transactions, 1880.)

The Therapeutic Value of the Iodide of Ethyl. By Robert M. Lawrence, M. D., Boston. (From the New York Medical Record.)

Impotency in Women. By Ely Van de Warker, M. D. New York: William Wood & Co.

The Practitioner's Reference Book. By Richard J. Dunglison, A. M., M. D. Second Edition, revised and enlarged. Philadelphia: Lindsay and Blakiston. 1880.

Second Annual Report of the State Board of Health of the State of Rhode Island. Providence: E. L. Freeman & Co., Printers.

The Population Question, or the Mortality of the Rich and Poor. Paper read before the Medical Society of London. By Charles R. Drysdale, M. D. London: G. Staundring. 1879.

Prolapse of the Ovaries. By Paul F. Mundé, M. D. (Reprint from Vol. IV, Gynecological Transactions.)

Neuralgia, its Nature and Curative Treatment. By Thomas Stretch Dawse, M. D. New York: G. P. Putnam's Sons. 1880.

Contributions to Orthopaedic Surgery, including Observations on the Treatment of Chronic Inflammation of the Hip, Knee, and Ankle-Joints by a New and Simple Method of Extension, the Physiological Methods, and Lectures on Club-Foot. By Joseph C. Hutchinson, M. D. New York: G. P. Putnam's Sons. 1880.

Lectures.

III. THE CLASSIFICATION OF MENTAL DISEASES.

A LECTURE DELIVERED BEFORE THE GRADUATING CLASS OF THE HARVARD MEDICAL SCHOOL.

BY CHARLES F. FOLSON, M. D.

CONSIDERING the difficulty of describing the various diseases underlying insanity, and the impossibility, at present, of accurately and exactly understanding its pathology, that is, of knowing to just what deviation from the normal physiological action of the brain insanity is due, it would be natural to suppose that there would be no classification of mental diseases universally accepted by writers on insanity. Indeed, were I to attempt simply to give you a catalogue of the various nomenclatures adopted by men who are still read and accepted as authorities on insanity, I should only weary your patience to no purpose. All these systems, however, may be grouped under six heads, according as the classification is made with reference to: (1.) The causes of the disease. (2.) The functions of the mind involved. (3.) The symptoms. (4.) The pathology. (5.) The clinical history. (6.) The clinical history and pathology.

(1.) The classification according to the causes of the insanity was suggested by Morel, of Paris, and fully elaborated by the late Dr. Skae, of Edinburgh, who recognized the impossibility of an accurate pathological nomenclature, and who wished for something to express as fully as possible the natural history of the disease. He makes some thirty diseases, as follows: (1.) Moral idiocy. (2.) Intellectual idiocy. (3.) Moral imbecility. (4.) Intellectual imbecility. (5.) Epileptic insanity. (6.) Insanity of masturbation. (7.) Insanity of pubescence. (8.) Hysterical mania. (9.) Amenorrhoeal mania. (10.) Post-conjugal mania. (11.) Puerperal mania. (12.) Mania of pregnancy. (13.) Mania of lactation. (14.) Climacteric mania. (15.) Ovario and utero mania. (16.) Senile mania. (17.) Phthisical mania. (18.) Metastatic mania. (19.) Traumatic mania. (20.) Syphilitic mania. (21.) Delirium tremens. (22.) Dipsomania. (23.) Mania of alcoholism. (24.) Post-febrile mania. (25.) Mania of oxaluria and phosphaturia. (26.) General paralysis. (27.) Epidemic mania. (28.) Idiopathic sthenic mania. (29.) Idiopathic asthenic mania.

The faults of this system are self-evident. In the first place, it is cumbersome and unwieldy, and overburdens the mind and the literature of insanity with a number of useless names. In the second place, it is not accurate. For instance, suppose that a number of persons are exposed to cold and dampness; one has influenza, another rheumatism, another neuralgia, and another pneumonia. Now, if we adopted Skae's system of classification, we should be driven to the absurdity of calling influenza, rheumatism, neuralgia, and pneumonia the same disease, for the reason that they were apparently due to the same immediate cause. Again, there would be just as much sense in speaking of amenorrhoeal pneumonia, post-conjugal pneumonia, puerperal pneumonia, and pneumonia of pregnancy or lactation as there is in amenorrhoeal insanity, post-conjugal insanity, puerperal insanity, and insanity of pregnancy or lactation. There may be no real difference in the disease in either case so marked as to

make it a diagnostic sign. Indeed, — Pocasset homicide case, for instance, — Freeman's father was addicted to constant excess in alcoholic liquor and sexual gratification, and this son was born one of the last of his children, when the mental constitution had been long shattered by his method of life, so that Freeman inherited a strong predisposition to mental disease. From the age of fifteen he served in the army as a drummer boy, — weakened by exposure, long marches, and occasional attacks of dysentery. During the latter part of the period of adolescence he had an attack of diphtheria, and also broke down from overwork. Later he had a mild sunstroke. He had exposed himself to and had caught the infection of intense religious excitement. He had given up a life of great activity to live in a dull little settlement of three hundred and fifty or four hundred people, where he was driven to introspection. He became exhausted from his religious fanaticism, and was near that age in life when insanity is most common. What should we call his case under Skae's system, — hereditary insanity, insanity of exhaustion, religious mania, or insanity following a sunstroke?

The difference in the insanity as manifested in the different cases under consideration is not necessarily sufficient for its diagnostic differentiation. So, too, if we put a case of syphilitic mania beside another of traumatic mania, it would be impossible to diagnosticate between them, unless we were told what was the supposed cause in each case. The third objection to Skae's classification is that, on his own theory, it does not cover enough ground. For instance, it is just as proper, and indeed necessary, to have a post-studium as a post-conjugal insanity; for the exhaustion of over-study is oftener a proximate cause of insanity than the immediate results of marriage. The fourth objection to Skae's classification is that it is not definite. In a large proportion of cases, making out the causes of insanity is very difficult indeed, and often it is impossible. Indeed, not seldom the causes are so many and so complex that it is not within human power to say which of a number of causes has been the most important.

In Skae's system, therefore, there must always be a large number of cases which cannot be classified at all, but must be left out as unclassified, — a serious fault, certainly. This system has been adopted to a certain extent in Great Britain, but not universally.

The second classification of mental diseases, according to the functions interfered with, is that adopted by Dr. Bucknill; not because he considers it satisfactory, but because it on the whole defines each disease more closely according to the functions of the brain involved, and therefore explaining the morbid condition, as shown by the most apparent phenomena of the disease.

According to Dr. Bucknill, we have: —

- (1.) Insanity of the intellect or the ideas.
- (2.) Insanity of the feelings and moral sentiments.
- (3.) Insanity of the instincts, propensities, or desires.

This has the merit of simplicity, and is enormously in advance of the clumsy classification of Skae. Dr. Bucknill further subdivides his three classes as follows: —

- (1.) Insanity of the intellect or ideas: —

Idiocy.
Imbecility.

Dementia.
Delusional insanity.
Monomania.
Mania.

(2.) Insanity of the feelings and the moral sentiments :—

Moral imbecility.
Moral insanity.
Melancholia.
Religious insanity.
Hypochondriacal insanity.
Nostalgic hypochondriacal insanity.

Exaltation regarding :—

Religion.
Pride.
Vanity.
Ambition.

(3.) Insanity of the propensities, instincts, or desires :—

Mania.
Homicidal mania.
Suicidal mania.
Erotomania.
Dipsomania.

This might be called a more purely psychological classification, that is, upon a metaphysician's basis, and in cases before the courts it has its advantages in helping one to make up his mind with regard to the amount of responsibility of a given person; but to the pure physician it has grave disadvantages, for it does not represent the pathological condition of the disease, its clinical history, nor even its prominent symptoms. I think I can make my point clear most easily by using the diseases of the chest as an example. You can easily see what confusion would arise, and how false our ideas of diagnosis, prognosis, and treatment would be, if we classified them something like this, according to the functions disturbed :—

(1.) Diseases causing difficulty in swallowing. (2.) Diseases causing difficulty in breathing. (3.) Diseases hastening breathing. (4.) Diseases retarding breathing. (5.) Diseases causing dyspnoea. (6.) Diseases causing palpitation. (7.) Diseases causing pain. (8.) Diseases causing lividity, etc.

It is only necessary to point out the exact bearing of such a classification to show its unsatisfactory character.

The third classification and that most generally adopted is according to symptoms; it is almost universally used, more or less modified, in Germany, generally in France, and more commonly than any other in this country and in England. It has been suggested by different writers in a dozen different forms, differing only in details, so that I will not burden you with them all, but only give Griesinger's, which has stood the test of the longest period of time, and which seems to me altogether the best.

His divisions are as follows :—

(1.) States of mental depression. (2.) States of mental exaltation. (3.) States of mental weakness.

These he subdivides as follows, without attempting to refer his sub-classes to pathological conditions of the brain, or to discriminate between the various faculties involved :—

(1.) Mental depression :—
Hypochondriasis.
Melancholia, simple.
Melancholia with stupor.

Melancholia with destructive tendencies.

Melancholia with persistent excitement of the will or impulse (moral insanity).

(2.) Mental Exaltation :—

Mania.
Monomania.

(3.) Mental weakness :—

Chronic mania.
Dementia.
Idiocy.
Cretinism.

As important complications of insanity he places general paralysis of the insane and epilepsy, and then various disorders of sensation and movement, such as convulsive gait, general cramps, choreic movements, hyperaesthesia of the skin, etc.

The fourth system of classification, according to the morbid condition of the brain, has thus far proved unsuccessful, so far as definite results are concerned. Up to the present time this remains largely a field of speculation, and although, with the immense progress of the past dozen years, we cannot help hoping that continued progress will finally place the pathology of the brain as affecting the mind on a similar footing with the pathology of the heart and lungs, yet this is a subject upon which there is now so little definite to be said that I should not be justified in further taking your time, in a short course of lectures, in enlarging upon what I have already said upon that point in this and the preceding lectures.

In basing his nomenclature on the clinical history of the various forms of insanity, Dr. Clouston, of Edinburgh, has somewhat enlarged, and I think improved, Griesinger's classification, as follows :—

(1.) States of mental depression (*melancholia, psychalgia*): (a.) Simple melancholia. (b.) Hypochondriacal melancholia. (c.) Delusional melancholia. (d.) Excited melancholia. (e.) Suicidal and homicidal melancholia.

(2.) States of mental exaltation (*mania, psycholampsia*): (a.) Simple mania (*folie raisonnée*). (b.) Acute mania. (c.) Delusional mania. (d.) Chronic mania.

(3.) States of regularly alternating depression and exaltation (*folie circulaire, psychorhythm, folie à double forme, circular insanity, periodic mania, recurrent mania*).

(4.) States of fixed and limited delusion (*monomania, monopsychosis*): (a.) Monomania of pride and grandeur. (b.) Monomania of unseen agency. (c.) Monomania of suspicion.

(5.) States of mental enfeeblement (*dementia, amentia, psychoparesis, congenital imbecility, idiocy*): (a.) Secondary (ordinary) dementia (*following acute or subacute disease ending in chronicity*). (b.) Primary enfeeblement (imbecility, idiocy, cretinism) *the result of deficient brain development, or of brain disease in very early life*. (c.) Senile dementia. (d.) Organic dementia (*the result of organic brain disease*).

(6.) States of mental stupor (*stupor, psychocoma*): (a.) Melancholic stupor, "melancholia attonita." (b.) Anergic stupor, "primary dementia," "dementia attonita." (c.) Secondary stupor (*transitory after acute mania*).

(7.) States of defective inhibition (*psychokinesia, hyperkinesia, impulsive insanity, volitional insanity, uncontrollable impulse, insanity without delusion*): (a.) Homicidal impulse. (b.) Suicidal impulse. (c.) Epi-

leptiform impulse. (d.) Animal impulse. (e.) Dipso-mania. (f.) Pyromania. (g.) Kleptomania. (h.) Moral insanity.

(8.) The insane diathesis (*psychoneurosis*, *neurosis insana*, *neurosis spasmodica*).

No great advance, however, has been made in this branch of mental science, except in Germany, since the time of Griesinger, who, before he was thirty years of age, and while assistant in an insane asylum, wrote a treatise on insanity, which for twenty years remained the first in any language. The German mental pathologists have endeavored to combine in their classification the clinical history with the little that is known of its morbid anatomy. Meynert has gone so far in this direction as to have constructed an ideal mental pathology of great exactness, but, unfortunately, belonging to the sphere of brilliant speculation rather than exact science. Schüle, in his recent work, has well summarized our knowledge on these points, and has made the following classification, which keeps within the bounds of our definite knowledge, and at the same time recognizes all that is at present certain in the relations of pathological conditions to mental disease:—

I. States of mental defect or degeneration:—

(1.) States of mental defect:—

(a.) Microcephalism.

(b.) Idiocy.

(2.) States of mental degeneration, chiefly as the result or further development of

(a.) Hereditary insanity.

Impulsive insanity.

Moral insanity.

(b.) Insanity from the severe neuroses.

Epileptic insanity.

Hysterical insanity.

Hypochondriacal insanity.

(c.) Periodic and circular insanity.

II. Insanity in persons of full mental and physical development:—

(A.) The cerebral neuroses causing mental disease, affecting primarily the intellect alone (*psychoneuroses*).

(1.) The acute or subacute typical cerebral neuroses in healthy neurotic persons, and with a vaso-motor origin.

(a.) Primary form:—

Melancholia.

Melancholia agitata.

Acute mania.

(b.) Secondary form:—

Chronic mania and monomania.

Dementia.

(2.) The chronic cerebral neuroses giving rise to mental disease, founded on degeneration, and of neurotic origin primarily (*delusional insanity*).

(a.) Primary mania of persecution, with a condition of pure depression, with exaggerated and exalted ideas.

(b.) Delusional insanity, strictly speaking, psychoconvulsive form (*maladie du doute*), psycho-cataplectic form (*delusional insanity attended with anomalies of sensation*).

(B.) The organic mental diseases affecting intellectual and psychic functions (*cerebro-psychoses*), differing from (A.) chiefly in being deeper seated.

(1.) With motor symptoms of excitement (*acute mania*).

(a.) "Mania furiosa" (including "mania transitoria").

(b.) "Mania gravis."

(c.) Acute delirious mania.

(2.) With motor neuroses and symptoms resembling cataplexy, tetanus, and anergic stupor, or the various forms of *Spannungsneurosen*.

The states of mental stupor:—

(a.) "Melancholia attonita."

(b.) Delusional stupor.

(c.) Primary dementia (stupor).

Acute.

Chronic.

(3.) With progressive paralysis. The typical form of paralytic dementia.

(C.) The distinct lesions of the brain giving rise secondarily to psychical disturbances. The modified paralyses, or cerebral diseases, in which dementia and paralysis are both observed clinically.

(a.) Meningo-periencephalitis, chronic and sub-acute.

(b.) Pachymeningitis and hæmatoma.

(c.) Diffuse encephalitis with sclerosis, without mental excitement; with mental excitement.

(d.) Diffuse encephalitis with local softening, apoplexy, capillary aneurisms in groups or singly; multiple sclerosis.

(e.) Diffuse encephalitis arising from foreign growths in the brain.

(f.) Chronic periencephalitis with previous *tubercles dorsalis*; tabic paralysis.

(g.) Primary atrophy of the brain with accompanying spinal tubercles; tabic dementia.

(h.) Syphilitic encephalitis with disturbances of the mind.

When we consider that in the early part of this century, two generations after John Hunter, Heurnoth, then the first clinical instructor of mental disease in Germany, taught that insanity is the result of wrongdoing and sin; that a conscious neglect of God's will is its source; that the best treatment consists in a pious life, giving one's self up to God and all that is good; and that the only means of prevention of insanity is the Christian religion, it must be acknowledged that an immense advance has been made in the knowledge of mental diseases, perhaps not inferior to the progress in other branches of medical science.

Original Articles.

PYÆMIA OF DOUBTFUL ORIGIN; APPARENTLY "SPONTANEOUS."¹

BY CHARLES H. COOK, M. D., OF NATICK.

IN the Transactions of the Pathological Society of London for the year 1879 is the report of the Committee appointed by the Society to investigate the Nature and Causes of those Infective Diseases known as Pyæmia, Septicæmia, and Purulent Infection.

One feature of the report is an Inquiry whether Pyæmia and Septicæmia can be sharply defined from Each Other.

The authorities cited under this head may be divided into three classes:—

(1.) Those who recognize no essential difference between septicæmia and pyæmia.

¹ Read before the Massachusetts Medical Society at its annual meeting, and recommended for publication by the society.

(2.) Those who distinguish between septicæmia and pyæmia, but recognize only one form of septicæmia; and even they differ among themselves as to whether septicæmia is or is not an infective disease.

(3.) Those who define sharply between septicæmia and pyæmia, and also recognize two separate and distinct conditions as existing, to which the term septicæmia is applied: to distinguish these two conditions they would employ the terms used by some of the German writers, and give to one the name of septic or putrid intoxication, and to the other septic or putrid infection.

Another feature is the careful study of the records of seven hundred and sixty-eight cases of pyæmia and septicæmia which occurred in the principal London hospitals during the ten years preceding.

As the results of the study of the records of these cases, together with an analysis of the views of the authorities cited, the committee present a "summary," from which I make the following extracts.

"It would seem probable that the diseases known clinically as pyæmia and septicæmia may be grouped as follows:—

(1.) "*Septic Intoxication*. The effects of poisoning by the chemical products of putrefaction. A non-infective disease.

(2.) "*Septic Infection*. A general infective process arising from the introduction of some peculiar constituent of putrid matter into the blood stream. It is supposed by some to be due to the multiplication of living organisms in the blood, and by others to the effect of a non-organized ferment. It terminates fatally without secondary inflammations.

(3.) "*Pyæmia* (for want of a better name). An infective process, probably similar in nature to septic infection, but differing from it in giving rise to local inflammations and suppurations, often complicated by thrombosis and embolism, possibly due to the blood condition. . . .

(4.) "A group of obscure cases, in which it is impossible to form any idea as to their exact nature, often called spontaneous septicæmia or pyæmia."

Of the seven hundred and sixty-eight cases before referred to, four are recorded under the head of Spontaneous Septicæmia and Spontaneous Pyæmia.

Concerning these cases the committee say: "Under these names have been described certain rare and obscure cases, in which symptoms analogous to those of septic infection and pyæmia have arisen without any discoverable local source of infection. Four such cases are briefly summarized in the appendix (Table XI.). None of these occurred during the course of the present inquiry. They are merely appended as illustrations of the disease in question. They are not sufficient in number to justify any conclusions being drawn from them."

Before giving these cases I wish to read the history of a case which occurred in my own practice:—

On Thursday, December 26, 1878, I was called to see Mrs. H., aged thirty-three years, American, married, by occupation a bookkeeper, a lady of unusually fine physique and healthful appearance. Patient gave a history of general good health since childhood.

On the Saturday previous to my visit she felt symptoms of a severe cold, and on Saturday evening "took a sweat," which was repeated on Sunday evening. On Monday and Tuesday she went to her place of business, walking with great difficulty, because of lame-

ness involving the muscles of the hips, thighs, and legs, especially those of the right. Tuesday night had a severe rigor. Wednesday (Christmas day) remained indoors; lameness unimproved. Thursday morning, the time of my first visit, the patient, who was in bed, exclaimed, "Doctor, my right leg is practically paralyzed; I cannot move it." Examination revealed extreme tenderness of the muscles of the right hip, thigh, and leg, but passive motion produced no pain at the joints. There was no history of contusion nor injury, no discoloration of the skin, no swelling, no œdema. There was also tenderness, but in less degree, of the muscles of the left hip. Patient complained of pain and distress in the præcordial region, but physical examination revealed nothing abnormal about the heart. Pulse, 100; temperature, 102.5° F.; respiration, 34; was menstruating. On Saturday, December 28th, there were indications of disturbance in the right lung; no material change in other respects. On Monday, December 30th, the patient was able to move the right leg without difficulty; there was no tenderness on pressure except in the region of the right hip. Physical examination revealed dullness, bronchophony, a few subcrepitant râles, and increased vocal fremitus, over the lower lobe of the right lung. There was no cough, no expectoration, no pain in the right chest. The præcordial distress had disappeared. Since the previous Thursday the pulse had varied from 100 to 110, temperature from 101.5° to 103.5° F., respiration from 32 to 34. On Wednesday and Thursday, January 1 and 2, 1879, the pulse was 120, and the temperature 104° F. Patient unable to lie on either side since she was taken sick, because of the tenderness in region of the hips.

On the mornings of Friday and Saturday, January 3d and 4th, patient expectorated a small quantity of what seemed to be bright-red fresh blood. Pulse and temperature falling.

Menstruation ceased after ten days; was of longer duration than usual, in other respects normal.

On the mornings of Monday and Tuesday, January 6th and 7th, there were repetitions of the bloody expectoration. The pulse on Tuesday morning was 80; temperature normal.

Thursday, January 9th, pulse and temperature were the same as on Tuesday; tongue clean; patient sat up nearly an hour, and took solid food with relish. There was still tenderness in the region of the hips, especially of the right hip, but no fluctuation.

Saturday, January 11th, the pulse was 100, heat 100° F.; there was no relish for nourishment. Two spots, resembling erythema nodosum, had appeared on the middle third of the right thigh, external aspect. There were similar spots on the anterior and external aspects of the left thigh; one also below the knee, antero-internal aspect.

Tuesday, January 14th, the pulse was 110, temperature 101° F. No albumen in urine; no cough; no expectoration since Tuesday morning, January 7th.

Thursday afternoon, January 16th, patient had a severe chill, almost a rigor, followed by profuse perspiration.

Friday, January 17th, there were repeated chills and perspirations. On Friday evening I learned that extreme dysuria had been present for twenty-four hours, the nurse having kept silence at the urgent request of patient. Made investigations as to the possibility of any uterine disturbance sufficient to account

for chills, perspirations, and dysuria, but with negative results.

Saturday morning, January 18th, the condition of patient was but little changed, except that the dysuria had been almost entirely relieved. In the afternoon Dr. Ellis saw the patient in consultation. Dr. Ellis has very kindly furnished me with a copy of his notes of the case, made at the time:—

"Ill-defined dullness over the lower third of the right lung. Some subcrepitant as well as sonorous rales on full breath or coughing, but nothing very distinct. Complaints mostly of pain in the hips, and says there is nothing wrong above the latter.

"Looks pretty well.

"Heart normal.

"The dark-red portions of skin on the thighs are hard as from infiltration, and in the left thigh is felt an induration beneath the skin, with no redness of the latter.

"Great hardness on pressure over the hip-joints.

"It seems probable that the soreness is owing to some deep-seated inflammation.

"The character of the pulmonary disease is such as to suggest embolism or pyæmia, but the source of this is not so clear.

"The dark-red or purplish spots are probably attributable to the same cause, and abscesses will be likely to form here.

"The case will probably terminate fatally."

Monday, January 20th, received the following report of examination, made by Dr. Townsend, of sample of urine voided the day before:—

"Specific gravity 1010; reaction feebly acid; pus abundant; one cast only seen; some doubtful fat corpuscles."

There was a gradual increase of unfavorable symptoms during the following week. Pulse varied from 100 to 130; temperature from 100° F. to 103° F.; chills and perspirations continued. The discolorations on the thighs assumed more of the aspect of tumors, becoming elevated above the surrounding tissues. There was fluctuation, the last of the week, in the tumor below the left knee.

On Friday, January 24th, I received a letter from Dr. Ellis, containing report of examination, by Dr. Cutler, of sample of urine. Dr. Ellis wrote as follows:—

"The examination of the urine does not prove much, but is suggestive as far as it goes. Specific gravity 1012; acid; urea deficient; a trace of albumen; pus corpuscles; vaginal and vesical epithelium. There is no more albumen than the pus would account for, but the low specific gravity and the diminution of urea make me suspect that, unless the quantity of urine were quite large, something more will be found later.

"The persistence of the symptoms makes me feel still more strongly that we may be correct in our diagnosis. I have not yet found an exactly parallel case, but as far as the evidence goes it confirms the view expressed."

On Sunday, January 26th, Dr. Hosmer was called in consultation, and found the general condition of patient much the same as when Dr. Ellis saw her. There was no fluctuation in region of right hip. Introduction of exploring needle in tumor below the left knee revealed pus. Dr. Hosmer's opinion as to the obscurity of the case fully coincided with that given by Dr. Ellis.

During the week following patient gradually failed. Pulse ranged from 120 to 140; temperature from 100° F. to 104° F. The last of the week there was pitting upon pressure in the region of the right hip, but no fluctuation.

Sunday, February 2d, Dr. Hosmer saw the patient again. It was decided that there were not sufficient indications of pus about the right hip to warrant the introduction of an exploring needle.

Two days later, Tuesday, February 4th, patient was seen in consultation by Dr. Patch, who concurred fully in the opinions of Drs. Ellis and Hosmer.

During the succeeding week the pulse ranged from 130 to 160; temperature from 100° F. to 105° F. There was slight delirium at times and occasional incoherence on first awaking from sleep. Patient died on Wednesday morning, February 12th, seven weeks from the time of my first visit.

The autopsy was made by Dr. E. G. Cutler, and the following are his notes:—

Autopsy, thirty-one hours after death. Rigor mortis was marked. The body was not emaciated. Miliary sudamina were found thickly scattered over the chest, not extending over the abdomen. The belly was much distended by gas. There was a slight icteric hue of skin, and the conjunctivæ were yellow. In the middle third of the left thigh, anteriorly, there was a tumor in the skin about the size of the fist, which, on being opened, was found to be an abscess involving the skin and burrowing between the muscles of the thigh. There were two or three similar but smaller tumors on the upper third and external side of the left thigh. A small circumscribed abscess was found at the junction of the fourth costal cartilage with the sternum on the left side, involving the cartilage and perichondrium.

The heart was of normal size, its color was somewhat pale; the right side was distended with dark, loosely coagulated blood, and the left side was fully contracted. The tissue was rather more friable than normal, and on section the muscle had a fatty appearance, more marked in the *musculi papillares*. A microscopic examination confirmed the gross appearances, the fibres being found to be markedly fatty. All the valves were healthy. The innermost sheath of the intima of the aorta contained numerous small spots of fatty degeneration.

There was an old pleural adhesion on the left side at the lower portion of the upper lobe. On section considerable fluid was found in the alveoli, having an acid odor and a brownish color; the bronchi were discolored posteriorly and stained of the same color as the alveoli, and it was evident that the fluid was part of the contents of the stomach pressed out by the gaseous distention of the intestines. In the right lung there was a recent pleuritic adhesion over the posterior and middle portion of the lower lobe; and on section of the lung at this point there was found to be a small abscess containing about a drachm and a half of pus. The boundaries of the abscess were a little obscured by softening dependent on the presence of fluid and consequent digestion, just as was seen in the other lung. On slitting up the pulmonary artery an embolus was found corresponding to the location of the abscess.

The spleen was of normal size, a trifle pale, and the pulp soft. The trabeculae and Malpighian follicles were normally distinct.

The stomach and intestines were normal.

The left kidney contained a wedge-shaped abscess in the cortex at its upper extremity. The tubules were universally cloudy and the Malpighian bodies injected. There was an abscess in the right kidney near one of the pyramids considerably larger than the one in the other organ.

The liver was of average size; its color was yellow, and the acini appeared fatty. On microscopic examination there was found to be extreme fatty infiltration and some fatty degeneration of the hepatic cells.

The cervix uteri was found to be shortened and strongly anteflexed by old cicatrices; it was otherwise normal. There had been old pelvic peritonitis, which had bound the ovaries and Fallopian tubes into a confused mass.

The right buttock was found to be a bag of pus; the ilium was denuded over a space half the size of the palm of the hand, and the periosteum gone, though the bone was not roughened. The muscles were shreddy. No source of pus was found; there was neither caries nor necrosis of any of the bones, and there was no evidence of contusion.

Three of the cases reported by the committee of the London Pathological Society are in substance as follows:—

CASE I. Male, age forty-eight. Was taken with shivering on coming out of a hot room. Later on, cough, frequent rigors, night-sweats; bowels regular.

On three different dates was nearly well, but relapsed soon after. Was admitted about two months after first attack, with above symptoms and pain in back of head, neck, and calves; pulse 114; liver dullness slightly increased. There appeared an eruption like impetigo on legs; about twenty hard inflamed cutaneous lumps on each leg, size of peas; some suppurating, red raised patches, size of crown piece, on forearm; blood extravasated in some of suppurating points; constant delirium; glans penis apparently gangrenous. Died ten weeks after invasion.

Autopsy. Bullae on face, legs, and arms, purple, with areola. Several small abscesses in the muscles of the forearm. Larynx: ulceration of membrane lining the ala of thyroid cartilage; patch made up of numerous minute purulent heads. Lungs intensely congested; contained numerous collections of minute abscesses, with distinct pyemic characters; two or three larger accumulations of unhealthy pus, size of filbert. Glans penis infiltrated with pus.

CASE II. Female, age twenty-one. Good previous health. Was taken with headache and cough, with slight expectoration, followed by languid pain in chest and general aching; temperature high. Was admitted ten days after attack; a rigor; bowels regular. Next day two loose, dark-colored stools; twelve distinct rose spots; constant delirium; loud systolic murmur. The day following, vesicular eruptions on fingers and toes and forehead, in some places pustular; temperature 104.8° F. Died.

Autopsy. Purple hemorrhagic spots at ends of fingers and toes; a few vesicles on front of legs, some becoming pustular; herpetic spots on scalp and forehead; slight ecchymosis under scalp, corresponding to the herpetic spots; small collections of pus in the brain under the visceral arachnoid, in the heart beneath endocardium chiefly at upper part of right ventricle, in the mucous membrane of the intestines (nothing like typhoid ulcerations), in the cortex of the kidneys, mostly immediately beneath the capsule; effusion of

blood into left hemisphere of brain and in cerebellum; two or three spots, mottled with yellow, beneath capsule of liver. Blood very fluid thirty-six hours after death.

I omit Case III., as there was no autopsy reported.

CASE IV. Male, age forty-eight. Cough three months. February 28th, severe rigors. Admitted March 3d. Jammed; liver dullness increased; temperature 103.8° F.; abdominal pains; purgatives; jaundice diminished; severe cough. No change for several days; jaundice then increased; emaciation. Four days before death sordes, profuse sweating; red flush on hands and wrists.

Autopsy. At the base of right lung was a small circumscribed area of "secondary pneumonia;" congestion of mucous membrane. Liver large; lobules distinctly marked out. Joints; pus in left sterno-clavicular and wrist joints.

In the *London Medical Record* for June 15, 1879, are epitomized the reports of a series of five cases of "spontaneous septicæmia" which have come under the observation of Leube, and which he published in a German medical journal.

The two most interesting of these reports I have copied:—

"**CASE III.** A lad, aged nineteen, suddenly became unconscious. Slight excoriation on the nose; herpes of the left hand; the urine contained much albumen and numerous cylinders; both epididymides were enlarged, and felt hard and nodulous; the optic nerves and the veins of the retina were hyperæmic; there were extravasations in both retina. The temperature rose to 40.1° C. Later on Cheyne-Stokes's respiration set in, and the patient died in three days.

"**Necropsy.** Ambililar cheesy epididymitis; a softened thrombus in the left epididymis; miliary metastatic bacteriæmic foci in both kidneys, and cheesy degeneration of the apex of one of the pyramids; metastatic miliary foci in the myocardium; bacteriæmic growths on the bicuspid valves; metastatic miliary foci in the mucous membrane of the pharynx and larynx, the large intestine, the conjunctiva palpebrarum, and the membranes of the brain; diphtheritic inflammation of the inner coat of the ileum; tumor of the spleen."

"**CASE V.** A servant-girl, aged seventeen, was suddenly taken ill with rigor, subsequent fever, profuse perspiration, and pains in the right shoulder-joint. The latter was tender to pressure. A systolic murmur could be detected over the heart; the temperature was high. A few days later, she became comatose; some of the muscles of the eye were paralyzed; a bloody extravasation was seen, first in the left retina, later on in the right; the dullness of the heart was enlarged; death ensued a week after she had first felt ill.

"**Necropsy.** The spleen was slightly enlarged; diffuse suppurative meningitis; pleuritis on the left side of the thorax; bacteriæmic endocarditis of the central valve."

Leube states that "spontaneous septicæmia may easily be mistaken for uræmia, meningitis, or miliary tuberculosis, although neither of the latter affections entirely resemble it in every respect. Characteristic symptoms are the rigors and high temperature, which set in suddenly without any prodromi, as well as the profound alteration of the nervous centres. The eruptions on the skin are also very important diagnostically, especially as they occur constantly, which is not the case with the hemorrhages in the retina."

In the *London Lancet* for March 20, 1880, is a clin-

ical lecture on Ulcerative Endocarditis with Embolism of Brain, by Henry Thompson, M. D., in which he says: "Its consequences are embolism or blood infection, or both together. . . . I am bound, however, to warn you that by many authorities ulcerative and infective endocarditis are regarded as commensurate and synonymous terms. Nor is this all. Pathologists have brought to light the so-called material of infection, the presumed blood poison itself, in the several shapes of micrococci, vibrios, bacteria, leptothrix, filaments, and the like, — a motley assemblage of molecular organisms, which may be briefly designated microzymes. . . . Unfortunately no one can tell where these strange beings are born, whether *within* the heart or *behind* the heart in the course of the circulation, whether they are indigenous or exotic, central or peripheral, in origin. Cases on record which one would unhesitatingly refer to an extraneous source. On the other hand, there are undoubted examples where no distant point of departure was *discovered*, but in this connection it must be borne in mind that the same thing is true of unequivocal pyæmia. Over and over again, you know, in pyæmia we find no aboriginal focus of infection, whether anything of the kind exist or not.

"In all my own more recent cases, three in number, post-mortem examination revealed nothing to warrant the assumption of an extraneous source."

I have given the records of certain cases of pyæmia and septicæmia which are classed by some authorities as "spontaneous" in their origin.

In my own case the possible causes, such as bad air, impure water, defective drainage, tainted food, previous poor health, were all thoroughly investigated, with negative results.

These histories seem to justify the belief that cases of pyæmia and septicæmia occur in which the cause cannot be traced. The word "spontaneous" indicates that the origin cannot be explained, but does not necessarily commit one to the belief that there was a "spontaneous generation."

Further than this I have no theory to offer in regard to these cases; they are still too few in number to warrant any conclusions being drawn from them.

My desire in the presentation of this paper is that it may elicit discussion now, and the publication, hereafter, of other cases similar in their history.

HUMAN GROWTH.

BY CHARLES SEDGWICK MINOT, M. D.

As Dr. Bowditch's researches on the growth of the school-children of Boston have excited a very widespread and general interest in the matter, it is desirable to call attention to the independent investigations of Professor Pagliani, of Turin, which have confirmed and supplemented Dr. Bowditch's results. Pagliani's last paper¹ gives a general *résumé* of the whole subject, based upon his own *résultats* and the observations of others. It is the chief object of the present article to give an abstract of this important memoir.

Formerly the principal authority on human growth was Quetelet,² who, having adopted a very arbitrary

method of research, arrived at results which are erroneous in important respects, as both Bowditch and Pagliani have pointed out. It is strange to find that even in the third edition of Foster's text-book of physiology, the best and most recent manual of this science, Quetelet's errors are still repeated. It is therefore desirable to report the new researches, since the general authorities are very incorrect.

Quetelet's error arose from his measuring twenty picked individuals for each age, ten of each sex, selecting those he supposed to be fully and symmetrically developed. In order to get at the real course of growth it is necessary to take the average of a very large number of measurements, excepting only individuals with positive deformity or disease, because the variations are both extensive and numerous, and the growth of an individual rarely, if ever, conforms exactly to the average.

The best measure of growth is unquestionably the weight, because it represents the total growth independently of its being principally in height or diameter. The stature shows some peculiarities, which the weight alone cannot bring out, namely, in the proportionate rate of increase of stature and bulk, which are subject to definite and different variations.

The time of growth may be divided into four tolerably distinct periods, as follows:—

(1.) *Formative period*, comprising the first two months of the fetal life, during which the tissues are differentiated, and the omphalo-mesaraic circulation is maintained.

(2.) *Period of embryonic completion*, comprising the rest of the fetal life, with placental circulation.

(3.) *Period of development*, from birth to puberty.

(4.) *Reproductive period*, from puberty onwards.

There is a sufficient distinction between the first and second as well as the second and third periods, but that between the third and fourth depends upon the determination of the age of puberty. No precise determination in the case of boys has yet been made, there being no readily recognizable sign. It is, however, to be hoped that valuable results may be obtained, as Bowditch has suggested, by accurately recording the time when the voice changes, and also when hairs are developed on the pubic region, both changes approximately coincident with puberty. In the case of girls, the first menstruation and also the enlargement of the mamma, which usually somewhat precedes the first monthly flow, afford an obvious and sufficient indication of maturity. Numerous observations upon the first menstruation have been made. In Boston, according to Dr. Chadwick, the average age is fourteen years and five months. The exact epoch varies with race, climate, and circumstances of life. According to Joulin, in warm climates there is a larger number of first menstruations at twelve years than at any other age; in temperate climates at fifteen years; in cold climates at sixteen. But these data are very uncertain, as is shown by the fact that in Denmark Han-nover found from 2129 cases the average age to be 16.91 years, while Raun, from 3840 cases, found it to be 15.84.

The statistics must therefore be gathered before they will yield sufficiently accurate means. Menstruation begins in the majority of girls between the thirteenth and eighteenth year, both inclusive, a period of nearly six years, over three or four of which the cases are distributed about equally, so that there is not one year

¹ Luigi Pagliani, *Lo Sviluppo umano per Età, Sesso, Condizione sociale ed etnica, studiato nel Peso, Statura, Circonferenza toracica, Capacità vitale e Sforzo muscolare*. Milan, 1879. 8vo, pp. 79, Tav. I.-IV.

² Quetelet, *Physique sociale*.

during which menstruation usually begins. This is instanced by the following table, obtained at Professor Tibone's clinic in Turin:—

Age.	Cases of First Menstruation.
10	2
11	13
12	89
13	222
14	359
15	316
16	306
17	198
18	177
19	54
20	48
21	13
22	12

The causes of such variation are not surely recognized. In Germany, according to Meyer (six thousand observations), menstruation is earlier, 15.51 years, in the daughters of well-to-do parents; later, 16.50 years, among the poor; while it has been found that in cities the first menstruation occurs two to three months earlier than in the country. A much more important indication is afforded by the color of the hair, according to Pagliani: the lighter the color, the earlier the menstruation.

This conclusion rests only upon seventy-one observations by Dr. Bianco, of Turin. Since it is so important to decide this point by further research, Pagliani's table is here reproduced, to make comparisons easier:—

Year of the first Menstruation.	COLOR OF HAIR.		
	Blonde. No. of Cases.	Brown. ¹ No. of Cases.	Black. No. of Cases.
12	3	2	2
13	8	5	3
14	5	19	4
15	3	5	9
16	3	1	3
17-18	1	2	2

It is to be hoped that those physicians who have opportunity will make notes upon this point.

The season of the year also appears to have a marked influence. The first menstruation, according to one hundred and thirty-seven observations by Bianco, occurs in the spring in thirty-four per cent. of the cases, but the proportion is much larger (forty-five per cent.) in the country than in the city (twenty-three per cent.).

If these conclusions are all correct, then if a girl is brought up in the country, in easy circumstances, has blonde hair, and was born in the spring, she combines the circumstances favorable to early menstruation, and *vice versa*. The bearing of these facts on the course of growth will be considered directly.

Concerning the growth of the fetus the observations are few, and often unsatisfactory. Moleschott has

Age in Weeks.	Length in mm.	Weekly Increase.
2	2.2	
3	4.5	
4	8.0	2.3
5	12.0	3.5
6	16.0	4.0
7	20.0	4.0
8	30.0	10.0

¹ Called "*cusagni*" in the original.

calculated the following averages for the length, but his figures progress with great irregularity, as is shown in the table.

Even more irregular and unsatisfactory is Pagliani's table of fetal growth in length and weight from the second to tenth month. What little value these statistics might otherwise have is lost by the omission of the references to the original authorities, and also of the number of data from which each average is taken. According to the tables, the rate of growth is twenty times more rapid during the third month than during any subsequent one, and somewhat more rapid than during any previous period excepting the first and second week. Such a strange irregularity we necessarily suspect to be accidental; and until we have a large number of accurate data it cannot be considered fairly established.

Concerning the weight at birth there are of course very numerous statistics, referring especially to the weight. These Pagliani has compiled, but as he again omits the number of observations it is impossible to calculate the average. At the Hôpital de la Maternité in Paris the mean of twenty thousand observations, not divided according to sex, was 3.06 kilogrammes. According to various observers the male children are born one tenth to one twelfth heavier than the female. During the first two days the child *loses* about one sixteenth of its initial weight if nursed by the mother, but if fed from a bottle the loss continues five days or more, and amounts to ten per cent.

According to Banchaud, the child increases from 3.250 kilogrammes at birth to 8.950 at the end of thirteen months, but during that whole period the rate of growth rapidly diminishes. Thus, during the second month the increase is 750 grammes, but during the thirteenth 200 grammes only.

For the period which now intervenes before the fourth year of age there are recorded only the few unsatisfactory data of Quetelet and Zeising.² Pagliani gives the averages of his observations for three or four years, but as he omits to state how many measurements have served to determine those averages, though from the context it is evident the measurements were few, we must place less confidence in his figures than in those of Quetelet, whom Pagliani severely criticises for his imperfect method. For the period from five years to twenty the very extensive data collected by Dr. H. P. Bowditch in Boston are by far the most valuable we have. Dr. Bowditch was the first to establish the correct curve of growth, and to point out Quetelet's error. His results were confirmed by the synchronous and independent investigation of Pagliani, they both finding that the period of most rapid growth immediately precedes puberty. They differed, however, in that Bowditch found girls to grow fastest during the eleventh and twelfth years, Pagliani during the twelfth and thirteenth. This discrepancy Pagliani now explains by a difference in the age of puberty, which he assumes to arrive earlier in Boston than in Turin. He found that when the first menstruation takes place the rate of growth suddenly diminishes, the most rapid growth being prepubertal. He bases this conclusion upon observations by Dr. Bianco on thirty-nine girls, extending over five years, a small number of data, but all confirmatory, as is shown by the following table:—

² Zeising's neue Lehre von den Verhältnissen der menschlichen Gestalt, etc. Leipzig, 1854.

No. of Obs.	Year of First Menstruation.	Annual Increment of Stature in Millimetres at the Age of						
		10	11	12	13	14	15	16
4	12	95	98	31	30			
11	13		63	61	35	29	14	
11	14		45	71	66	35	31	3
12	15			52	53	142	29	7

It must be noted, however, that though the growth in stature falls off very rapidly in the menstrual year the growth in weight diminishes much less, a fact which is undoubtedly the result of the rounding out of the figure at that period.

Dr. Pagliani also studied the development of the thorax by measuring the circumference of the thorax in the male and the biacromial diameter in the female. He further studied the development of the muscular force (but strangely omits to state what means he employed to measure it), and finally the capacity of the lungs. I reproduce his general table, which gives a summary of his various results:—

GROWTH OF BOYS. ANNUAL INCREMENTS.

Age (years).	Weight (kilos.).	Stature (cm.).	Circumf. Thorax.	Capacity Thorax.	Muscular Force.
7-8	1.3	5.7		155	6
8-9	1.7	5.5		225	10
9-10	2.4	2.5	0.91	259	11
10-11	1.5	3.0	0.47	245	10
11-12	2.7	4.5	0.97	299	11
12-13	3.7	5.9	3.72	145	9
13-14	3.6	5.8	1.50	115	10
14-15	5.2	6.5	3.99	339	14
15-16	5.4	6.1	2.35	219	8
16-17	5.5	2.0	2.35	489	6
17-18	1.8	0.8	0.53	69	4
18-19	1.2	0.8	0.85	59	6

GROWTH OF GIRLS. ANNUAL INCREMENTS.

Age (Years).	Weight (kilos.).	Stature (cm.).	Biacromial Diameter (cm.).	Capacity Thorax (cc.).	Muscular Force (kilos.).
7-8	1.3	6.4	1.8	259	3
8-9	2.9	5.2	0.8	195	7
9-10	2.8	6.5	2.5	249	7
10-11	2.2	4.2	0.7	149	4
11-12	2.6	5.2	1.0	115	8
12-13	5.0	5.9	0.9	189	8
13-14	4.0	7.0	3.7	299	8
14-15	4.3	3.0	0.9	299	5
15-16	1.9	1.4	0.7	49	2
16-17	1.8	1.0	0.9	89	1
17-18	1.1	0.0		25	

An inspection of these tables shows how greatly and in what respects these various measures of growth differ among themselves and in the two sexes, matters into which Pagliani enters at some length.

The relation of growth to the circumstances of life is a subject of very recent scientific study, for the vague opinions formerly upheld, and even now sometimes repeated, are valueless. It is now established statistically that poverty, accompanied as it is by hard and incessant labor and insufficient nourishment, greatly impedes growth, but it exerts only a slight if any influence on the size of the new-born child; during childhood the difference between the child of well-to-do and of poor parents constantly increases, though according to Pagliani the poor girls lose at first more than the poor boys; in both sexes, however, the difference ultimately becomes nearly the same, the poor children weighing about eighty per cent. of the weight of well-to-do children of the same age and sex. Pagliani

points out that in his tables the difference is greatest at the time of puberty, but his figures are based on too few observations for it to be safe to draw that conclusion. The same untoward effects of poverty are shown by the growth in height, in the capacity of the lungs, and in muscular force.

The influence of the circumstances of life is well shown in a comparison of girls of the upper Italian classes educated at an institute in the country near Turin with charity girls in a most unfortunately constructed building in the midst of the city. At fifteen years the country-bred girls averaged 45.6 kilogrammes in weight, the charity girls 37.1, or eighty one per cent. of the former. The difference in stature was, however, less.

Sufficient and regular exercise does a great deal to assist growth. A certain number of boys in the schools of Turin are annually selected on account of their gymnastic aptitude, and are given three extra lessons in gymnastics per week. Ninety-four of these boys were measured before and after three months of this drill, and it was found that the average increase in the capacity of the lungs was two hundred and twenty-eight cc., the average annual increase for other boys of the same age being two hundred and twenty cc. The lungs of the boys who exercised enlarged more in three months than those of other boys in a whole year. The same phenomena are shown by the increase in muscular power.

Wretling found in Göteborg that going to school impeded growth, for he discovered that the children grew much more rapidly during vacation than during school-time. There were three months' vacation, nine months' schooling, so that if the growth was constant then the children would grow one third as much during vacation as during term-time; but this was nowise the case. Indeed, at fifteen the increase was actually more during the vacation than during all the rest of the year. The following table shows these facts:—

GROWTH OF BOYS. WRETLING.

Age.	No. of Observations.	INCREMENT: Three Months' Vacation.	WEIGHT IN KILOS. Nine Months' School.
7	121	1.19	3.77
8	253	1.63	3.86
9	308	2.01	4.07
10	452	2.52	4.59
11	409	2.73	5.81
12	483	3.57	7.29
13	596	4.33	5.85
14	487	4.07	7.13
15	299	4.61	4.03
16	159	3.25	5.58
17	31	3.21	1.00
3447			

Even when the influences unfavorable to development have acted several years, if the child is placed in better circumstances its growth takes a start. This is shown by a charitable farming school, the pupils of which, taken from the lower classes of Turin, were examined by Pagliani. At the school they were well fed, and worked out-of-doors a good deal. When the boys enter the school their physique begins to improve. During the first year the increase of weight is most prominent, but the greatest rate of growth in stature does not take place until the third year, while the most rapid increase in the circumference of the thorax, the capacity of the lungs, and muscular force falls in the second year after entering the school.

Finally, the course of growth varies according to

race, but unfortunately the want of statistics prevents the drawing of any definite conclusions concerning the factor of race.

It is much to be regretted that Dr. Pagliani's interesting and valuable memoir is seriously marred by his unaccountable and inexcusable neglect in not giving the number of observations from which many of his averages are compiled, so that his figures cannot be added to, or even properly compared with, those of other observers. He also omits to give references to many of his authorities, rendering it impossible to verify his citations. Who, for instance, would look for "*Chadwick (Boston)*" as an authority for the period of menstruation under Bowditch, except he were already familiar with Dr. Bowditch's article on the growth of children?

RECENT PROGRESS IN THE TREATMENT OF DISEASES OF CHILDREN.

BY D. H. HAYDEN, M. D.

ATTACK OF COLD (DU COUP DE FROID).¹

THE subject was suggested by the rigorous temperature to which the population of Paris was exposed the previous winter, and the resulting noxious influences upon young infants. When the cause of a disease is given as *having taken cold* (*un refroidissement*) this etiology is not always accepted without discussion. "How," exclaims the mother, "can my child have taken cold! Before taking it out I had it warmly wrapped up; and when it was in the carriage all the windows were closed." At other times they will declare, what is perfectly true, that the child has not been out of the house for several days, and that it has been in one room, thoroughly warmed, all the time. One should never be affected by arguments of this sort.

A child under six or seven years of age cannot endure a long walk without injury when the temperature is low. It becomes quickly tired, and is then very sensitive to the action of cold, which strikes it immediately on stopping or when it passes abruptly from a sheltered spot to a street swept by a cold wind.

In the interior of the apartment the causes of catching cold are still more difficult to avoid; and the accidents resulting therefrom are more frequent.

In a young child the skin is but slightly sensitive and incompletely educated to outside influences, and consequently but little vigilant. It gives warning very tardily and in an imperfect manner of dangers threatening. For in rooms the most shut up there are produced, inevitably, draughts, and these are the stronger the larger the fire in the grate; so that if a room where there is a fire is heated by itself, and is explored carefully, it will be found to be traversed by a certain number of waves of cold air, which converge from various orifices towards the chimney. The direction of these currents of air is very variable. They are formed more often in the lower regions, having their origin in the spaces between the doors and the floor. Little children, which pass of their own accord a part of the day playing on the floor, are very much exposed to these draughts.

The time of greatest danger for a child is on entering the house, after having been playing and running out-of-

doors. When he is warm and often perspiring, his outside garments are removed, and he remains in a room insufficiently heated, and quiet from the fatigue of his play. His temperature becomes necessarily lowered in a rapid manner, and a liability to catch cold is established. The same dangers exist for infants at the breast. On going out they are clothed with robes, gaiters, and veils, and finally over these is a cloak, which of itself would suffice to protect them from the severest cold. Thus wrapped up they rest for two or three hours in their nurses' arms, who supply in addition heat from their own body. Their faces are nearly always red and covered with moisture. On returning to the house they are placed asleep on their cradle having previously had their outside garments removed. There ensues a notable and rapid fall of temperature, the effects of which are often manifested very quickly. These sometimes show themselves shortly after such exposure and with great intensity; sometimes, on the contrary, they appear more tardily and with much less severity. To illustrate the first class: An infant between two and six years old, which has been out during the day, and which has afterwards taken its meals and had a sleep, without the slightest indication of having taken any cold while out, wakes suddenly towards eleven at night, anxious and frightened. It has a croupy cough; the countenance is animated, the neck swollen, the skin warm and covered with perspiration, the pulse frequent. In one word, it has an assemblage of symptoms which characterize stridulous laryngitis. That it has during the day taken cold is indubitable. Another infant, younger, at the breast, in the evening of a day when it has been out, after having slept peaceably wakes, in a state of uneasiness, as shown in its face. It is pale; its eyes look excavated; one would think that it was going to fall into a condition of syncope; its mouth is opened, as if nauseated; every position is uncomfortable to it, and it moans continually. It finally vomits abundantly, appears relieved, goes off to sleep, and often all is terminated by a few diarrhetic stools. But at other times the face becomes red, the skin very hot; the pulse beats with frequency, and it begins to cough; and at the end of a time of variable length all the signs of a bronchopneumonia are demonstrable. In these cases the intervention of a *coup de froid* cannot be questioned. In cases where the results of a cold appear more tardily and in a manner less blustering, it is not until the next day that the first symptoms make their appearance. These vary. The fever is the most constant symptom; at other times there is a loss of appetite, or a cough, which attracts the attention. Very quickly the situation emphasizes itself, and the localization of the trouble becomes apparent. With some it is a "herpetic or pultaceous angina." With others a nasal discharge, redness of the eyes, sneezing, and a frequent cough leave no doubt as to the nature of the trouble. Often the Eustachian tube and middle ear become inflamed, and there can follow a painful abscess in the latter region. Finally, in certain cases, it is the intestines that are affected, as it is easy to see by the colic and diarrhoea.

These are far from being all the pathological consequences of a *coup de froid*, but they are the most frequent. They can come singly or more or less associated together; and as they hold a prominent position in the pathology of infancy they should be always borne in mind, and an exploration made to put one in the way of their discovery. For example, after care-

¹ Lecture delivered by Professor M. Parrot at the Clinique of the Hôpital des Enfants assistés. Progrès médical, March 13, 1880.

fully inquiring about the doings of the little patient for the preceding forty-eight hours, auscultation should be always practiced; and it cannot be too much insisted on that an examination of the throat must be invariably made. How often is the solution found there!

The most efficacious means of preventing colds in infants: If the children occupy a closed room, they must not be allowed to sit round near the doors or windows or fire-place. The spot for them in their plays or reading should be as far as possible from the fire-place, provided that it is not near any opening. It is greatly preferable, when practicable, that the room having the fire should be in open communication with the neighboring room, to which the children should have free access. It is true they are thus exposed to changes of temperature, but in a manner so imperceptible that no harm could result therefrom; and they will also be thus accustomed to endure more considerable and sudden transitions to which they must be exposed in other circumstances.

With regard to going out the same rules will not answer for all subjects. An important consideration is the age.

No matter what the temperature is, if neither rain, snow, mud, or wind offers an obstacle to a walk, a child can and should be taken out every day. But the duration of the promenade will be inversely to its age and to the intensity of the cold. The lower the thermometer and the younger the child the shorter must be the duration of its exposure out-of-doors. When the thermometer is three or four degrees below freezing, a child under five years of age should not be kept out more than twenty minutes to half an hour. A child seven or eight years old can be kept out nearly an hour, but he should be required to be constantly walking. Infants at the breast, three months old and over, can be carried out even when the cold is severe, but great care must be taken to cover their face and to shorten the promenade.

This daily going out cannot be too much insisted upon. A slight cold should not be considered an obstacle. It is a very unfavorable thing for children to remain in-doors several days in succession; and it is often in such cases, after an untimely confinement in-doors, that the effects of a cold are experienced on the first going out.

Nothing can be more imprudent than to take off the clothes of a child just returned from a walk, even when the temperature of the apartment is higher than that outside. It is rare that the child, somewhat perspiring and slightly fatigued by the walk, does not rest relatively immovable. This want of action, after a brisk walk, would not always be compensated for by the warmth of a fire. Recommend, therefore, that the clothes be removed little by little, and the more slowly the less the difference between the outside air and that of the chamber, and the greater the repose in which the child is resting.

The moment of return should be taken advantage of also for giving the child some lunch; and even when very young it is good hygiene afterwards to give a little wine. In the spring and summer, if it is much warmer in the open air than in the interior of the apartment, the children should be covered immediately on their return from their walk.

What is to be done when (which is a very rare experience) one is promptly notified that a child has just been exposed to a "*coup de froid*"? He should be

placed in a room the temperature of which does not exceed 16° or 17° C. (62° F.). The legs should be wrapped in warm flannels or sinapisms applied. There should be given a warm aromatic drink, after adding to it a little rum or cognac; and there is nothing to fear, when an infant is only five or six months old, in giving in the space of one or two hours one or two teaspoonfuls of cognac in coffee.

To older subjects, especially when over two years, a teaspoonful "*à entremets*" of a *mistura gummosa* containing two to three grammes (thirty to forty-five grains) of acetate of ammonia should be administered from hour to hour. If decided nausea or oppression exist, one must not hesitate to give an emetic. It will always provoke a salutary diaphoresis and a calm sleep, from which the child will not wake until its customary hour, and will be already out of danger.

CONVULSIONS IN CHILDREN.¹

Dr. A. A. Smith read a practical paper on this subject at a meeting of the New York Academy of Medicine, held April 15, 1880. He thought the statement that convulsions in children, independent of organic disease of the brain, were rarely serious was very liable to mislead the young practitioner. He believed that any case of convulsions might be dangerous, and therefore the physician should always study every case carefully. The age at which convulsions were most liable was between six and twenty-eight months, the period of dentition; not simply because dentition occurred, but because the nervous system of the child was then rapidly developing and was in a very impressible state. The tendency usually manifested itself very differently in different members of the same family. The different factors in the etiology of convulsions in children were taken up in turn,—hereditary tendency, rickets, overfeeding as well as improper feeding, malarial poisoning, congenital syphilis. Occurring in the course of an acute disease, especially towards the close, a convulsion was a grave symptom; also in the course of whooping-cough, if unassociated with dentition or some disturbance in the alimentary canal. The possibility of this same nervous excitability, which showed itself during infancy in a tendency to convulsions, later developing into epilepsy was then discussed. The treatment was considered under the head of (1) management of the attack, (2) prophylaxis, and (3) subsequent treatment.

The attack should be arrested by chloroform, whatever the cause, which should be removed if possible as soon as found. If due to pain produced by other causes than such as the pricking of a pin, or tight abdominal bandage which could be easily removed, and an overloaded stomach which could be easily emptied, opium was the most valuable remedy; and he would employ it if the child was more than four months old. The pain from teething should be controlled first by opium or a similar agent, and secondly by the gum-lance. The effort to lance the gum before the pain was subdued would probably cause another convulsion. When the convulsions were caused by pain produced by worms or other foreign bodies in the intestinal canal, or errors in feeding, this should be first controlled by opium, and then a cathartic given. Convulsions produced by worms were not always attended with pain. The cathartic and opiate might be combined with advantage. If there was reason to believe the

¹ New York Medical Record, May 8, 1880.

source of irritation was in the rectum or near it, and an enema was indicated, an opiate should be given first; and when its influence was secured sufficiently to control the convulsion then the injection might be given. When due to malarial poison, convulsions yielded more promptly to opium than to any other agent, and subsequently quinine was to be relied on to prevent its recurrence. The tolerance of opium in some of these cases was very great, as well as in all others in which its use was indicated. Dr. Smith believed in lancing the gums when swollen and hot. Further, if it was time for the tooth to appear, he believed the gum should be scarified; for the irritation was due not infrequently to deep-seated pressure, such as could not manifest itself upon the surface. Whatever theory might teach, it seemed to him from clinical observation to be conclusive that lancing the gums was followed frequently with marked relief.

In ordering opium the mother might with safety be told to give the baby over four months old pargoric, with explicit directions concerning size of dose, to be repeated every half hour until the convulsions are controlled or a physician should arrive. If under four months old, Dr. Smith prescribed a teaspoonful of a mixture containing in each dose one grain of bromide, chloral, and bicarbonate of soda for the youngest infants. It was conveniently prescribed in warm sweetened water. Double the quantity might be given every hour or two to children from six weeks to four months of age, according to the frequency and violence of the convulsions. Dr. Smith rejected the hot bath in the treatment of convulsions, for almost invariably the child had one or more convulsions while in the bath,—the very agitation incident to giving the bath adding to the excitement of an already disturbed nervous system. The author insisted, too, that the child should not be restrained while in the convulsion; that it should be placed upon a bed that did not squeak; that the room should be kept perfectly quiet, have plenty of fresh air, be partially darkened, contain only one person at a time; and that opening and shutting of doors should be avoided. Over-active treatment is uncalculated for and dangerous.

Dr. Smith then spoke of the sedative effect of the bromides, and of the value of maintaining it in cases in which the prolonged use of opium was undesirable. He believed that the intense itching which especially followed scarlet fever and measles might be the cause of convulsions in young children, and in these cases the bromides acted most favorably. Occasionally they aggravated the symptoms. Under such circumstances chloral might be used. To control convulsions dependent on high temperature he recommended veratrum viride. The tendency to produce vomiting could be obviated by combining it with opium. Two drops of the tincture might be given every hour to a child from six to eighteen months old. If it occasioned vomiting no harm was done, for the pulse and temperature then usually fell, and the convulsions ceased. If the remedy failed the cold bath was indicated. Coma was quite frequent in this class of cases, and the child was then in imminent danger. The temperature must be reduced, and the cold bath was the most efficient means that could be employed. The sedative action of calomel, especially in convulsions occurring at the onset of an acute pulmonary affection, was then mentioned with favor.

Under *pharyngitis* Dr. Smith referred to the proper

care of the mother during pregnancy, especially with reference to proper exercise, food, amount of sleep, condition of bowels, and all that pertains to diminishing the tendency to nervous disturbances in the child. Prophylaxis in the child was suggested by the study of the etiology of the convulsions.

The object to be accomplished under the third head, or treatment subsequent to the attack, was to remove causes, and keep the child in the best possible condition.

Dr. J. Lewis Smith, in an experience of six years at the Bellevue Hospital out-door poor department, had been unable to convince himself that there was any connection between the convulsions of young children and epilepsy in later life. Epilepsy was liable to develop between five and seven years, but he regarded the two as independent conditions. With reference to treatment, Dr. J. Lewis Smith said that he had not carried a gum-lance for five or six years. He had relied upon the bromides of potassium preferably in large doses frequently repeated, two to six grains for a child over two months and under one year of age, repeated every ten, fifteen, or twenty minutes, according to the severity of the case, to control the irritation produced by the irruption of the teeth. In convulsions of children he gave hydrate of chloral, and always by rectal injection, and had been astonished to see how quickly the convulsive movements would cease in a child that had been so treated, the first thing noticeable being relaxation of the face, then of the arms and legs, and usually in a few minutes the convulsion had entirely ceased. He rarely found it necessary to remain with the patient more than half an hour, whereas, formerly, he had not infrequently been obliged to remain several hours before the convulsions were controlled. With reference to hot bath, he could not agree with the author of the paper in condemning its use. He believed it to be a beneficial agent, and certainly, when a child was threatened with a convulsion, had twitchings, etc., he would put it into a hot bath, as he had often seen exceedingly good results follow. Twenty-five years ago musk and assafetida were used a great deal, but now that the bromides and chloral were so commonly employed, convulsions in infants and young children were regarded as much less formidable than in those days. With regard to anaesthetics, he now never gave them in the class of cases under consideration.

Dr. S. T. Hubbard disapproved of the use of opium in children, but otherwise was in full sympathy with the reader's views, as were also Dr. J. L. Campbell, Dr. M. Bluementhal, and Dr. Richards, who followed in the discussion, particularly with reference to the non-employment of the hot bath and the use of the gum-lance.

FLOATING KIDNEYS IN CHILDREN.¹

In the *Hospitals-Tidende*, November 26, 1879, Professor Hirschsprung, of Copenhagen, discusses the diagnosis and etiology of floating kidneys in children, and reports two cases occurring in his own experience. The one was in a thin, anæmic boy of seven years, who had complained for some time of pain in the right hypochondrium. All the bodily functions seemed to be properly performed, and the pain was not dependent on any condition of the intestines. A careful examination showed, on the right side, between the

¹ New York Medical Journal, March, 1880.

twelfth rib and the crest of the ileum, a tumor somewhat concealed beneath the ribs anteriorly. The boy was chloroformed, and then the tumor appeared below the ribs, and could be moved up and down. The left kidney was in its proper place and immovable. The second case was in a boy eight years. For a number of years he had been obliged to rise several times in the night to micturate. He had always been thin and puny, and of late had had frequent attacks of vomiting. The abdomen was somewhat retracted, soft, and rather tender in the epigastrium. Under the lower border of the eighth rib was a something which resisted pressure. Pressure in the lumbar region under the last rib pushed this tumor forward, upward, and downward. When the child was chloroformed the tumor was seen to consist of two parts, and was recognized as the right kidney, much enlarged and freely movable. The left kidney was in its proper place and fixed. Hirschsprung, in commenting on these cases, thinks that a demonstrable swelling beneath the border of the rib, especially on the right side, of the consistence and shape of the kidney, which can easily be pushed upward toward the normal position of the kidney, and is freely movable forward and backward between the hands, cannot be mistaken for anything else. Both of his cases, as well as the three cases of Steiner, occurred on the right side. Three of the five cases were in boys. In none of the five was there any demonstrable cause. Hirschsprung refers to the paroxysmal pain, which comes on without any exciting cause, lasts a variable time, and then slowly sub-sides. His second case was complicated with ileus.

Reports of Societies.

NINETIETH ANNUAL MEETING OF THE NEW HAMPSHIRE MEDICAL SOCIETY.

The meeting was held in the Phenix Hall, at Concord, at eleven o'clock, A. M., on Tuesday, June 15, 1880, and was called to order by the president, Dr. T. J. W. Pray, of Dover. Prayer was offered by the Rev. D. C. Roberts, of St. Paul's Church, of Concord, after which the usual committees for the session were appointed by the chair, and delegates, Drs. Ira A. Russell and George W. Gay, from Massachusetts, and Dr. George Davenport, from Vermont, were introduced, welcomed to seats, and invited to take part in the proceedings of the association.

There were one hundred and twenty members present, which is a large number for a small and sparsely settled State, like New Hampshire, and it was evident their interest in professional work was equal to that of any association, for many of them were obliged to leave home either the day previous or upon night trains, in order to avail themselves of a brief period of professional intercourse and interchange of thought.

The council meeting was held the evening previous, and their report was read by the secretary, Dr. M. W. Russell, of Concord, and was accepted; after which sixteen new members were elected and took seats with the society.

At twelve o'clock, M., the president, Dr. Pray, read the annual address, taking for his subject *Diphtheria*; discussing the aetiology and the pathological conditions usually found, and making a strong appeal to physicians to always examine carefully and persistently into

the sanitary conditions of the house and surroundings in cases of this disease, and gave some excellent hints as to the indications of a tonic plan of treatment.

He closed with a brief summary of his own observations, saying he was convinced that croup and diphtheria were of the same origin, and essentially the same in development.

The address was accepted with a vote of thanks, and Dr. W. T. Smith, of Hanover, read an able paper upon *Suspended Animation*, and Dr. L. B. How, of Manchester, a report on *Surgery*, giving a detailed account of several cases that had come under his own observation.

At two o'clock, P. M., the society adjourned to the Phenix Hotel, where, with invited guests, they partook of the annual dinner; after which the post-prandial exercises were under the direction of Dr. F. A. Stillings, of Concord, who presided as anniversary chairman, and excellent responses were made to appropriate sentiments by the president, the chaplain, Drs. Russell and Gay, of the Massachusetts Medical Society, Dr. Hill, of Dover, Dr. Fowler, of Bristol, and others.

At 4.30 P. M., the society again assembled in the hall, and the reading of papers was resumed. The secretary read an essay on the *Province of Medicine*, by M. C. Dix, of Hinsdale, who was unable to be present, and Dr. F. A. Stillings, of Concord, gave an able and interesting paper on *Melancholia and its Connection with Ancient and Modern Suicides*. These papers were referred without discussion to the committee on publication.

The committee to report on the time and place of holding the semi-annual meeting, through Dr. A. H. Crosby, of Concord, reported that the inducements presented by the managers of the Penitentiary House, at Plymouth, had been accepted. The meeting was to be held in September; and on the second day, by reason of the liberal offer made by the managers and the railroad, there would be an excursion for the profession and their families upon Lake Winnepesaukee. The report was accepted, and the committee of arrangements were ordered to invite the New Hampshire Pharmaceutical Society, the district medical societies of the State, and such of the profession in other States as could easily arrive at Plymouth in one day, to be present with their wives, and enjoy with the State Association a social meeting, with a day of rest and recreation from the cares of professional life. Report accepted, and Dr. Silas W. Davis, of Plymouth, was appointed chairman of the committee of arrangements. The society then adjourned until eight P. M.

EVENING SESSION.

This session was largely devoted to the report of the committee on necrology, Dr. Hill, of Dover. Five deaths were reported as having occurred since the last annual meeting, namely, Dr. N. Folles, of Claremont, Dr. D. E. Wells, of Hill, Drs. A. R. Dearborn and B. E. Harriman, of Concord, and Dr. A. C. Whipple, of Ashland. Appropriate obituary notices were read of each of these deceased members, in the same order, by Dr. J. L. Swett, of Newport, Dr. H. B. Fowler, of Bristol, Drs. Cook, Crosby, and Conn, of Concord, which were accepted and referred.

The remainder of the evening session was devoted to the discussion of papers, and several interesting cases were reported.

Dr. M. W. Russell reported a case of rheumatic

pericarditis in which the temperature was persistently high, 102° F. to 104° F., and the respiration was so much increased as to make it very difficult to count. The case proving fatal the post mortem showed that the plastic material effused upon the surface of the pericardium had become organized into growths resembling the ferns in vegetable organizations, and the lungs seemed to have suffered secondarily from the pressure made by the overworked central organ.

Dr. Crosby, of Concord, reported a case of inguinal hernia that revealed in the operation two distinct sacs. These cases were discussed and others reported until a late hour, when the society adjourned until eight o'clock the next morning.

MORNING SESSION, WEDNESDAY, JUNE 16TH.

Dr. Pray in the chair. The delegates to Dartmouth Medical College and to other state societies read reports, and the secretaries of the several district societies gave an abstract of the work of their respective associations, and the auditors reported the treasurer's accounts to be correct, all of which was accepted and referred.

By special order, at nine o'clock the following officers were elected; also a council of twenty members and ten censors, as well as committees to report at the next annual meeting:—

President, Dr. G. P. Conn, Concord; vice-president, Dr. H. B. Fowler, Bristol; treasurer, Dr. L. B. How, Manchester; secretary, Dr. M. W. Russell, Concord; anniversary chairman, Dr. C. A. Tufts, Dover; executive committee, Drs. P. A. Stackpole, Dover, J. W. Parsons, Portsmouth, and A. H. Crosby, Concord.

The further discussion of cases and papers was then resumed and continued until 12.30, when the society adjourned.

The next annual meeting will be held in Concord, on the third Tuesday of June, 1881.

Recent Literature.

The Chemistry of Common Life. By the late JAMES F. W. JOHNSTON, M. A., F. R. S. S., etc., Professor of Chemistry in the University of Durham. A new edition, revised and brought down to the present time by ARTHUR HERBERT CHURCH, M. A. Oxon. New York: D. Appleton & Co. 1880.

Professor Johnston's *Chemistry of Common Life* first appeared some twenty-five years ago, and was one of the very earliest of those expositions in a popular form of scientific truths as affecting every-day life, which have since become so numerous and are so much read. In a judicious selection of subject matter, and in clearness and simplicity of presentation, it has not been surpassed by any of its successors. In the present edition such corrections and such omissions have been made as were demanded by the progress of science, and such additions introduced as were congenial to the original plan of the book. There is one entirely new chapter treating of the Colors we Admire. The editor has done his work in preparing this new edition for the press carefully and prudently, and has kept the volume within moderate bounds, whilst bringing it well abreast of the present day. It is quite as much a book on the hygiene as on the chemistry of common life. For the instruction of the

public at large and as a manual for schools it can be strongly recommended.

Carlsbad and its Natural Healing Agents, from the Physiological and Therapeutical Point of View. By J. KRAUS, M. D., with notes introductory by the Rev. JOHN T. WALTERS, M. A. Second edition, revised and enlarged. London: Trübner & Co., Ludgate Hill. 1880.

The same author published previously a pamphlet on the use of the Carlsbad waters for the public at large, but the present *brochure* is intended more especially for the medical profession, and is ushered in by some introductory notes from the pen of a gentleman who is a grateful patient: these would have been perhaps as appropriately prefixed to the other little treatise. Dr. Kraus is in practice at Carlsbad, and his book gives all necessary information about the place, its waters, and the different modes of employing them.

NEW YORK.

—A few days ago a girl of twenty was taken suddenly ill at the Trinity Mission Home, and died after remaining a short time unconscious. The autopsy made by the coroner showed that the cause of death was pulmonary apoplexy, which was found to be due to tight lacing. The girl had been an inmate of the above institution for three years, and it was while on an excursion to Coney Island that she became sick.

—The medical profession have always been regarded as a very law-abiding portion of the community, and this fact seems to be conclusively demonstrated by the criminal statistics of Brooklyn for the past year. During the year 25,706 arrests were made by the police, and of those arrested we learn that one was a clergyman, one an editor, eight were artists, six actors, two custom-house officers, forty-seven lawyers, and eleven undertakers, but not a single one was a physician, according to the record.

PHILADELPHIA.

—Professor Gross has sailed for Europe to attend the annual meeting of the British Medical Association at Cambridge. It is an open secret that he has been selected by Cambridge University as the recipient of its highest honors, and that the degree of LL. D. will be conferred upon our distinguished representative, so that he will be Doctor of Laws Cantab., as well as Doctor of Civil Law Oxon. May he live long to enjoy his well-merited honors!

—A curious case occurred recently at the Pennsylvania Hospital, in which a woman, moribund from a recent burn, gave birth to a fetus, still-born, at eight and one half months, which presented blistering of the surface of the body in a region exactly corresponding with the mother's injuries. This case will be fully reported, with carefully prepared drawings of the appearances of mother and child, in the *American Journal of Medical Sciences* for next October or January. It is a beautiful example of maternal impression in the last month of pregnancy. The child was alive and the fetal heart was heard only a few hours before birth. No syphilis was present; the child in every other respect was well formed.

Medical and Surgical Journal.

THURSDAY, JULY 22, 1880.

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THE RELATIONSHIP OF PHTHISIS AND TUBERCLE.

CONSUMPTION's ghastly form had, doubtless, long been familiar to clinical observers even before Hippocrates wrote his celebrated treatise upon Pulmonary Phtthis, in which he acutely observed that the reason pulmonary abscesses were so difficult to cure was because they were hidden in the interior of the body where they were inaccessible to ordinary surgical treatment. Since the time when this unfavorable tendency of phtthis was observed and the reason incidentally pointed out, many treatises have been written upon this topic, and much light has been thrown upon tubercle and its clinical history; but notwithstanding our boasted advantages the clinical picture remains much the same at the present day as it did twenty-three centuries ago; and while it is now claimed that improved methods of treatment have placed incipient phtthis among the curable diseases, we are still compelled to acknowledge that year after year this deadly scourge is ever with us, and in our cities is responsible for no less than one fourth of the total mortality of the population. And now if the question be asked, What are the essential characters of phtthis pulmonalis, and what are the properties of tubercle? pathologists, from the stand-point of morbid histology, are unable to agree upon a categorical statement of opinion. Some years ago, from the able teachings of Bayle, Laennec, and Louis, the medical world had pretty well settled down to the conviction that tubercle was the specific product of a diathesis; that there were two varieties of it; and that, when deposited, tubercle caused irritation and unhealthy inflammation. Rokitansky also clearly enunciated the doctrine that both the gray and the yellow exudations were varieties of tubercle. From this stand-point we have widely wandered, chiefly under the influences of seductive strains from the land of the Lorelei, while distinctions have faded away and differences become reconciled, until, in the mind of many, phtthis means half a dozen morbid states, and tubercle, if not quite regarded as a figment of the fancy, has lost the specific characters that it was fondly presumed to possess, and is now a result of retrograde metamorphosis, granular detritus, and degenerated epithelium, mixed up with wrecks of adenoid and connective tissue in various stages of fatty change, cretification, or softening. The dictum of Niemeyer has now become as familiar as household words: "The greatest danger of a consumptive patient is that he may become tubercular" (whatever that may be assumed to be).

There are now signs of reaction from the doctrine of negation. Too much has been said about what tubercle was not; too much has been conceded to inflammation. The limits of pathological anatomy in this question have been attained; the microscope having failed in detecting the distinctive character of syphilitic pus, disappointment has likewise followed dependence upon it for the recognition of the specific vital properties of tubercle. A return to the clinical study is our *derrière ressource*, but we now approach the question with all the light thrown upon it by the numerous physiological experiments of capable observers. As evidence of a return to the teaching of Laennec, we observe the writings of Charcot, and more particularly a very significant paper by Da Costa, recently read before the Philadelphia Pathological Society, entitled *Some Points in the Pathology of Tubercle*.¹ In this article our distinguished clinical authority discusses the question, What relation does tubercle bear to inflammation? and declares that "the process [of tubercularization], whatever it be, is something special, though something of which we do not hold the key." Reviewing the experiments of Villenin, Cohnheim, Bollinger, and others, he further declares that they seem to prove "that tubercle may be transmitted by inoculation, either of true tubercular matter or so-called tubercular pneumonia; that the resorption of tubercle and infection of previously healthy parts is a view sustained by evidence; that the production of tubercle from non-tubercular material, either by inoculation or inhalation, is not proved." After discussing the histology of so-called caseous pneumonia, he recognizes no generic difference between its well-known lesion and tubercle, and says, "if we call this affection at once 'tubercular pneumonia' we are, I verily believe, much nearer to the truth than in endeavoring to separate it from tubercle altogether," and quotes clinical experience in support of this view, — cases in which caseous pneumonia ended in undoubted evidences of tubercular development. He advocates the view that "*caseous pneumonia leads to tubercle elsewhere, because it is really tubercle already*;"² and that it is not the products of ordinary inflammation, but the tubercular products which infect.

The correctness of Virchow's conclusions are accepted in the paper now under consideration to the extent of admitting that we cannot assume all kinds of caseous degeneration to be tubercular, inasmuch as they appear also in purulent collections and in cancer, while microscopically they are not to be distinguished from the so-called cheesy degeneration of pneumonic phtthis. This he declared to be the great difficulty of admitting his argument; but it is only apparently so, because similarity of appearance is very far from identity of structure, and where the microscope fails clinical observation comes to our aid. The author explicitly declares his opinion as follows: "I believe, then, that pneumonic phtthis is a tubercular pneumonia, and that the inflammation is tubercular from the onset, or has acquired a tubercular nature from changes

¹ Transactions of the Pathological Society, Philadelphia Medical Times for June 19, 1880.

² Italics our own.

in the cell life, which we do not understand." The present clinical distinctions will not be obliterated by this view, but "if the so-called pneumonic phthisis has a separate history, gives points for special diagnosis and prognosis, requires different treatment, it ought, no matter what our views of its real pathology, to be recognized as a distinct form. But," he concludes, "let us go no further; we are leaving the broad highway for rough and tortuous paths, when, as is the tendency of the present day, we attempt to sweep all cases of lung destruction into the physical category."

Since the reading of the above, an abstract of Coln-heim's monograph has appeared¹ in the *British Medical Journal* for May 8, 1880, in which very similar conclusions are arrived at concerning the specific characteristics of tubercle, which is declared to be due to a special inoculable poison. The fluctuations of opinion in regard to the pathology of tubercle are well exemplified in the medical literature of the last twenty years; and to the physiologist, accused of annually altering his facts, it is gratifying to see that since pathology is not an exact science it not infrequently demonstrates its progressive condition by accepting changes when they are duly authenticated by physiological experiment.

MEDICAL NOTES.

— Dr. Henry P. Walcott, of Cambridge, has been appointed and confirmed as health officer of the State Board of Health, Lunacy, and Charity. Dr. Walcott is favorably known in connection with an able report on the water supply of Cambridge, and his appointment is regarded with satisfaction by the profession.

— We regret to learn that our Chicago correspondent, Dr. Norman S. Bridge, was lately the victim of an accident with an elevator, in which, by much presence of mind, he narrowly escaped serious injury.

— From Paris we learn by cable of the death of Dr. Paul Broca, a distinguished French surgeon.

PHILADELPHIA.

— The new State Insane Asylum at Norristown, was opened July 12, 1880, for the reception of patients.

Miscellany.

LETTER FROM LONDON.

MODERN NURSING.

MR. EDITOR, — Some of your readers who systematically look into the English medical journal will have noticed sundry references to a dispute at present going on at Guy's Hospital between the doctors and the lay authorities on the mode of nursing employed at the hospital. As this is only one of many such disputes which have taken place during the last few years in England, and as the question is one that affects all countries alike, I propose to give you some account of the quarrel and of the circumstances which have gradually led up to it.

¹ Die Tuberculose vom Standpunkt der Infectionslchre.

There is no doubt that until within comparatively recent times, certainly within the last fifty years, nursing, both in hospitals and in private families, was a branch of medical treatment that was grievously neglected. The occupation of nurse was looked upon as one quite unfit for a lady, and indeed as beneath that of domestic servant in the social scale. It was consequently resorted to by those who were too old, or from any cause too incompetent, to do anything else, and those who are old enough to remember the state of things in the hospitals half a century ago would probably tell us that the pictures drawn by Dickens represent with little exaggeration the class of women who were to be found in the wards, and on whom doctors had to rely in their private practice at that time. Little by little, however, matters began to mend. The appearance of Martin Chuzzlewit may have had something to do with this improvement; but what was probably much more efficacious was the awakening of the philanthropic spirit called forth by the general stimulus given to all movements, religious, social, and commercial, by the construction of railways, and by the special stimulus given in this particular direction by the rapid increase of population, necessitating, as it did, the establishment of many more hospitals than had hitherto existed. These new hospitals, instead of being possessed of large private incomes similar to those enjoyed by St. Bartholomew's, Guy's, and St. Thomas's hospitals, making them completely independent of the outside public and careless of what might be said about them, had to depend solely upon the public for support, and were therefore responsible to it for the disposal of the money intrusted to them. Hence arose the committee system, which is so prominent a feature in the management of English charities; and on these committees are to be found, as a rule, the most philanthropic of the philanthropic, — those, in fact, who are willing not only to give their money, but to give also no small portion of their time, to the charity in which they are interested.

As soon as this change had been introduced in the method of administering charities, it was certain that abuses such as that which existed in the nursing department would no longer be allowed to remain unchallenged, and from that time an improvement began, which gradually made its influence felt even in the most conservative of the older institutions. Reforms of this kind can never be made all at once. In the first place the would-be reformers, although fully aware of some of the more flagrant wrongs in the existing system, have rarely themselves advanced a very great distance on the right road; in the next, even supposing they have clearly before their minds the end which ought ultimately to be attained, there is always so much dead weight of conservative opposition to be got over that the advance must necessarily be slow; and, further, in a practical reform of this kind it is necessary to manufacture the material with which the reform is to be carried out before much progress can be made. This in the case of nursing was a matter requiring considerable time, and what with one difficulty and another so long a time has been requisite that we are still some way from reaching even an approximate state of perfection; and it is in the endeavor to advance rather more rapidly than they had hitherto been doing that the lay authorities at Guy's Hospital have raised such a storm over their devoted heads.

One of the later results of the general awakening of religious feeling which took place in England about

forty years ago has been the establishment of sisterhoods, connected with the church, whose members correspond in many points to the Sisters of Mercy everywhere present in Roman Catholic countries. These sisterhoods are chiefly composed of single ladies of the upper and middle classes, who for one reason or another are anxious to have some more solid occupation than that which they find in their daily life at home, and who wish to unite this occupation with the religious sentiment, which so many of them have in a high degree. To this movement is largely due the gradual enrolling of educated ladies amongst the ranks of the nurses, though the result has been greatly aided by the energy of other ladies who have entered on the work independent of any connection with a religious body. Gradually these ladies have made their influence felt over a constantly increasing area, and nursing has grown almost to the dignity of a profession. The nursing in most of the hospitals has been wholly reorganized, has been placed upon a thoroughly systematic footing, and it is almost unnecessary to say that it has been very much improved.

The chief reason why the introduction of a new system of nursing into hospitals has in so many cases given rise to trouble is to be found, I believe, in the way in which the change has been brought about. It may appear strange, but there is undoubtedly a tendency on the part of many hospital committees to ignore the medical staff altogether on questions of hospital management, or at any rate to treat the views expressed by members of the staff with but scant respect. There is a similar tendency on the part of certain of the bodies, religious or other, which have made hospital nursing their specialty; and the natural result is that when the former call in the aid of the latter the doctors sometimes find themselves left very much out in the cold. The new lady superintendent, a sister superior, as the case may be, comes to her work full of zeal and enthusiasm. She finds the nursing department in an unsatisfactory state, in various ways, and feeling herself to be responsible to and backed up by the lay committee she sets to work with a will to put everything to rights in her own way, without reflecting very much of what the medical staff may think of the matter. The medical staff generally numbers amongst its members a considerable proportion of physicians and surgeons who have worked at the hospital for many years, who have naturally become somewhat conservative as regards the management of the wards under their charge, and who have believed from their own personal experience that the nursing department required but little change, since it is not generally in the actual nursing that change is called for, but rather in the general arrangement of the nursing department and the rules of conduct for the nurses when not actually in the ward, about which of course the staff would know nothing at all. Consequently the new arrangement introduced by the freshly appointed head of the nursing department has generally aroused a storm of opposition on the part of the doctors, which may either be quieted, or the contrary, according to the position assumed by the lady superintendent and the lay authorities at her back. If they be wise they will take the members of the staff fully into their confidence, will hear what the doctors have to say, and will endeavor to modify their plans so as to meet as far as possible the views of the staff. If the staff be very still-backed and oppose any change whatever, they will go to work quietly, and instead of

attempting a revolution all at once they will introduce one little reform after another, until after a time they will have attained the ends they had in view without having quarreled with any one. Unfortunately, however, tact is a rare virtue in this world, and too often a totally different course is pursued. The lady superintendent considers that her department in the hospital stands out distinctly from the purely medical, and that, this being the case, the doctors have no more right to interfere in any arrangement she may think proper to make than she has to interfere in the arrangements of the doctors. Now, though true up to a certain point, and though doubtless capable of being applied in some degree to hospitals, this principle is not a perfectly correct one. The doctors' and the nurses' departments cannot but be mutually dependent; some guidance, in so far as they depend upon one another, must come from one side or the other applicable to both sides; and the doctors being wholly responsible for the conduct of the cases, and moreover standing on a somewhat different platform to the nurses, the guidance must come from them. When, therefore, arrangements in the nursing which immediately affect them are altered without their consent a protest ensues. If, at this point, the superintendent of nursing stands on what she supposes to be her rights, a struggle is inevitable. The next stage is an appeal to the lay committee, or to the proper lay authority in charge of the business affairs of the hospital. As a rule the lay authorities, instead of smoothing matters over and inducing the disputants to come to a compromise, back up their newly appointed superintendent through thick and thin; she was appointed with the view of introducing reforms, and she must be supported in the work she has undertaken. The breach is thereby widened, all kinds of side issues are introduced into the conflict, and the matter either ends in the resignation of the lady superintendent, or of those members of the committee who have taken an active part with the superintendent; or the staff may resign *en masse*,—all of which results have come about in different hospitals within the last few months. In one other case a compromise was arrived at after a long and heated struggle, and in the case of Guy's Hospital the dispute is at present at fever heat.

As regards the special circumstances connected with the quarrel at Guy's, it matters little what the first offending action may have been. The real cause for the quarrel was very much what I have sketched above, and before it had lasted very long so many side minds and so much personality had been introduced that the original cause was nearly lost sight of. It has latterly resolved itself into this. The staff exceedingly dislike the lady superintendent, and are determined to do all they can to get rid of her. The lay authorities are determined to support her and to carry out all the reforms in the nursing suggested by her; and it is now merely a question which side can hold out longest. There can be little doubt which will win in the long run. The lay authorities have an assured income of £200,000 (£10,000) a year at their disposal, and they care little whether the doctors resign or not; the doctors, on the other hand, cannot afford to cut their connection with the hospital and school, and are therefore practically impotent in the matter, since nothing is to be gained by mere protestation. They will have to give in ultimately, and so far as an outsider can learn, except for the sentiment of having been beaten, they will be none the worse for doing so, whilst the

hospital will probably be better. A little more tact on the part of the lady superintendent would probably have enabled her to do all she wanted without difficulty; a little more self-command on the part of the doctors at first would probably have avoided a struggle which can do them no credit, whilst it will have weakened their position. The dispute is an unfortunate one; but if it should have the effect of teaching caution to lady superintendents and to lay authorities, and of suggesting an increased spirit of compromise to the doctors, it will not have been altogether useless. A disagreeable and complicating episode in the affair was the publication in the *Nineteenth Century Review*, the most widely read of all our high-class monthly periodicals, of a paper by a Miss Lonsdale, who, though a probationer in the hospital, was practically altogether outside the controversy. She wrote in an intemperate and exaggerated style, pouring oil on the fire, and rendering it much more difficult to bring the contending parties together. It is satisfactory to add that she got well snubbed on both sides, the doctors convicting her of misstatements innumerable, and the lay authorities censuring her for mixing herself up in matters with which she had nothing to do. Spite of this, however, she was the cause of much mischief, because the passions aroused on both sides by her article were not allayed by the disavowal by the lay authorities of any connection with her.

INSTRUCTION AT LEIPZIG.

MR. EDITOR, — I have ventured to send you a few facts regarding the course of medical instruction in the university at Leipzig, knowing that the mass of American students and young doctors who come abroad make their way to Vienna; and as I pursued a somewhat different plan last winter, I thought it might be useful to those of your readers who intend coming abroad to learn something of the former university in making up their minds as to the best course to pursue.

My chief object in remaining in Leipzig was that, while I found quite enough in the three courses which I took and the reading which they involved to satisfy me, I was enabled at the same time to devote myself to learning the language much more easily than in going where one meets his own countrymen every hour of the day in the lectures, and has rare opportunities of speaking and reading German. Unfortunately, as my decision to remain there was made somewhat late, and as the course in histology conflicted with Cohnheim's hours, I was unable to obtain a place for his demonstration and microscopical courses, but merely listened to his lectures every day upon general pathology. The demonstration course takes place twice a week, two hours at a time, during which pathological specimens are handed around and lectured upon. The microscopical course also occurs twice a week, two hours at a time. In both of these exercises Cohnheim's assistants, Professor Weigert and Dr. Huber, are invariably present to aid him in instructing the students, and there is said to be always a wealth of pathological material; the mere fact that there are on an average two autopsies every day of the year from the neighboring hospital proves this. In addition to these general courses there are private ones for those wishing to make a specialty of this subject, and private laboratories are provided where one may work when he pleases. Op-

portunities are also given to the students for making autopsies. All of Cohnheim's exercises are conducted in a fine, large building made expressly for the purpose, near the hospital and other buildings belonging to the medical department.

Wagner's clinic for general medicine, which occurs every day and lasts an hour and a half, is very fine. In addition to the fact that he has plenty of material from the large hospital to show, he is a superb teacher, being slow and distinct of speech and methodical in making his diagnoses, all of which qualities are most important to one having only a slight knowledge of the language. The students are supposed to take part in the exercises, and are called upon to make their diagnoses in the presence of the others, but one may inscribe his name as a listener (*Zuhörer*) if he chooses. The exercises are all conducted in a new amphitheatre connected with the hospital, and the patients are wheeled in on their beds and there lectured upon. Every autopsy is witnessed by the students, and demonstrated either by Wagner or his assistants, and as there is little or no prejudice in Germany against the custom of making post-mortem examinations one has every facility afforded him for following a case from beginning to end. In connection with this clinic are the ward visits made by the young physicians residing in the hospital, four afternoons in the week. I found these of special advantage, for one can often get a general idea of a case which afterwards appears in the clinic to be lectured upon by Wagner. In these visits the students are "quizzed" by the physicians, and plenty of opportunities given for the examination of patients. A very good course also in auscultation and percussion was given by Wagner's assistant, Dr. Strümpell, two hours every week.

My third course was in normal histology, with Ludwig's first assistant, Dr. Gaule. The advantage of this course in the winter semester is the small number of students who take it at that season, thus enabling the instructor to give more time to each. It takes place two afternoons a week, two hours at a time, Dr. Gaule lecturing upon each subject, and then explaining with the microscope. Most of the preparations are made by him, but may be retained and preserved by the students for their own future use. In addition to this there is an afternoon when instruction is given in making the preparations (cutting, coloring, preserving, etc.), and each student is at liberty to work every day in the laboratory, Dr. Gaule being near at hand to answer questions. As to other courses I can say nothing from personal experience. Students who make a specialty of physiology with Ludwig are enthusiastic over the work in his laboratory, it being expected that some original work shall be done there as a general thing. The anatomical and chemical buildings are very large, light, and commodious. The polyclinic is also near, if one should wish to attend courses there. Professor Erb, of Heidelberg, has lately been called to Leipzig, which offers a good opportunity for studying nervous diseases and electrotherapeutics.

The appointed time for the beginning of the winter semester is about the middle of October, few if any of the exercises getting fairly under way till one or two weeks later. It is important, however, to be there in due season, as one is thus able to secure in the large clinics a good seat near the front, which he can retain for the whole semester by fastening his card on

the back of the chair, a custom not observed in two other universities I have visited, but important where there are so many students as in Leipzig.

The question will naturally arise, What are the relative advantages of a winter in Leipzig and Vienna? To this I should reply that if I were to remain abroad but one year I should most certainly go to the latter university, because one can obtain there a number of private courses which he cannot find in the former, and which are important to one who wishes to perfect himself in certain branches. If, on the other hand, he has the prospect of a second year to devote to Vienna, and wishes to learn German in addition to getting quite enough fine medical education to keep him busy, then I think he would never regret a winter in Leipzig. In that city easy access is to be had to German families (the best method of learning the language), the price of a good room, including meals, light, fire, service, etc., varying from ninety to one hundred and forty marks (about twenty-two to thirty-five dollars) a month. The price of each university course varies from twenty to thirty-five marks. As to the comparative advantages of Leipzig and the small German universities I can say nothing from personal experience.

I append a few methods of treatment in certain diseases, and records of a case seen while in Leipzig. In acute articular rheumatism salicylic acid is always used, ten grammes being given in three separate doses during twenty-four hours. It is considered there a specific for the disease, and the remedy is continued in the same doses for two or three days after pain has disappeared, and then gradually diminished, experience with large numbers of cases having shown that by lessening the dose too quickly a return of the symptoms is very apt to occur in a form which does not yield so easily as in the first attack. In cases of quiet delirium following its use the medicine is omitted, unless pain and swelling of the joints are present, in which case it is continued in smaller doses, no harm resulting. If delirium is severe, however, it is omitted. In case vomiting follows the use of the acid, and the addition of a little morphia does not check it, the salicylate of soda is substituted by mouth, or it is administered as an enema, ten grammes of the drug in sixty grammes of water and twenty drops of laudanum being given at one time. The latter method, however, is not considered so effectual.

Albuminuria has been occasionally noticed in previously healthy people after the use of salicylic acid, in which cases it was omitted, and no evil results were observed. Severe kidney affections following the use of the drug have been once recorded in Leipzig.

A simple and often effectual remedy is much used in cases of asthmatic affections where there is also great fetor of the breath, namely, the inhalation of impure turpentine through a common inhaling bottle. I have seen great relief, both from the disagreeable odor and distress, experienced by an inhalation of two or three minutes, repeated *ad libitum*.

In typhoid fever cold baths are used with few exceptions, usually when the temperature per rectum is 39.5° and above (Celsius). When severe bronchitis, marked cerebral symptoms, affections of the larynx and ear, are present, or when the patient is extremely exhausted and has an unconquerable aversion to the bath, an exception is made.

The following case of lympho-sarcoma is interesting from its resemblance to leucæmia or pseudo-leucæ-

mia, for both of which it could have possibly been mistaken:—

The patient, a man, twenty-five years of age, entered the hospital November 27th, having complained for three months of pain in left hypochondrium and of swelling in the right side of neck, previously having been perfectly well. Examination showed the patient to be anæmic; glands in right neck enormously enlarged, obstructing respiration somewhat; abdomen distended, especially in upper part; and a tumor in left hypochondrium, which upon palpation strongly simulated the spleen. Glands in the axillæ somewhat enlarged. Nothing else abnormal to be detected. Percussion over the spleen showed it to be in its proper position and of normal size.

Diagnosis made by Wagner was lympho-sarcoma, examination of the blood having shown the number of white corpuscles to be normal, which excluded leucocythæmia, while the normal size of the spleen proved the absence of pseudo-leucocythæmia, in which disease that organ and the lymph glands are enlarged without increase in the number of white corpuscles. Patient was given iodide of potassium and iron, and the glands painted with a solution of iodoform and collodion. Slight fever was noticed, and the glands lessened a little, but two weeks later the man suddenly died with symptoms of peritonitis. The autopsy showed an enlarged retro-peritoneal gland in the left hypochondrium, much resembling the spleen in shape, and many smaller ones; moreover, enlargement of the cervical and axillary glands. General peritonitis was also present. Examination with the microscope proved the growth to be sarcomatous. The case is interesting from the fact that if the region over the spleen had not been carefully percussed the tumor could easily have been mistaken for that organ, and hence a diagnosis of pseudo-leucocythæmia made.

Yours truly, VINCENT Y. BOWDITCH.

STRASSBURG, Jan 21, 1880.

THE ITALIAN UNIVERSITIES.

THE following interesting letter is from the pen of a correspondent of the *British Medical Journal*:—

The old University of Pisa, where Cesalpinus, in the sixteenth century (1569), first demonstrated the course of the blood through the aorta, has of late years recovered a slight measure of its former importance. For more than a century and a half it languished under Austrian rule, and suffered both in revenues and in the number of students frequenting it. Since the consolidation of Italy under one government, and the great vindication of political liberty which the last twenty years have witnessed, there has been a thorough awaking of half-dormant faculties. The country generally has become more alive to the value of liberal studies, and more inclined to support them with generosity and zeal. This has been shown, among other ways, in the welcome that has been extended to foreign teachers, and the inducements that have been held out to such men to settle in the country. The appointment of Professor Schiff and the late Professor Boll as teachers of physiology in the universities respectively of Florence and Rome was a good instance of this new spirit of enlightened liberalism. The truth is—and well-educated Italians feel it acutely enough—the country is scarcely as yet in a position

to supply the highest teaching in many branches of science. Notably is this the case in biology and comparative physiology. Until within the last half generation or so there was a comparative dearth of all the appliances necessary for such teaching: there were no laboratories, no systematic lectures, no professors, and no money. The most earnest minds in every walk of life were occupied, almost to the exclusion of every other thought, with politics and the emancipation of their country. That great idea was pursued by professors and students, by aged men and by mere lads, with an intensity and earnestness to which England could probably never afford any parallel. Once, however, the great struggle over and the battle won, the national energies quickly assumed their normal directions. The discoveries which had been made in England, France, and Germany, in the domains of biology, histology, and comparative anatomy and physiology, during the last thirty years, were not without their influence on the more thoughtful minds of Italy. An earnest and successful attempt was made, and is still being continued, to transplant to a not uncongenial soil the learning, and, what is far more important, the methods of exactitude and patient research which characterize at the present time the scientific work of England, France, and Germany.

In Italy, there exist peculiar facilities for the establishment of scientific schools of medicine. From Padua to Salerno the country is dotted over with ancient seats of learning, many of them dating back six or seven hundred years. These have for centuries been real universities in every sense of the word: they have ministered to all classes of students, and have taught every branch of learning. Their fame used often to spread beyond their own narrow borders, and attract from generation to generation the most earnest and able students from the north and west of Europe. The halcyon days when Vesalius and Galileo taught at Padua, when Cesalpinus demonstrated at Pisa, when Servetus and Riolaunus and Fabricius ab Aquapendente were names that drew students from every land, have probably passed away, not again to return. The tide of scientific as of commercial enterprise has set in other directions, and it will not be easy to change its current. Still much may be done to improve the actual condition of things. It is in this direction that the friends of scientific research and higher education in Italy have been of late busily working. They have commenced by adapting, as far as possible to the changed circumstances of the age, the means and the appliances they found ready to their hands, altering or modifying them as required. Thus in many of the old universities the system of instruction has been completely revolutionized. This is the case especially at Rome and Naples, and in a less degree at Padua, Bologna, Sienna, and Pisa. In Pisa a great deal has been done in the way of providing improved facilities for laboratory and clinical teaching. A sum of over fifty thousand pounds has been spent on buildings alone. This, for Italy, large amount has been provided exclusively by government, and in such a poor and heavily taxed country speaks volumes for the liberality and enlightenment of those in office.

The University of Pisa as at present constituted consists of four faculties, namely, law, medicine, philosophy, and theology. These are each carried on by their respective professors, who receive their salaries directly from the government. The medical faculty is the largest and best endowed.

The number of students at present attending the university may be set down at four hundred, of whom this year about one hundred and twenty are medical. The course of study extends over six years, exclusive of the preliminary training which has to be undergone before the candidate can commence his purely professional studies. The division of them is much the same as in England. The student is compelled to spend his first two years in acquiring a knowledge of anatomy, physiology, and cognate subjects. The next four are spent in clinical studies at any university he chooses to select. The last two, however, must be spent at one of the larger ones, such as Rome or Florence, where "complete courses" are given. By this is meant instruction in all branches of medicine, such as insanity, ophthalmology, skin diseases, etc., for which the smaller schools, such as Sienna, Padua, Salerno, or Pisa, do not afford sufficient clinical material. In the liberty of choice thus granted to students the universities of Italy resemble those of Germany. There are many advantages in the system, and some few disadvantages. The earnest student is free to get his learning where and how he will; he can select his teachers; and eloquent and able teachers can in turn collect a large number of students around them, and extend their own names and fame beyond the limits of the university in which they teach. On the other hand, the idle and vicious are enabled by frequent changes of abode to practically escape all surveillance and discipline, and to enjoy an amount of license quite incompatible with English notions and traditions. One important point as regards the examinations deserves notice. They are all conducted by government officials appointed for the purpose, so that in the multiplicity of schools there is no real danger of a lowering of the standard of medical education by unworthy competition. In this respect they are on a par with the Queen's University in Ireland, in which questions for examination were framed in Dublin and distributed to the various colleges throughout the country.

As already remarked, a large sum of money has within the last few years been spent in providing the Medical School of Pisa with the latest and best appliances for research and instruction. The new classrooms are models of their kind; well lighted, well ventilated, scrupulously clean, and fitted with all modern conveniences. The lecture-theatres are fitted with arrangements for shutting out daylight when required, and with a mechanism by which the lecturer can at will circulate one or more microscopes or pathological specimens among his audience without fear of breakage or loss. The dissecting-rooms are paved with encaustic tiles, and are ventilated by a very ingenious arrangement. The gas jets around the walls are fed exclusively by air, which passes through the tables on which the subjects for dissection lie, and thus the foullest air is necessarily consumed as soon as generated. Each table has its own water-supply, and the room generally is provided with plenty of microscopes, diagrams, and books of reference. The pathological museum is very well furnished, especially in preparations illustrating diseases of the bones. The teratological collection is exceptionally rich, both in human and in zoological abnormalities; while the materials for the study of comparative anatomy are far superior to those which exist in any of the large London schools.

Clinical instruction is given in the *Nosocomio*, or

general hospital, founded in the sixteenth century. This contains about three hundred beds, and is supplied from the whole province of which Pisa is the official centre. A large number of severe surgical cases are annually received, and all the major operations are performed at comparatively frequent intervals. The large and busy sea-port of Leghorn, which is only an hour's distance by rail, also sends a large contingent of accidents and acute diseases, so that there is no dearth of clinical material as regards general medicine and surgery. This, however, is scarcely the case as regards any special class of disease, the opportunities of studying which do not exist in sufficient quantity. The hospital, in its general arrangement, is perhaps scarcely on a level with the medical school. The wards, when I visited it, were decidedly too full, the floor had a sodden look, the walls were damp, and the windows opened immediately over many of the patients' beds. The ventilation appeared defective, and the atmosphere was laden with a most unpleasant and unnecessarily strong odor of carbolic acid. The nursing is done by paid attendants, who are directly under the control of the medical officers. The daily visit is made about eight A. M. At that hour students attend the clinical lectures and witness any operations which may require to be performed. The medical wards contain, as a rule, a large number of chronic cases.

Pisa has the reputation, which is not undeserved by it, of possessing a very mild and genial climate, and this fact attracts in considerable numbers consumptive invalids from Lombardy, Venice, and the southern districts of Tuscany. Malaria in one form or another is frequently met with, being, indeed, endemic in the low marshy lands between Leghorn and Civita Vecchia. There is a remarkable immunity both in the hospital wards and in the town generally from diseases of a zymotic type, and the same may be said of ethetic diseases. On the whole, the medical wards, so far as material for instruction goes, are not equal to the surgical, though in both the teaching is very thorough and scientific. Professor Landi, well known throughout Northern Italy as an ovariotomist, is senior surgeon and lecturer on surgery. To him and his assistant, Dr. Layfield, I am indebted for much kindness and courtesy during my stay at their venerable university.

A CASE OF ABNORMAL PROJECTION OF THE COSTAL CARTILAGES, SIMULATING A MORBID GROWTH.

BY ROBERT M. LAWRENCE, M. D.

MARY H., widow, aged twenty-eight years, of American birth, short and rather stout. She has two children, and has had two miscarriages. Her family history is good, and it does not appear that she inherits any predisposition to rheumatism or scrofula, nor is any syphilitic taint admitted. She has had a fair degree of health, though always dyspeptic. Formerly in good circumstances, she has of late been obliged to earn a living as a factory operative, working ten hours a day.

In the autumn of 1876 her strength had been greatly taxed in nursing her husband through a long illness, and on one occasion, while attempting to lift him in bed, she suddenly felt a sharp pain in the left side, and thought she had strained something. From this time

she was conscious of a "weak spot" at this point, with some sensitiveness and pain at intervals. In March, 1878, there appeared a small, hard swelling, apparently a tumor of some sort, on the cartilage of the eighth rib of the left side, and shortly afterwards she came to the writer for treatment. She was told to apply iodine paint, and was put upon a course of iodide of potassium, beginning with twenty grains daily, in three doses.

I may state here that, although other alteratives and tonics were given at different times, the treatment was chiefly by this drug, the quantity being gradually increased to seventy-five grains a day. No disagreeable effects were observed which could fairly be attributed to the drug.

Meanwhile the swelling increased in size, until it formed a considerable, irregularly oblong projection, four inches long, extending from a point one inch to the right of and below the ensiform cartilage downwards and outwards to the tenth rib, three inches from the median line, and occupying the position of the seventh, eighth, ninth, and tenth costal cartilages. Such were its dimensions in the middle of July, 1878.

Previous to this time, or early in June, another swelling, similar to the one described, appeared in a corresponding position on the right side, and apparently passed through the same stages of growth until it was of equal size with the first one. During the next three months both sides seemed to undergo a slight diminution in size. At the present time the shape of the chest is quite abnormal, the two projections forming a bulging, pigeon-breast-like deformity. The patient's health has been of late materially affected. She complains of obstinate pains in the back, loins, and bowels. Her dyspeptic symptoms have been much aggravated, and she has menstruated three times in one month, though previously regular in this respect.

If this were a case of specific outgrowth the slight diminution in size lately observed might be reasonably attributed to the use of the iodide of potassium.

Dr. C. B. Porter, who recently examined the patient, is of the opinion that there is at present no morbid growth, but simply a projection.

What, then, can have caused the deformity? Two theories suggest themselves: rupture of the costo-sternal ligaments, and consequent bulging of the costal cartilages; and, secondly, tight lacing, the constriction about the waist forcing the parts above it upwards and outwards.

CARDIAC IRREGULARITY AS THE ONLY RESULT OF FRIGHT (CARDIAC CHOREA).

THE following cases are not very startling, perhaps are not very rare, but contain symptoms of interest:—

A servant-girl in the writer's family was much distressed by attacks of palpitation, occurring upon occasions of unusual exertion or of exposure to cold; the worst one followed a long and rapid walk on a very cold evening. This led to an examination. The pulse was irregular, one beat being omitted at irregular but short intervals. The heart, on auscultation, was found to have the same peculiarity; there was an entire absence of the omitted contraction, not merely a feeble contraction, insufficient to send the blood to the radial artery. There were no other symptoms of cardiac disturbance, no murmurs, no enlargement. About two

years before the girl had been servant in a family, one of whose members was an epileptic. She had been told that the young man had fits, but the nature of these was not described. A loud scream ushered in the epileptic paroxysms, and without warning she was present at the beginning of such an attack: the peculiar, and to her frightful, scream, followed immediately by violent convulsions, frightened her. From that time she was troubled with palpitation. Considering it a case analogous to chorea, in which the heart alone was affected, arsenic was given,—Fowler's solution four or five drops. The palpitation was relieved in a very short time. After a little while the medicine was omitted, and soon the attack of palpitation recurred. The Fowler's solution was given again, and continued longer, after which there was no return of palpitation for several months while she was under observation.

A Mr. G., aged thirty-two years, had two frights when a boy, one at eight years of age and again at about ten years of age. In both cases he fell into the water. After this he had frightful dreams, waking up in great terror. He has always been startled easily by little things.

About five years ago he had pneumonia, and after that noticed an irregularity of the heart. His health was good previously, and he knows nothing in regard to the heart's pulsations. There may have been irregular pulse or not. He had never had rheumatism; habits were correct, temperate, at one time smoked two or three cigars a day, lately none. He has been much confined to business, with considerable anxiety, but has taken two weeks' vacation annually.

At the wrist pulse intermitted once in seven or eight to twelve or fifteen beats. At the heart the sound of the intermitted pulse beat was heard, but so faint as to be detected only with careful attention. There was no murmur, no enlargement.

A pill containing one grain quinine, one twentieth grain arsenious acid, was prescribed. A month later the pulse was found to intermit only after three or four hundred beats. The patient himself counted it, and reports that the day before writing it intermitted after ninety beats, again after seventy-six, and then after four hundred and twenty-six beats. It may be the attention given to counting it caused the intermission.

These two cases are of interest in connection with the fact that in chorea, where there is irregularity of action in the voluntary muscles, the heart is also often affected, and becomes irregular, not rarely developing a murmur. May not these cases be considered as cases of chorea, in which the heart alone is affected,—cardiac chorea?

The dependence of the second case upon fright is less clear than that of the first. It is quite possible the irregularity existed previous to the pneumonia; if not, the fright in early life may be looked upon as originating a weakness of that part of the nervous system controlling the heart, so that when the pneumonia occurred this was unable to bear the extra strain, and showed its weakness by the cardiac irregularity.

S. G. WEBSTER.

ADVERTISING IN TEXT-BOOKS.

MR. EDITOR.—I have one hobby,—a great partiality for my Flint's Practice, and great respect and admiration for its author. It is my *præcipua*. Its pure classical style delights me always.

I entered my office a few days ago, in some haste, to consult my favorite upon an important matter in hand, took it down (it is getting rather weak in the back), and commenced looking up the index for the one thousandth time, more or less, and for the one thousandth time, more or less, was obliged to turn over thirty-three pages of my publisher's catalogue before I could get at my precious index. Albeit a patient man, usually, I fear I must have said something in an undertone which I would not choose my publisher to hear. Then and there, with my own hand and penknife, I cut out those same thirty-three pages, and was relieved. At the first convenient opportunity I did the same for my Pavy, Dalton, Leishman, Bloxham, Thomas, and Bryant. Now may the gods, and the publishers as well, forgive the rash deed! But I shall not be obstructed again, my time absorbed, and my patience exhausted in manipulating those thirty-three pages against my will. That is one consolation, even if the custom is still persisted in. The custom is appropriate enough in a magazine or journal, but in a text-book it is not so. Still, I can't find it in my heart to say a single uncomfortable word about those good-natured gentlemen who labor so hard to keep me posted in everything new under the sun, and incur so much expense to provide me with superfluous matter, other than to suggest, mildly, that their kindness is *misplaced*. Your annual catalogues, Messrs. Publishers, will be read with respectful attention if you will do us the favor to send them, but don't bind them up with the text-books, if you please.

D. W. NILES, M. D.

WORCESTER, MASS., July, 1880.

PLATED WIRE.

MR. EDITOR.—Will you have the kindness to inform me whether annealed iron wire, *nickel-plated*, has ever been used? If not, could it be substituted for silver wire, for which we pay one and one half cents per grain? If you will answer either through JOURNAL or by card I shall consider it a favor.

Respectfully yours, THOMAS F. QUINBY, M. D.
MINNEAPOLIS, MINN.

We have tried nickel-plating on iron wire, kindly prepared for us by Codman and Shurtleff, with not very satisfactory results. The plating adheres better than we had expected, but is liable to flake off. In order to obtain a bright color it is necessary to polish the iron before plating it, which increases greatly the expense. If polished after plating the nickel is rubbed off. Annealed iron wire is much used in France without plating of any kind. At the Massachusetts General Hospital copper wire, silver-plated, is used for coarser threads. The finest wire is all silver.

Our experiments have given us a sufficiently cheap nickel-plated iron wire, but the plating is not sure to adhere, and the wire has a dingy, dirty color.—ED.

RESTORATION OF HAND AFTER COMPLETE SEPARATION FROM THE ARM.

THE following remarkable case, reported by Dr. L. L. Stanton, of Tarborough, N. C., is copied into the *St. Louis Courier of Medicine*, etc.:—

"On Friday afternoon, February 5, 1880, I was

called to see Mary Sumlin, a white girl aged eleven years, quite anæmic and rather small for one of her age. While helping her mother to procure firewood she placed her hand in the way of an axe, and at one blow had it severed from the styloid process diagonally across the trapezium, passing through the scaphoid bone and posterior annular ligament, *dividing all the muscles, bones, and blood-vessels, and completely separating the hand from the arm, excepting a small portion of skin, below the articulation with the ulna; the hand was hanging at right angles to the arm when I saw her, about thirty minutes after the accident.*

"I determined at once upon amputation at the joint above (the wrist), so returned to my office, a distance of half a mile, to procure the assistance of another physician; but finding this impracticable, I proceeded carefully to replace the hand, which was held securely in position with silver wire sutures and adhesive plaster.

"In dressing the wound the patient complained of pain when I used the needle in the arm, but none when it was used in the hand.

"I secured the hand and arm upon a broad splint, and directed that they be kept warm by being wrapped in hot flannel cloths.

"I saw her twelve hours afterwards; the hand was very much swollen; no sensation or pulsation could be detected, nor had she complained of any pain, but rested quietly during the night.

"Saw her the next day; she now complained of a little pain, but the hand and arm presented the same appearance as the day before.

"Saw her upon the third day; could now plainly feel pulsation in the hand; it had changed its color, and I now for the first time thought it possible to save the hand. From this time she did not have a bad symptom, nor was there any suppuration or secretions of any kind; the wound healed entirely by first intention.

"I removed the sutures upon the fourteenth day, and afterwards she carried the hand in a sling, and is now able to extend the fingers and grasp with nearly the usual strength. There is no ankylosis of the wrist joint, as I expected." — *N. C. Med. Jour.*, May, 1880.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 10, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal Zymotic Diseases.	Diarrhoeal Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.
New York.....	1,085,000	922	576	46.74	39.48	5.95	3.36	.65
Philadelphia.....	901,380	467	260	36.18	29.97	1.71	2.78	.85
Brooklyn.....	564,000	377	246	81.43	76.12	6.36	2.65	.26
Chicago.....	—	306	229	58.49	45.42	2.41	7.19	2.28
St. Louis.....	—	159	100	37.87	30.16	2.36	—	—
Baltimore.....	393,795	209	113	38.27	25.35	1.43	4.29	5.26
Boston.....	365,000	168	75	35.71	25.00	7.73	7.73	—
Cincinnati.....	280,000	120	51	33.33	13.33	7.50	5.00	1.66
New Orleans.....	210,000	99	33	24.24	13.13	5.05	—	3.03
District of Columbia.....	170,000	96	54	29.16	20.83	6.25	1.04	—
Buffalo.....	—	67	42	49.24	37.31	2.98	7.45	2.98
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	153,883	86	41	43.02	23.25	5.81	6.96	1.16
Milwaukee.....	127,000	50	29	24.00	16.00	4.00	2.00	4.00
Providence.....	102,000	51	28	41.17	33.33	—	—	3.92
New Haven.....	60,000	37	20	29.73	21.62	2.70	2.70	—
Charleston.....	57,000	41	19	31.70	21.95	4.84	—	—
Nashville.....	37,000	29	12	44.83	17.24	6.89	—	—
Lowell.....	54,000	21	14	33.33	19.05	19.05	4.76	—
Worcester.....	53,000	24	14	41.66	37.50	8.33	4.16	—
Cambridge.....	50,400	21	11	38.09	28.57	4.76	—	—
Fall River.....	49,000	22	15	—	—	—	—	—
Lawrence.....	38,600	22	15	45.00	13.63	—	9.09	—
Lynn.....	34,000	11	4	27.27	9.09	9.09	18.18	—
Springfield.....	31,800	17	13	76.47	64.70	—	—	—
New Bedford.....	27,200	9	2	22.22	—	—	11.11	11.11
Salem.....	26,500	9	4	33.33	—	—	11.11	—
Somerville.....	23,500	8	3	50.00	50.00	—	—	—
Chelsea.....	21,000	7	2	28.57	—	—	28.57	—
Taunton.....	20,200	12	5	41.66	33.33	—	—	—
Holyoke.....	18,400	12	6	50.00	33.33	—	—	—
Gloucester.....	17,300	7	4	14.28	—	—	—	—
Newton.....	17,300	3	1	—	—	—	—	—
Haverhill.....	15,350	6	1	16.66	16.66	—	—	—
Newburyport.....	13,500	5	1	20.00	20.00	—	—	—
Fitchburg.....	12,600	2	—	—	—	—	—	—
Eighteen Massachusetts towns.....	138,560	34	9	32.35	17.61	14.70	14.70	—

Deaths reported, 3524; 2037 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 1609, diarrhoeal diseases 1270, consumption 358, lung diseases 162, diphtheria and croup 133, scarlet fever 43, typhoid

fever 40, malarial fevers 35, measles 33, whooping-cough 32, cerebro-spinal meningitis 13, erysipelas six, small-pox two, typhus fever one, yellow fever one. From typhoid fever, New York and Chicago five each, Philadelphia and Pittsburgh four each, St. Louis, Baltimore, and Cincinnati three each, Boston

and District of Columbia two each, New Orleans, Milwaukee, Cambridge, Lawrence, and Salem one each. From *marial fever*, New York eight, St. Louis seven, Brooklyn five, Philadelphia, New Orleans, and District of Columbia three each, Baltimore and Charleston two each, Chicago and New Haven one each. From *measles*, New York 10, Cincinnati eight, Pittsburgh six, New Orleans two, Brooklyn, Chicago, Baltimore, and Boston one each. From *whooping-cough*, Cincinnati and Nashville four each, New York and Philadelphia three each, Brooklyn, St. Louis, District of Columbia, Buffalo, and Lowell two each, Baltimore, Boston, New Orleans, Providence, Charleston, Cambridge, and Gloucester one each. From *cerebro-spinal meningitis*, Lawrence four, New York two, Philadelphia, Chicago, St. Louis, Providence, Springfield, Taunton, and Holyoke one each. From *erysipelas*, New York two, Brooklyn, Cincinnati, New Haven, and Charleston one each. From *small-pox*, Philadelphia and Chicago one each. From *typhus fever*, Chicago one. From *yellow fever*, New Orleans one.

Twenty cases of diphtheria, 13 of measles, seven of scarlet fever, two of whooping-cough, and one of typhoid fever were reported in Brooklyn; two of small-pox and one of sporadic cholera in Chicago; 35 of diphtheria, 14 of scarlet fever in Boston; nine of diphtheria, but no new cases of scarlet fever, in Milwaukee; five of diphtheria, seven of measles, six of scarlet fever, one of whooping-cough, 10 of diarrheal diseases, in Providence.

Total number of deaths diminished; deaths under five diminished in the same proportion; deaths from diarrheal diseases diminished, the apparent increase being caused by those of Philadelphia being included. Of the total deaths under five (2037), New York, Philadelphia, and Brooklyn furnish 1082. New Orleans reports one case of yellow fever.

In 33 cities and towns of Massachusetts, with an estimated

population of 877,210 (population of the State about 1,690,000), the total death-rate for the week was 20.86 against 23.98 and 20 for the previous two weeks.

For the week ending June 19th, in 148 German cities and towns, with an estimated population of 7,678,000, the death-rate was 28.5. Deaths reported, 5583; 2344 under five: pulmonary consumption 466, acute diseases of the respiratory organs 312, diphtheria and croup 99, scarlet fever 94, measles and *röteln* 82, whooping-cough 48, typhoid fever 45, puerperal fever 19, typhus fever (Danzig, Thora, Grauden, Braunschweig, Barmen, Dortmund two) eight, small-pox (Königsbütte, Münster, Elberfeld, Berlin) four. The death-rates ranged from 17 in Darmstadt to 46.6 in Görtitz; Königsberg 32.8; Breslau 33.3; Munich 35.1; Dresden 17.7; Berlin 42.1; Leipzig 19.7; Hamburg 22.3; Hanover 18.1; Bremen 20.9; Cologne 24.7; Frankfurt 24; Strassburg 20.1. For the same week, Vienna 26.6; Paris 26.8.

For the week ending June 26th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 18.9. Deaths reported, 2716: acute diseases of the respiratory organs 176, scarlet fever 123, whooping-cough 103, diarrhoea 76, measles 63, fever 36, diphtheria 16, small-pox (all but one in London) 15. The death-rates ranged from 13 in Brighton to 27 in Oldham; London 18.1; Bristol 14; Birmingham 19; Manchester 24. In Edinburgh 21, Glasgow 20, Dublin 33.

In the 20 chief towns in Switzerland for the week ending June 26th, population 445,790, there were 26 deaths from acute diseases of the respiratory organs, diarrheal diseases 18, typhoid fever seven, whooping-cough six, diphtheria and croup five, scarlet fever five, measles four, small-pox one. Death-rate of Zurich 20.7; of Zurich 23.2; Basle 23.5; Bern 28.2.

The meteorological record for the week in Boston was as follows:—

Date.		Barom- eter.	Thermom- eter.			Relative Humid- ity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
		Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
July	4	29.986	70	77	61	83	63	49	65	NW	E	N	1	7	10	F	F	C	1.50	.06
"	5	29.964	78	86	63	67	64	43	48	SW	SW	SW	11	21	10	F	F	O	—	—
"	6	29.882	72	81	64	89	76	83	82	S	E	SW	12	6	6	T	F	O	3.12	.06
"	7	30.029	74	82	69	85	72	69	75	N	SE	SE	6	7	6	F	F	C	—	—
"	8	30.116	74	88	62	86	50	56	47	W	SE	SW	7	11	15	C	C	C	—	—
"	9	29.899	77	87	69	71	61	82	71	W	SW	SW	12	16	14	O	O	F	2.00	.14
"	10	29.788	84	101	70	82	34	70	62	W	SW	W	1	4	8	C	F	F	—	—
Week.		29.952	76	101	61				65										7.02	0.26

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JULY 10, 1880, TO JULY 16, 1880.

SIMONS, J., lieutenant-colonel and surgeon. Granted leave of absence for one month. S. O. 118, Department of the East, July 15, 1880.

KIMBALL, J. P., captain and assistant surgeon. Granted leave of absence for twenty-one days. S. O. 63, Department of the Plate, July 7, 1880.

WINNE, C. K., captain and assistant surgeon. Assigned to temporary duty at Fort Brady, Mich. S. O. 116, Department of the East, July 12, 1880.

COMBES, E. T., captain and assistant surgeon. Granted leave of absence for one month on surgeon's certificate of disability, with permission to go beyond limits of the department. S. O. 125, Department of Texas, July 8, 1880.

ERRATA.—In the article entitled Ten Cases of Litholapaxy, by Dr. William Warren Greene (JOURNAL, July 15, 1880), the following errors occur: page 52, first column, fifth line from bottom, for "the five fingers" read "the fore-finger." Page 54, first column, sixth line, for "contracted" read "contract-

ured." Same page and column, fifteenth line, for "gram" read "grain."

BOOKS AND PAMPHLETS RECEIVED.—The Practitioner's Hand-Book of Treatment; or, The Principles of Therapeutics. By J. Milner Fothergill. Second Edition. Philadelphia: Henry C. Lea's Son & Co. 1880.

The Microscopist: A Manual of Microscopy and Compendium of the Microscopic Sciences. Fourth Edition, greatly enlarged, with two hundred and fifty illustrations. By J. H. Wythe, M. D., etc., etc. Philadelphia: Lindsay and Blakiston. 1880.

The De Lesseps Canal in its Relation to Hygiene. By G. Halsted Boyland, M. D., etc., etc. (Reprint.)

A Treatise on Comparative Embryology. By Francis M. Balfour, M. A., F. R. S. Vol. 1. London: Macmillan & Co. 1880.

Transactions of the Medical Society of the State of Tennessee. Nashville. 1880.

The Diagnosis of Granular Kidney. By Robert Saunders, M. D. (Reprint from the Birmingham Medical News.)

Quarterly Report of Medical Officers, United States Army, with their Stations and Duties, as reported to the Surgeon-General, July 1, 1880. Washington: Surgeon-General's Office.

Lectures.

IV. THE PREVALENCE AND CAUSES OF INSANITY; COMMITMENTS TO ASYLUMS.

A LECTURE DELIVERED BEFORE THE GRADUATING CLASS OF THE HARVARD MEDICAL SCHOOL.

BY CHARLES F. FOLSON, M. D.

THE prevalence of insanity in the earliest times, in Egypt, Greece, the Roman Empire, among the ancient Jews, through the early Christian era, and in the Dark Ages is well attested by the literature of twenty centuries. It would be idle to attempt to guess what proportion of the population was insane at any time or in any country of the world until the most recent years. The observations of the United States exploring expeditions go to show that insanity is very uncommon among the North American Indians, as it was before the civil war among the negro population of our slave-holding States. It cannot be doubted that it is a disease chiefly of old communities and civilized races. In England, in 1859, with a population of 19,686,701, there were known 187 insane and idiotic persons to each 100,000 of the population, or one in every 535; in 1875 the number had increased to 271 in every 100,000, or one in each 365. The number in Ireland at the same time was one in every 283. In the French asylums, between 1835 and 1870, the number of insane people in asylums nearly quadrupled, and also increased from 31.6 in each 100,000 of the population to 100.3, or very nearly three times, but there are no trustworthy statistics of the numbers of the insane throughout that country. In Paris alone the admissions to insane asylums increased more than sixfold between 1800 and 1876, while in the same length of time the population was scarcely trebled. In Massachusetts asylums in 1820 there were under custody in the one insane asylum in the State fifty patients, or 9.55 in each 100,000 of the population. This number had increased to 11.34 to every 100,000 people in 1830, to 61.99 in 1840, to 84.97 in 1850, to 90.87 in 1855, to 110.55 in 1860, to 111.44 in 1865, to 130.44 in 1870, to 132.88 in 1875, and to 178.44 last year, in seven asylums. The numbers of the insane in fifty-nine years had increased in our asylums from 50 to 2976, and the rate proportionately to the population had augmented more than eighteen times. It is impossible to say how many insane people there are in the State who are not confined in insane asylums, but the number is estimated to be not far from 1000 or 1500. We cannot procure statistics of even a tolerable degree of accuracy with regard to the numbers of insane in the United States or in the several States. According to the various censuses the proportions would vary from about one in four hundred to one in as many thousand, but these figures are manifestly inexact. The statistics of England, France, and Massachusetts just given indicate an enormous increase in the numbers of the insane who become a public charge in each successive decade, and the figures gathered from all countries prove conclusively that more insane people are known to be in existence proportionately to the population from year to year. The question naturally arises, Is insanity increasing as fast as appears at first sight to be the case, or is the increase apparent rather than real?

In the first place, the definition of insanity has so

widened of later years as to include vastly greater numbers of the population than hitherto. Large numbers of persons now confined in our asylums would have been considered far from being insane a half century ago. Until about the beginning of this century the courts almost universally held that to be exempted from punishment on the ground of insanity a man must be deprived of all memory and understanding, and no more know what he is doing than "an infant, brute, or wild beast." Less than fifty years ago the capability of repeating the multiplication table was gravely propounded in an English court as a test of sanity in a case involving a large sum of money, while at that time insane asylums were veritable Bedlams, where chains and dungeons formed a large part of the treatment. Now, you will observe at Danvers that in many wards some patients are quiet and orderly; in some the inmates are as well behaved as the corresponding class of persons outside of asylums; while not a few have either self-control, moral sense, or the faculty of exact and logical reasoning to an extent which would not do discredit to a great proportion of the world at large. In a word, take ten thousand people at random now, and probably at least twice as many would be called insane as in the same number fifty years ago.

Again, it is hardly a generation ago that we began taking care of the insane. Some States have not fairly commenced yet, and even in parts of New England those of unsound mind are neglected and squandered in town almshouses or county jails. In our State, as in England, France, Germany, and wherever humanity has demanded improved accommodations for the insane, they have accumulated enormously, from the simple fact that they are protected like children, and kept from dying of neglect, suicide, and exhaustion. In other words, science and humanity have prolonged their lives of illness to as much as tenfold their natural length in some cases, if they were left to themselves, even where nothing can be done but to protract their misery. The more intelligent views now held of insanity as a disease rather than a possession by the devil have led people to be less backward in reporting their insane relatives as such, while the increasing number of insane asylums and the growing confidence in them have brought many of the insane to notice who formerly would have been concealed in attics or cellars and never mentioned. Our knowledge of an evil and the existence of that evil are thus shown not to be by any means necessarily the same thing.

The alleged frightful increase in mental disease which statistics can be made to show, certainly does not exist. Whether or not more persons become insane each year in proportion to the population we have no methods of determining statistically. There can be no doubt, however, that there is a moderate increase in that as in all other diseases of the brain and nervous system. Our mortality statistics in Massachusetts show that the deaths from insanity, paralysis, apoplexy, and unspecified diseases of the brain were 11.70 per 10,000 inhabitants in 1860, 11.06 in 1865, 14.37 in 1870, and 15.83 in 1875, which would indicate a decided increase, even after allowing for a considerable error in the earlier years from inaccurate diagnoses. The causes of this increase are twofold: first, in the greater predisposition to disease, hereditary tendency; and, secondly, in the greater number of exciting causes in our complex modern civilization, which

forces upon men such an exciting part in the keen struggle for existence, and subjects them to such deep and various affections of their emotions and feelings. The increased predisposition to insanity is one of the indications of degeneracy of stock. Under the fostering influences of our skill and humanity defectives are raised, and many who formerly would have died in early life live to maturity, marry, and beget a feeble offspring predisposed to disease. Persons suffering from the severe neuroses are able to perform the light labor demanded in many of our arts and manufactures who would soon have disappeared, on the principle of the survival of the fittest, when physical strength was necessary for existence. The desperate seeker after wealth and position expends his energy in the eager race, and leaves to his offspring a legacy of exhausted vitality, and many of the fashions of the day encourage moral weakness and physical decay. Greatest of all curses, however, in this regard is the abuse of alcoholic liquors, which certainly stores up more insanity for future generations than any other one cause. In one of Mr. Emerson's most delightful essays he speaks of the necessary degeneration of the stock produced by life in centres of population, and says that cities would for that reason soon die out if they could not recruit their exhausted strength from the country and farms by intermarriage and immigration. Insanity is one of the penalties which we are paying, perhaps not necessarily, for our many luxuries and modern culture in the transmission of impaired energy and strength to descendants, thereby increasing their chances of insanity when exposed also to its exciting causes. In former times the great pestilences swept away very many of these defectives. Now these very plagues have been found to depend upon natural laws and to be preventable. But it still remains one of the great problems with which we have to deal whether it is possible to so govern the causes of ill health that the deterioration of the race need not follow upon our complex life.

The exciting or immediate causes of insanity are extremely numerous, the disease occurring in order of frequency at the following periods of life: 20-30 (maximum), 30-40, 40-50, 50-60, 60-70, 10-20, 70-80, 80-90, 0-10 (minimum), and more often in the most ignorant and degraded class of a civilized people than among the higher and educated, reaching its maximum where civilization and misery coexist, and its minimum among barbarous people. Thus far, it has not been shown that either sex is more liable to insanity than the other. Females are more exposed to insanity connected with the reproductive function, and men to the external or objective causes of mental disease.

A physician is often asked by parents what is the cause of insanity in their children, when the only true answer can be that it is simply a natural and logical evolution from conditions in the parents themselves. Among its antecedents are not only insanity in ancestors, but also epilepsy, neuralgia, pulmonary consumption, hysteria, and especially habitual drunkenness. Excessive overwork or absorption in one great idea of money-making, with the everlasting drive night and day for position or wealth, exhausts the vital energy, and is not an uncommon source of mental disease, mysterious to those who propagate it, but readily explainable by the medical psychologist. As we have already seen, insanity, so far as it can be described as a purely physical disease, is a diffuse malady of the cortex of the brain, in contradistinction to local lesions. Its causes

are therefore general oftener than particular, and complex rather than single.

The predisposing causes are chiefly hereditary: drunkenness of both parents or one at the time of conception; intermarriage of persons, whether relatives or not, with a family tendency to epilepsy, syphilis, rheumatism, chorea, hysteria, habitual drunkenness, dipsomania, insanity, neuralgia, or any of the cerebral and spinal neuroses; the abuse of tobacco, opium, and chloral; frequent attempts at abortion; injuries or excessive emotional disturbance during gestation; the risks of birth in large children, including compression of the head, etc.; in fine, any conditions of mental or physical exhaustion and decay. In making up one's mind upon the point of inheritance it is necessary to examine the history not only of parents, but of grandparents, uncles, aunts, sisters, brothers, and cousins.

Among the *immediate* or *exciting* causes of insanity are the various conditions of ill health, now so much more commonly reported in our asylum records than fifty years ago as to indicate a decided diminution in the resistance of the race to disease; the misuse of alcohol, opium, tobacco, chloral, etc.; a stagnant life and occupations exhausting the system without furnishing suitable recreation; disturbances during the period of development and adolescence; masturbation; in women, morbid processes during the great physiological changes in conception, gestation, childbirth, lactation, menstruation, and change of life, as well as repeated abortions, uterine disease, love affairs, seduction; sexual excesses; great emotional disturbances, fright or shock, adverse circumstances, loss of friends or relatives, domestic troubles or grief, religious anxiety or excitement, disappointed affections, wounded feelings, excitement of politics, business, etc.; pauperism and want; epilepsy; injuries to the head or spine; sunstroke; the various acute diseases; the cachexia of syphilis and pulmonary consumption; heart diseases producing disturbances in the cerebral circulation.

The list of exciting and predisposing causes of insanity will naturally suggest to you how far and in what ways it can best be prevented,—a point upon which your advice will often be asked; but I have two suggestions to make: First, in regard to marriage, there is no doubt whatever that insanity, like pulmonary consumption, can be eliminated from families by wise marriages and judicious education of children. I should not hesitate in rare cases to recommend marriage even to a person who had actually been insane, especially if a woman, and her disease had been one of the curable, self-limited forms, and she were otherwise healthy upon perfect recovery, not being of a family predisposed to insanity. Second, we find that in children of parents who are trying to educate their sons and daughters so as to protect them against hereditary insanity physical education is usually the only thing sought for, while the more important self-reliance, self-denial, self-control, and development of the calm, well-balanced, strong mind is nearly if not quite neglected. If emotional causes, by constantly wearing on the mind, can so exhaust it as to produce insanity, the importance of strengthening the brain in every way possible is readily seen.

The treatment of insanity in asylums is not a matter upon which we need to dwell here; so far as it concerns patients kept at home it can be better consid-

ered when we take up the individual diseases. About two thirds of the insane in this State are in lunatic hospitals, — somewhat under three thousand in all. One thousand two hundred and seventy-nine were committed to the various hospitals for the insane during the year ending September 30, 1879. So large a number of our insane are in hospitals and so many are committed each year that it will be profitable to consider the subject of commitments to asylums in general, reserving for later lectures a discussion of the particular cases which should be confined and of those which may be treated at home.

The law provides that no insane person shall be committed to an insane hospital except by judges of the supreme, superior, municipal, police, district, and probate courts, upon the certificate of two physicians, each of whom must be a graduate of some legally-organized medical college, must have practiced medicine three years in this State, must have examined the patient within five days of his signing his certificate, which must state his reasons¹ for considering the man insane and a fit subject for treatment in a lunatic hospital. Neither of the physicians certifying shall be connected with any establishment for treating the insane. In dangerous cases, however, the judge may, upon application, order an examination and hearing in the premises, and pending that may make such order concerning the care and custody or confinement of the person alleged to be insane as he shall see fit.

There are two grounds on which individuals are confined in insane asylums: first, for their own comfort and safety or prospect of cure; secondly, for the comfort, convenience, or safety of the community. It is doubtless true that many people shirk their duty towards their relatives, and have them sent away, when with a little patience and self-denial a kind home treatment would have added great happiness to the few remaining years or to the long, tedious months of a life from which most that is worth living for has been taken away, and probably from one quarter to one fifth of the patients now in our asylums would be much better off at home, so far as they are concerned themselves, if they had any homes where they would be wanted or even endured. But not having such, they are better off under the care of responsible strangers in a well-ordered hospital. It is true also that people who want to get rid of the trouble of caring for annoying friends or connections are very apt, perhaps unconsciously, to exaggerate their mental infirmities, and so mislead the physician into believing that he has a more serious case to deal with than he would suppose from his own observation. In those cases, therefore, where the physician has only the statement of friends upon which to base his certificate he cannot consider the evidence too skeptically. In a large proportion of the insane, however, the regular habits of asylum life, the freedom from responsibility, and the feeling of a necessity to exercise a self-control which they do not attempt at home make them more amenable to reason by strangers than in their own houses. Considering the interest of society, and especially of growing children, it is better that the most troublesome of the insane should be removed, even if at some sacrifice of their own happiness.

At all events, illegal or improper commitments to

insane asylums are so rare, in our State at least, that in a dozen years only a very few have been alleged to have occurred, and in every one of them there was fair room for an honest difference of opinion as to the propriety of confining them. Wherever persons are thought to be improperly committed to insane asylums, or too long detained there, the State Board of Health, Lunacy, and Charity has the power to discharge them, whether insane or not, if in their judgment it seems best to do so. You can safely trust the management of our insane hospitals. You may often hear complaints on this point by discharged patients, a part of which doubtless have some foundation, for no large institution can be carried on by human agency without some imperfections; but when serious charges are made they should be received with great caution, and only after giving due weight to all the testimony. For the purpose of considering the bearing of this question, discharged patients may be classified as follows: (1.) Those who have recovered, and whose minds were clear enough, during a considerable part or the whole of their illness, to have received clear impressions of what was going on about them, and who have remembered with tolerable accuracy, — by no means an insignificant number. (2.) The same as the above, except that they have not remembered. (3.) Those who have recovered, and whose minds were entire blanks during their severe illness, so that they remember absolutely nothing of that time, and more or less imperfectly of their period of convalescence. (4.) Those who have recovered, and whose impressions during a large part of their residence in the asylum were more or less tinged by their own delusions; of these some finally recognize the delusional character of their previous ideas, and others never do so, although in other respects perfectly well. There are four other classes corresponding to these, with the single difference that they have never recovered. It would be very unjust and untrue to say that there are not many discharged patients from insane asylums whose testimony and general statements are fully as trustworthy as those of other people. But it is not always easy to distinguish them from the many others from whose minds the false impressions or delusions once made are never removed.

In committing to insane asylums there is one important rule, — not to use deception; for it ruins your chances of getting again the patient's confidence, so important for his successful treatment. Any amount of force is better, and is quite soon overlooked by the patient himself; but a show of force, which can be called upon if needed, is usually all that is necessary to secure a quiet and orderly removal to an asylum, except in furious delirium, where force must be used. It should be remembered that the medical superintendent of an insane asylum does not often have a good opportunity to get a history of his patient, and so it is well for the family physician either to go to the asylum, or to send a full statement of the case, such as he would prepare in other diseases for a hospital case-book. It seems to me, too, that, especially where it is not well for a patient to see his friends, it is desirable for the family physician to consult occasionally with the asylum officers, and so not to lose sight of the man in the lunatic. The law, to be sure, does not require all this, for it is satisfied if the physician states his reasons for thinking an individual insane, and also his reasons for considering him a fit subject for treatment in an insane

¹ The English law requires a separate examination and a separate certificate from each physician; but in practice the consultation is virtually together.

asylum. For this service, to be sure, a fee of only two dollars is allowed, ridiculously small in proportion to the service rendered, but it is one of those offices which republics require of their citizens for the public good, like serving on juries, etc.

I have examined a great many certificates of insanity in our state hospitals without finding more than one that really gave the superintendent an intelligent view of his case, or a very large number that entirely fulfilled all the requirements of the law: a not uncommon fault being that the statements of third parties were evidently taken, and sometimes with apparent haste, as the entire evidence of insanity.¹ It was often the fact that in the medical certificates there was no indication even that the patient was insane; for instance, that a man thinks he is to be everlastingly damned or believes in witches is no proof of insanity, for there are persons who firmly hold to such superstitions and many more absurd; but if he so thinks contrary to his conviction when well, that is another thing. One certificate contained the sole statement that there was in the case despondency and nervous excitement, but that certainly was no reason for supposing a man insane, for a sane man may also very easily be both despondent and nervously excitable. I will give some instances of defective certificates, as follows:—

Melancholic disposition and unwilling to do anything; very listless. Hypochondria. Disappointment in love, and subsequent debility, with loss of sleep. Laboring under the impression that he is in direct communication with God, who directs him in all he says and does, and is at times quite violently demonstrative. Had a severe attack of sciatica two summers ago, which, it is said, went to her head. Has frequently struck her grandchildren; often leans out of the window. Loss of memory, fits of passion, entertainment of strange notions, and wakefulness. Violent at times, very noisy, singing, screaming, and crying. Cause, puerperal state; duration, about ten days; no previous attacks; mild? suicidal. Cause, epilepsy; duration of epilepsy, three years; violent at times. Turn of life; menses irregular, but have not ceased. Epilepsy since infancy; fits severe, and nearly every day; father and mother both intemperate; duration of disease, many years, no worse for two years; mind gradually weakened for some time; never has done any violence, his uncle says; father has just died, and there is no one to take care of him; drinks beer when he can get it. Violent and unmanageable at home, and can be better treated at a lunatic hospital. Cause not known; duration, some weeks; previous attacks not known; violent at times; habits in regard to temperance not good. Cause unknown; duration very recent, if she tells the truth; no previous attacks; came to America a week ago yesterday, and remained a week at St. Joseph's Home; was only a day in a place; had not been sick or depressed, but did not sleep well night before last, and head felt queer all day; at ten o'clock, P. M., tried to hang herself, it is said; don't remember it, but says she remembers coming to herself soon after; says she was not homesick, and don't know why she did it; talks rationally enough now. When seen by me could not be induced to answer any questions; seemed frightened, and was evidently quite weak; has been depressed for some time, very much so of late; sent to—hospital two or three weeks ago; excited and apprehensive of

danger. Supposed cause, puberty and disturbances connected with it, notably masturbation. Generally very mild; occasionally violent if angry, but not dangerous. Violent; partial mental weakness, with extreme and constant nervous actions, requiring constant watching by day; troubles her infant sister. Supposed cause, alcoholism; duration, two years; frequently violent; a drunkard. Very excitable; boasts that he can do any kind of tailoring, when he is incompetent to do any well; makes love to shop-girls after a half hour's acquaintance; drinks moderately; quite maniacal, noisy, and incoherent. This conversation and actions. He is violent and dangerous. He is intemperate, but in our opinion a latent insanity is developed by the moderate use of intoxicants. Cause, uterine displacement, followed by typhoid fever. His conduct has been and is at present such as to render it perfectly obvious that he is insane. Previous attack of a similar nature, and continued observation during medical attendance. Has been examined and found to be insane by reason of masturbation. Critical age and intemperance seem to be the exciting causes; the result of these is necessarily temporary. We give as our opinion that the case is susceptible of a speedy cure; that if the intoxicants are kept from the patient the case will immediately take care of itself. (1.) He admits having certain symptoms indicative of general paralysis, such as epileptiform attacks and loss of memory, with confusion of ideas; he shows decided paralytic defect of speech and moderate paresis of hands and feet; he desires to go to the insane hospital for treatment. (2.) Has had epileptiform attacks, muscular tremors, loss of memory, severe headache, confusion of ideas, inability to take care of himself, and desires hospital treatment.

The last gives the opinions of the two physicians separately, as they should be, and complies fully with the law, but it does not give the asylum superintendent a medical history of the case; the others are all defective in one way or another. It is evident that very often the physicians signing the certificate have not themselves a full and clear notion of their patient's condition; *this always* should be got before the great responsibility is taken of shutting a man up behind locks and bars, possibly for life. Never hurry in sending a man to an asylum, unless he is dangerous to himself or to others, or is doing real harm, provided he can be properly cared for outside. A few days' or even weeks' delay in committing him will not often interfere with the chances of recovery in acute cases; it will give an opportunity for thorough study of the case, and is not infrequently sufficient for such an improvement in the symptoms as to render removal from home not only unnecessary, but unadvisable. It is important that the proper treatment should be early adopted in the curable forms of mental disease; but it by no means follows that this early treatment can be carried out only in an insane asylum.

— The annual meeting of the British Medical Council was opened July 7th, Dr. Acland presiding. Among the questions to come before the body this year is the proposition to make Greek and elementary mechanics of solids and fluids required subjects in the preliminary examinations. Memorials have also been received by various societies devoted to specialties to make these subjects more prominent in the course of instruction given.

¹ The blank of the McLean Asylum was shown as the best in use, and fulfilling all requirements if properly filled out.

Original Articles.

THE PREVENTION OF THE SPREAD OF TYPHOID FEVER.¹

BY THOMAS H. GAGE, M. D., OF WORCESTER.

MR. PRESIDENT, AND FELLOWS OF THE MASSACHUSETTS MEDICAL SOCIETY, — The subject to which I invite your attention this morning is taken from the new and attractive field of preventive medicine. It relates to a disease of almost or quite universal prevalence, and to a feature of that disease which is constant and familiar. What I have the honor to offer for your consideration will be upon the possibility and the practicability of preventing, or at least of diminishing, the spread of typhoid fever, as it occurs among us, by processes of disinfection applied to the intestinal discharges of the typhoid patient.

I do not bring this subject to your notice in the expectation that what I have to offer will possess the merit of novelty, or add much, if anything, to the great mass of knowledge and information upon it which is already accessible to the profession. I have nothing that is new or original to present, and there will be little of originality, I fear, in the presentation of that which is not new. The views to which I call your attention have been for many years before the medical public, and have been supported with great zeal and ability. Some of the most thoughtful and intelligent members of the profession among us have adopted them, and have given to the preventive measures they propose a full and unprejudiced trial. But their adoption has been by no means universal; and I have observed that precisely the class of occurrences they aim to prevent are constantly reported from various parts of the State, without allusion either to the preventive measures suggested or to the vital theory upon which those measures are founded.

I have chosen the subject, therefore, as the theme of my remarks under the influence of a strong impression, derived from all the evidence I have at my command, that the proposed methods of prevention have not yet received among us that general attention and experimental trial to which, by their reasonableness and the great weight of testimony in their favor, they would appear to be entitled. And I will add that I have selected it also out of a confident belief that their universal adoption would not only redound to the honor of the medical profession, but, what is of far greater importance, contribute something of substantial and permanent value to the welfare and happiness of our people. I am aware that great differences of opinion exist upon the questions which will be raised by the topic I have selected. It is a matter upon which observers and students are greatly divided. It would be strange if the views to be presented here did not provoke discussion. I only wish that they might do so. The general effect of such a discussion could not be other than beneficial.

At a recent meeting of the Obstetrical Society of London, Dr. Robert Barnes opened a discussion upon the important practical subject of "the use of forceps and its alternatives in lingering labor" by an address, in which occurred the following passage: "The true function of a society is to gather together and then to diffuse knowledge; to encourage independent

ent inquiry; to survey from time to time, by the light of mutual reflection, the positions attained; and thus to seek sound guidance in the application of our knowledge to our practical duties." The whole address from which this paragraph is taken is replete with that practical wisdom which comes only from correct observation and great experience. It brought on a debate, which was continued by repeated adjournments through several successive meetings. In it the most eminent obstetricians of the kingdom participated, and upon every phase of the important question reflected the light of individual study and experience. The whole discussion, accurately reported, and presented to the medical public through the appropriate channels, completed a circle of operations which illustrate in typical form the action of a society engaged in the exercise of its "true function to gather together and then to diffuse knowledge."

The subject that I bring to your notice to-day is one of at least equal practical importance with that introduced by Dr. Barnes to the society over which he presided. It is brought before an audience as familiar by long experience with the disease to which it relates as was that audience with the obstetric art. It is as interesting and important to every medical practitioner as that, and it is as important in its relations to humanity as that. I wish it might receive at the hands of the members of this society an equally general and continued discussion.

What I have to say relates to the spreading of typhoid fever as it occurs among us.

I do not limit the subject in this way under a belief that this familiar feature of the disease, as we see it, differs in any essential respect from the same thing as observed elsewhere. The laws that determine and govern the spreading of typhoid fever in one part of the world have the same determining and governing influence in any other part. The specific poison by which the disease originates and spreads is the same everywhere, and, without doubt, the media of its transmission are the same everywhere. It is one of its essential characteristics to spread. Wherever it appears it shows an invariable tendency to enlarge the sphere of its operations, and extend beyond the limits of its first invasion.

But it does not show this tendency to the same degree in all parts of the world. It is not manifested here, for example, as it is occasionally in England and on the continent of Europe. We here in Massachusetts have never yet, so far as I know, been visited by any of those wide-spread outbreaks so often described by English and German authors, where hundreds of persons have been almost simultaneously attacked, as in the recently reported disaster at Caterham and Redhill, in England, where, according to the report of the local government health officer, the common water supply of these populous towns became polluted at its source by the excrement of a single typhoid patient. We have never yet experienced anything like the famous epidemic at Over-Darwen, where, as stated in an official report of the same description, within three weeks after the arrival of a lady suffering with typhoid fever, fifteen hundred persons were seized, through the accidental soaking into the common water-pipes of the town of the sewage which contained her intestinal discharges. No village or town of Massachusetts has ever yet, to my knowledge, been overtaken by such a calamity as that which befell, in 1872, the little Swiss village of Lausen, where in a single sum-

¹ Read at the Annual Meeting, June 9, 1880.

mer, out of a population of eight hundred and nineteen persons, one hundred and thirty were attacked, through contamination of the water of the public fountains, by the irrigation of meadows, miles away among the mountains, with the water of a stream that contained the alvine evacuations of a family ill with typhoid fever. The spreading of the disease among us has never attained to such *epidemic* proportions as these. Our experience has been with more circumscribed and limited forms. It has been chiefly as an *endemic*, restricted and confined to households and neighborhoods, that it has been familiar to the people of New England. We have seen typhoid fever spread among us in families, from member to member, until several, or all, were prostrated; and we have seen it spread from house to house and family to family, in clustering groups of houses, as in the typical country village. We have seen it spread from point to point, wide distances apart, by means of clearly established personal communication, and we have seen it cling to certain houses or localities, and reappear in or near them year after year.

With the spreading of the disease in all these forms the physicians and the people of Massachusetts, and especially the dwellers in our quiet agricultural towns, have been familiar for many generations. Not a year passes without reports of its occurrence among us. It is mentioned on almost every page of our health reports, where "health of towns" is made from year to year the subject of medical correspondence. It is true that some of these reports are brief and incomplete, and that they suggest rather than describe the momentous events to which they refer. But this would not apply to all. Many of them are given with that degree of fullness and accuracy which make them valuable acquisitions to our statistical knowledge. Some of them are interesting and instructive, not only from the faithfulness of the narrative, but from the importance of the comments which are made upon the event described. And not a few acquire still additional interest from an intelligent and original discussion of the causes of such occurrences and the means by which they may be prevented. No one can refer to these reports without finding much and various information upon the subject to which they relate; and no one can attentively consider them without discovering that many of the reporters have made the events to which they allude the subject of serious thought and study.

I have examined them all with considerable care, and have found among them descriptions, more or less complete, of more than a hundred and forty instances of the spreading of the disease. Of this number about one half have been examples of *endemics*, confined to households, in which from two to eleven members of a family have suffered. In sixty instances the disease has spread from house to house in circumscribed localities, as in a village, or street, or block of tenements. In at least a dozen well-marked examples, it has returned, year after year, in the same house or locality, sometimes for many successive years. And there is repeated mention of its transmission from the scene of some local outbreak to new fields of operation, at a distance, in the person of an individual who had left the focus of infection after having received the poison, and while the disease was still latent and undeveloped. To the facts and information obtained from these instances I have added such as I have been able to

gather from a considerable number not hitherto reported, and also such as I have derived from a personal observation of my own during a period of twenty-five years. And through the whole experience so gathered there have been constantly forced upon my observation one or two practical points of an interesting nature, to which I wish to call your attention. The observation of them is not new or original with me. Their importance here is in the bearing they appear to have on the *etiology* of the events we have been considering.

One of these points is that whenever and wherever among us typhoid fever has spread in any of the forms I have mentioned, it has appeared to spread primarily from a single case. This seems to have been an invariable rule. The disease, as we have seen it, has not stricken down suddenly and all at once all the persons in a house who were to suffer by it, nor has it seized simultaneously upon all the houses in a neighborhood that were to be invaded. Its progress has been gradual; it has first established itself, and then it has spread. I do not know of a recorded instance among us of the spreading of the disease otherwise than from a centre first established by a single case. Another point of apparently equal importance and significance is that usually several weeks elapse after the appearance of the first single case before other members of a family suffer, or before the disease extends to neighboring houses. I have been able to learn in twenty-four instances of spreading among us either the exact order in which the cases have occurred, or to fix the order of their succession with so near an approach to accuracy as to leave no doubt upon my mind as to the actual facts; and I find that in these twenty-four instances there was in one a period of eleven days between the occurrence of the first and second cases, in two a period of thirteen days, in one of seventeen, in ten of twenty-one, in two of twenty-three, in one of twenty-six, in two of twenty-eight, in four of thirty, and in one of forty-five, and that the average period was twenty-three days.

Thus, apparently, according to our experience, there must be not only a first case from which spreading may begin, but there must be also a time after the beginning of the first case and before the beginning of the second for the development of some conditions which are requisite for spreading.

Let me now briefly illustrate by one or two cases. They will make what I have been speaking of clearer in your minds than my description of it has done, and will serve to put in their plainest light the kind of occurrences and the order of events in them which it is our object to prevent. They will to some extent illustrate by suggestion the causes of such events. None of the cases are taken from our health reports.

I.

The scene of the first outbreak to which I ask your attention was an isolated farm-house, two miles out from the city where I reside, on one of the great thoroughfares leading to a neighboring town. The house was situated a little back from the road, on high ground, commanding a delightful prospect in every direction. It was built upon a dry, gravelly knoll, which fell rapidly off on three sides, to north, south, and east, and sloped gradually away on the west to a meadow. The drainage was good and the cellar dry. It was a well-built house, neither new nor old, and had all the

appointments and conveniences which usually surround the house of a prosperous New England farmer. The barn and the barn-yard, the pig-sty, the sink-drain, and the privy held about the same relation to each other and to the house and the well that they hold now, and have held for generations, to many another country farm-house all over the State. Moreover, they held the same relation here that had they held for years. Nothing had been recently changed or disturbed.

Altogether, the scene of the sad occurrence was a comfortable and pleasant establishment, and, if not noticeable for its neatness, by no means conspicuous for the want of it, either within or without. It was the home of the most worthy and intelligent people. The farmer and his wife who made it their residence had lived in it for almost a generation, and had reared in it a large family of promising children. No sickness of a serious nature had ever visited them, and certainly no infectious disease, until the great calamity which makes the subject of this sketch.

At the time of the occurrence the family consisted of the farmer and his wife, both past middle age, three grown-up children (two sons and a daughter), a grandchild, three young men employed upon the farm, a maid-servant, and a colored man, — eleven persons in all.

On the 14th of June, 1871, I was called to this house to see the elder son, ill with typhoid fever. He had been drooping for a week. The case was mild, but well marked, and only noticeable by the fact that diarrhoea was persistent and profuse. He recovered. On the 5th of July, precisely three weeks from the date of my first visit to the elder brother, the younger was taken. His case was severe from first to last, and terminated fatally July 31st. August 8th, just eight weeks from the seizure of her elder brother, and five weeks from that of the younger, the daughter was taken. Her sickness was brief and very violent. She died on the 18th, ten days from the attack. During the month of August the father and the grandchild took it, and both recovered. Later on in October the good wife and mother, worn down with grief and watching, also took it. Her sickness was long and severe, and terminated in death on the 18th of November.

Meantime, while these sad events had been transpiring, and chiefly in the month of July, all three of the young men who had been employed upon the farm were taken, and scattered to their several homes. Two went to different towns in Vermont, and one to his home in this State. All were very sick, and one died. The maid-servant was also taken. She went to her home, many miles away, and was not only very sick herself, but communicated the disease to her family, all of whom suffered by it.

Not a soul escaped of all who were living in the house at the beginning of this dreadful outbreak but the colored man. The epidemic lasted from the middle of June to the middle of November. Out of eleven persons, ten had the disease and four died. It spread not only through the entire family where I first saw it, but through the agency of one of its members it entered and spread again through another, many miles away. It began with a single case, characterized by profuse diarrhoea, and did not spread from that for three weeks.

The intestinal discharges, without disinfection, were thrown into the vault of the common privy, which was attached to the rear part of the house.

II.

A man came from some town in New Hampshire to the village of A., in the summer of 1875, and immediately fell ill with typhoid fever, of which he soon died. He was believed to have been sick with the fever when he arrived. The next year, 1876, the disease broke out in the house next to the one where he died, attacking a mother and daughter, both of whom recovered. It also attacked in the same year two young persons in a family on the opposite side of the road, a little distance away. It appeared again in the village in a single case in 1877. In 1878 it again appeared in the house where, in 1876, it had attacked the mother and daughter. This time it took the husband and father, and he died. The place was then sold, and the next year the new proprietor was taken in the early spring, and also died.

There had been no typhoid fever in the village for many years until the advent of the sick man from New Hampshire, in 1875. It has clung to the locality ever since, and broken out every year in houses all of which were within a stone's-throw of the place where he died, and where his alvine evacuations were cast, without disinfection, into the shallow privy vault upon the surface of the ground.

III.

The following case I have taken from an admirable report of it which appeared in the *Popular Science Monthly* for February, 1879. I have taken it from just without the limits of our State, because the accuracy of the report brings out a point in the aetiology which I have been unable to discover in any recorded instance of a similar occurrence among us.

In the city of S., in the State of New York, in a clustering group of thirteen houses on the outskirts of the town, a case of typhoid fever broke out on the 8th of September, 1876. The next occurred in the second house beyond, on the 4th of October, *twenty six days later*. The disease then spread from house to house, until seven of the thirteen had been invaded, with a total result of seventeen cases and three deaths. The reporter distinctly states that on the 20th of September, after a hot and dry time, a tremendous storm of rain occurred, which filled and overflowed the privy vault, into which the excrementitious matter of the first case was thrown, scattering the material which it contained all over the surface of the ground and into the neighborhood of the well from which all the families that suffered took their drinking-water; and, further, that none of the families in the group who did not use this well suffered.

These are typical examples of the spreading of typhoid fever as it has occurred among us. They illustrate the fact, to which I have alluded, that it spreads from a centre first established by a single case. They illustrate also the fact that the establishment of such a centre requires time. They suggest by implication that it is by means of the intestinal discharges that the infective centre is established.

I turn now to the presentation of a theory that such occurrences may be prevented by disinfection of these discharges, and to a brief consideration of some of the testimony supporting it. This testimony comes to us from various sources, and from authorities who differ somewhat among themselves as to the nature of the disease, and still more as to the nature of the morbid agent by which it is propagated, but not at all upon the importance and value of disinfectant methods.

So far as I know, it is to the late Dr. William Budd, of England, that the medical profession and the public are mainly indebted for the theory of the prevention of the spread of typhoid fever by the disinfection of the intestinal discharges, and for the first practical suggestion of methods by which it may be carried out. The idea was, I think, original with him. It was certainly through his earnest advocacy that it was first brought prominently into public notice, almost twenty-five years ago. His occasional contributions to the medical press upon this and kindred topics have made his name familiar, but he is probably best known among us by his elaborate work upon Typhoid Fever: Its Nature, Mode of Spreading, and Prevention, which was given to the public in 1873.

Dr. Budd's attention was first called to the subject in 1839 by a terrible outbreak of typhoid fever in the little village of North Tawton, Devonshire, where he was then residing, and where, as a young practitioner, he was just beginning his professional life. North Tawton was a country town of only eleven or twelve hundred inhabitants, and its people were mostly engaged in agricultural pursuits. Dr. Budd was born there, and had grown up among the people. He knew them all personally. Moreover, he was, medically, the sole possessor of the field. All the cases of the disease passed under his immediate observation and care. The fever broke out in this secluded place in the second week of July, 1839, and before November eighty of the inhabitants had suffered by it. It furnished a typical illustration of the spreading tendency of the disease. Whole families were, one member after another, prostrated. It passed from house to house, and pervaded the place. Persons taken sick there left for their homes in neighboring towns, and carried the disease with them to new localities.

Opportunity more favorable for the study of such occurrences could not have been presented, and Dr. Budd devoted himself to the task with enthusiasm. He traced the course and relation of events, observed everything in the living and the dead, and kept accurate notes of all. The whole experience evidently made a profound impression upon his mind, and gave a strong direction to his subsequent studies. He passed, with lapse of years, from the little country town to larger spheres of practice and usefulness and to great eminence in the profession, but always maintained to the end of life a continued and increasing interest in the great subject which had so signally attracted his early attention. To use his own expression, he seems to have been from the beginning "possessed with a burning desire to devote the best powers of his mind to a discovery of the means by which such calamities may be prevented."

(To be concluded.)

CAPE COD AS A HEALTH RESORT, AND SOME REMARKS PERTAINING TO SANITARY SCIENCE.

BY PETER PINEO, M. D.

THE inhabitants of cities and towns recognize the importance of a change during the hot season to some salubrious place in the country, where the population is less dense, the air and water uncontaminated, and the opportunities for bathing and recreation are abundant; consequently the subject of health resorts, the

sanitary character of different places, their natural conditions and environments, are becoming matters of much interest.

We are familiar with treatises on health resorts at different and distant places, more especially for the winter season, but I venture to call your attention to conditions and localities within our own commonwealth, offering inducements, during a portion of the year, quite as great, in my opinion, as any other place on this continent.

Cape Cod, where first landed that company of sturdy people who sought freedom and equal rights in the wilderness of America, is by no means the last in importance as a health resort in summer. It is distant from sixty to one hundred and twenty miles southeast from Boston, and extends sixty miles into the Atlantic Ocean, with an average width of a few miles only. From Buzzard's Bay to Chatham, on the south shore of this peninsula, a distance of forty miles in a straight line, but nearly double that if we measure the indentations of harbors and bays, we have natural conditions the most desirable as a sanitary resort during a portion of the year.

The temperature is lower in summer and higher in winter, and less variable than in Boston or elsewhere in New England. This is probably occasioned by its extending further out into the Atlantic Ocean, and feeling a greater influence from the Gulf Stream.

The barometric condition is not very variable, the reading being usually from 29.5° to 30°.

The summers are, as a general rule, exceptionally dry, the showers passing usually to the north or south over the water. Sometimes there is fog, but less than is desirable during the hot season. After continuous sunshine and drought for many days in summer, when the nervous system becomes somewhat irritable and the body surcharged with electricity, the dry sand acting as an insulator, then a foggy day becomes a healing balm, relieving the body and soothing the mind; it softens the skin, improves the complexion, and is hailed with pleasure by ladies as well as gentlemen, notwithstanding its damaging effect upon crimps and starched appendages and ornaments generally.

The prevailing and almost constant wind, in summer, is from the southwest, coming directly from Vineyard Sound, without passing over intervening woods or swamps.

The soil is a light, thin, sandy loam, with a coarse, gravelly sub-soil, absorbing rapidly the rain-fall when it occurs, or any liquid falling upon it; consequently there is no surface moisture, and dry walking is at all times insured except during a rain-storm.

Vegetation, being very scanty, is not sufficient to excite fears of malarial poison from its decomposition.

The bathing is excellent, and on the south shore of the Cape the water is warmer than at most places further south, and no danger need be apprehended from an undertow, as the shallowness of Vineyard Sound gives a warmer temperature, and also prevents the heavy seas found at other places on the coast.

From June until November the climate is as delightful as exists upon the continent, balmy yet invigorating, the nights cool and comfortable, inducing sound and refreshing sleep.

Occasional stormy days are inevitable here as at every other place, when invalids, wherever situated, should be in-doors with an open fire.

The appetite of those coming from inland is greatly

increased, and a vigorous digestion usually waits upon it.

Fish in great variety and of good quality are found in abundance along the shores and in the sound, constituting an excellent, palatable, and healthful diet, and catching them furnishes the most charming and exciting recreation to visitors, male and female.

The inquiry may be made, Do no preventable filth diseases occur in this favored region of which we have been speaking? Such diseases are not wholly unknown, but here, as elsewhere, follow the neglect of well-known health laws.

During my experience of fourteen years, however, in Hyannis, a village in the town of Barnstable, of about two thousand inhabitants, which lies intermediate between Falmouth and Chatham, there have been almost no cases of typhoid fever or dysentery, but few cases of diphtheria, and only occasional cases of measles and scarlatina, all of which have been mild in character, with but few exceptions.

Every case of diphtheria or enteric fever coming under my observation has been traced to a filth origin. The dangerous proximity of the water-closet and stable and leaky drains to the well from which the household is supplied with water, and their position in the direction from which comes the prevailing wind, have been marked and unmitigable in every case, details of which could be given did time permit.

With such a soil, climate, natural drainage, and conditions as have been described, disease should never prevail, and would not if the obvious sanitary requirements were fulfilled.

The defective system of drainage, the bad position and arrangement of hotels at some of the watering-places, if not at all or most of them, often destroy their natural desirable surroundings and influences.

So little attention to sanitary engineering is given to this important matter in the management of hotels that it would be difficult to find one anywhere wholly unobjectionable. It would not be difficult to find many quite objectionable and dangerous.

Serious diseases occurring in families in Boston and elsewhere, after their return from watering-places, the cause of which having been quite clearly traced to filth conditions, teach the lesson that however excellent and desirable the natural position and hygienic influences may be, yet the artificial insalubrity from carelessness and want of attention in the management of slops and sewage and latrines, poisoning the air and water, may render the locality positively dangerous.

The utter indifference of landlords and the apathy of those who patronize many of the summer resorts, with reference to their hygienic conditions, are astounding and alarming. It would be wisdom in the traveling public to require an inspection and favorable report, by a capable sanitarian, before visiting a watering-place, or patronizing a hotel.

For many years it has been my conviction that the water-closet vault and cess-pool should not be permitted where permanent occupancy of premises is contemplated. For ten years at my own residence I have used a water-tight receptacle, with dry earth, which is taken away, emptied, and cleansed every few days, more or less, according to circumstances or the necessities of the case. The slops and night soil are conveyed by a drain and by hand to a well-ventilated cemented stable basement, and mixed with absorbing material, which is frequently removed and utilized.

In 1880, we are all aware how little medicine can do to relieve the results of filth conditions, and how powerless it is to cure them,—conditions which occasion the vast majority of cases of sickness and premature mortality. It is also known how much can be done in the way of prophylaxis to prevent and stamp out these terrible scourges of humanity, namely, diphtheria, scarlatina, erysipelas, enteric and typhus fever, dysentery, cerebro-spinal meningitis, yellow fever, and many other diseases, which are but different forms, under differing circumstances and conditions, essentially of the same nature, and produced by the same or a similar poison, the result of the decomposition of excrementitious and other matter, mixed more or less with malarial poison.

Dr. J. J. Woodward's remarks on the pathological history of yellow fever, in supplement No. 4, National Board of Health Bulletin, though negative in character, are yet significant, and teach that the macroscopical and microscopical appearances in yellow fever are those found in other grave diseases,—diseases differing in some respects, though essentially similar.

The superstition which once regarded the different forms of disease as distinct entities, as plagues coming direct from Pandora's box, the foul legacy of a malevolent Jupiter, and the equally absurd hypothesis that they were unavoidable evils inflicted upon us by Divine Providence, are only just now being displaced by the scientific method of thought, which no longer attributes to supernatural agencies that which is the result of our own disregard of nature's laws.

The public mind is not yet wholly disabused of the pleasing notion that medicine has a plenary power, the swallowing of which makes a vicarious atonement for the neglect of natural laws.

The duty of the profession is obvious and imperative, namely, to teach the public concerning the great danger of neglecting the sanitary requirements, which demand that pure air shall be breathed and pure water drank; that every excretion from the body and all slops and garbage accumulating in and about the household shall daily be removed far beyond the possible contamination of the inmates, or cared for in tight vessels, with the addition of dry earth, until it can be carried away and used as a fertilizer, thus insuring that which lies at the foundation of wealth, patriotism, long life, morality, and happiness, namely, *health*, "without which all taste for pleasure flies."

The city of Utopia, like the cities of heroic times, has no expensive underground sewerage; all night soil, slops, and effete matter are daily removed and utilized; water of entire purity is drunk and used for bathing and culinary purposes; cleanliness of the person and dwelling and surroundings is absolute; and temperance in everything is practiced. The architecture is simple and inexpensive, to be purified by burning, every decade or two.

In vain may we build colossal structures and hope for their immortality. Nature is wiser than the architect, and dooms everything to cremation by her own process of decomposition. To the eye of the sanitarian old and venerated buildings are full of decay and danger, and should be permitted to pass into inevitable oblivion.

The city of Boston can scarcely claim to have reached the highest point of sanitation, but the system of sewerage about being inaugurated promises much.

The cause of that terrible scourge which has so re-

cently alarmed the South, and indeed the whole country, need not be sought in a foreign clime.

In referring to the copy of my inspection report to the war department, in 1864, of the yellow-fever epidemic in the cities of Newbern and Beaufort, North Carolina, the fifth conditions were so obvious a cause of the dread disease that I was then of the opinion, as I am now, that the disease is endemic in our Southern cities, and preventable in one way only, and that by absolute cleanliness, forsaking, if need be, the sites of cities, the soil of which has become so contaminated that centuries only can render it again habitable. The semi-savage tribes learn from experience the importance of frequent change of the sites of their encampments. He must have been unobservant during the late war, who did not see the necessity of often forsaking the camping-ground of our troops. The twenty-third New York regiment, in General Wadsworth's brigade, on picket duty near Upton's Hill, Va., during the winter of 1861-1862, was kept for months in the same position, covering as small space as possible. In February a fatal typhus or spotted fever showed itself, more than half the command being on the sick list. The fifth conditions were most marked, but objections were made to the removal of the regiment for military reasons. The brigade surgeon, however, stoutly and unequivocally stated to the commanding officer the absolute necessity for removal, and that the mortality occasioned by remaining would exceed that which the enemy could possibly inflict. Their removal to a well-arranged camp on new ground was followed by immediate improvement, and from being the sickliest it became the healthiest regiment in the brigade. This is a single instance of hundreds of similar cases in our army.

The careful and thorough examinations that have been and are being made of many of the Southern cities disclose an almost incredible and fearfully dangerous condition. The earth in and around many of the dwellings is honeycombed with old vaults of human excrement, from ten to forty feet in depth, poisoning the air which the people inhale and the water they drink, requiring only a continuous temperature above 80° F. to develop a fatal and devastating plague, whether in the form of cholera, typhus fever, cerebro-spinal meningitis, or yellow fever, symptoms peculiar to all of which are more or less manifest during an epidemic, showing blood poison of malignant character, sufficient to account for any grave phenomena.

Vainly may we look for the cause of yellow fever in foreign importation, and rely upon quarantine cordons, the effect of which will only be to embarrass the great interests of commerce. Our eyes should be turned inward; there we may find occasion for the production of the gravest disease and the most fearful mortality.

Germs of disease may doubtless be imported, but if sown among a cleanly people, not subject to the inhalation and imbibition of impurities and poisons in air and water, they will fall on barren ground and find little encouragement to their growth. Better demand almost no quarantine laws, and attend to home sanitation, requiring perfect cleanliness in and about every habitation, and prohibiting the pollution of rivers and water supply of every description. Then little fear need be apprehended of contagious diseases of any kind, and the millennium of sanitation will be approached as nearly as may be.

Cleanliness, absolute cleanliness, not only of our own

person and immediate surroundings, but that of every citizen and every dwelling, and of the ground beneath, especially in crowded places of abode, is the price of health, is the great duty of life.

Legislative bodies of the States and the nation are recognizing this great duty, and have already done much in the right direction. There is yet room for much more to be done.

No one can be indifferent to the welfare of our Southern fellow-citizens, who have in their dire extremity sought aid from the country in their recent deadly infliction of the yellow-fever epidemic. The cause of that disease is now being sought by agents of the United States government, and it is greatly to be desired that the true cause or influences may be found, and the right remedy be applied, be it ever so heroic.

We are hoping and expecting very much from the National Board of Health, the official inspection of which is bringing to light the Augean conditions existing beneath the cities of the South. May their efforts deserve the laurels of Heracles.

RECENT PROGRESS IN MEDICAL CHEMISTRY.

BY WILLIAM B. HILLS, M. D.

URINARY CHEMISTRY.

UROBILIN.

Dr. C. A. MacMunn¹ does not agree with Maly's assertion that the transformation of bilirubin into urobilin is a process of reduction. His conclusion, derived from the results obtained by the action of various oxidizing agents upon solutions of pure bilirubin, is that urobilin is formed from bilirubin and biliverdin by oxidation. The oxidizing agents employed were nitric acid, hydrochloric acid, air, pure oxygen, and permanganate of potassium. By the action of each of these reagents upon bilirubin, a pigment was obtained, similar in every respect to urobilin. It gave the same absorption band at F., was dissolved by the same reagents, while reagents produced the same changes in the respective spectra of its solutions.

Bilirubin treated with sodium amalgam is converted into urobilin. But the author finds that an aqueous solution of biliverdin, treated with sodic hydrate, gives the same result; and he thinks that the change which takes place in the first case is due to sodic hydrate, and that the process is one of oxidation; since caustic alkalis do exert an oxidizing action on organic substances, especially unstable ones.

Dr. MacMunn thinks it probable that urobilin is formed in the body by the action of the hydrochloric acid of the gastric juice on the bile pigment in the intestines, and not by the action of nascent hydrogen. He does not think it possible that the intestines can contain sufficient hydrogen in the nascent condition to convert bilirubin to urobilin, even allowing that the latter can be produced by reduction; neither is it reasonable to believe that a series of oxidations, which begin with the transformation of bilirubin to biliverdin, should suddenly stop at urobilin, and that the latter should make an exception to the general rule and be formed by reduction.

Accepting his theory, the author finds an explanation of the cause of many cases of jaundice, which are independent of any disease of the liver; since in most cases

¹ The Dublin Journal of Medical Science, June, 1880, page 519.

of jaundice, not due to obstruction, there is found some interference with the normal oxidation, whereby bilirubin is converted to urobilin.

CASTS OF THE URINIFEROUS TUBULES.

Dr. James Tyson, in a paper read before the Philadelphia County Medical Society,¹ describes the various kinds of casts, and states the views of different observers as to their nature and formation, and gives his conclusions in regard to the clinical significance of the different varieties. As a brief *résumé* of the subject, it contains much that is valuable and practical, and is worthy of the attention of the profession.

He makes the following general statements regarding the clinical significance of the different forms of casts.

(1.) Hyaline casts are found in all forms of Bright's disease, as well as in temporary congestions of the kidney, active or passive.

(2.) Epithelial casts are found in acute, subacute, and chronic parenchymatous nephritis. In the latter two forms the cells are generally degenerated and fragmentary.

(3.) Blood casts are found in acute parenchymatous nephritis, and when hemorrhages have occurred in the kidney.

(4.) Pale granular casts are found in interstitial nephritis and chronic parenchymatous nephritis.

(5.) Dark granular casts are found in parenchymatous nephritis, acute and chronic, and rarely in interstitial nephritis.

(6.) Waxy casts are found only in chronic Bright's disease, and attend either of the three principal forms.

(7.) Oil casts are found in subacute and chronic forms of Bright's disease, and may attend any of the three principal forms, but are most numerous in chronic parenchymatous nephritis (fatty kidney).

(8.) Free fatty cells and free oil drops are found in chronic parenchymatous nephritis.

(9.) The form of fatty cell, known as the compound granular cell, is found in acute and chronic parenchymatous nephritis.

In the diagnosis of renal disease, it is to be understood that the quantity of urine and its chemical characters, as well as the clinical history, are to be considered. Still in many cases a diagnosis can be made from the urine alone.

In speaking of the occurrence of cases of true albuminuria in which casts are absent, Dr. Tyson says: "There are many instances of albuminuria where the absence of casts is reported in which the examination is at fault, being carelessly performed." This statement, unfortunately too true, should be kept in mind in the examination of all urines containing a trace of albumen.²

MELANIN.

Dr. Finkler³ reports two cases of melanuria, in one of which the fresh urine only rarely contained melanogen, but repeatedly contained melanin as such. The color of the urine was at times brownish-black, at times deep black; reaction always weakly acid; sugar and albumen always absent. When the color was brown, nitric or chromic acids gave a deep black, cloudy appearance; if the color was already black, the acids produced no apparent change.

¹ Philadelphia Medical Times, March 13, 1880, page 289.

² A discussion on this paper will be found on page 306 of the journal referred to. — *REV.*

³ Med. chir. Rundschau, April, 1880, page 296, from Centr. f. klin. Med.

The urine in the second case was, when first passed, of a yellowish-brown color, and was turned black by nitric acid, thus agreeing with the description of such urines given by other writers. The first case teaches that the urine of persons with melanotic cancer does not always contain melanogen alone, but, even when first passed, may contain melanin, and consequently be of a deep black color.

INDICAN.

Baumann long ago expressed an opinion that indican exists in the urine in the form of a sulpho-acid similar to phenyl-sulphuric acid.⁴ Baumann and Brieger⁵ have proved this to be the case. They gave a dog eighteen grams pure indol over a period of five days. The urine passed was of a reddish-brown color; sulphates very much diminished, finally disappearing; associated sulphuric acid increased; indican very abundant. The sulpho-acid, called by the authors indoxyl-sulphuric acid, was separated in the pure state, and its formula determined. It exists in the urine in combination with potassium, and this potassium compound resembles very much in appearance the potassium compound of phynol-sulphuric acid. The dry salt when heated in a dry tube is decomposed, with the formation of a purple cloud of indigo, while its solutions are decomposed by hydrochloric acid and weak oxidizing agents, and soon colored blue from the separation of indigo.

SUGAR.

At one of the meetings of the Clinical Society of London,⁶ Dr. Habershen reported a case of chylous urine, in which, after the urine had become clear, sugar appeared. The case is worthy of notice from the fact that, although the amount of sugar was considerable, the specific gravity of the urine did not rise above 1014.

Dr. Heath⁷ also reports a case of diabetes mellitus, in which the specific gravity was invariably as low as 1008-1010. The physician commonly associates sugar in the urine with a high specific gravity, so much so that in the analysis of a specimen of urine with a specific gravity below 1018-1020 the test for sugar is usually forgotten. Cases like the above should therefore be kept in mind.

TOXICOLOGY.

THE ALKALOIDS OF BELLADONNA, DATURA, HYOSCYAMUS, AND DUBOISIA.

Within the past few months, A. Ladenburg and others have published several interesting articles concerning the above alkaloids.⁸ The results of their investigations are best stated in a communication presented by M. Ladenburg to the French Academy.⁹

Atropia belladonna contains at least two alkaloids, heavy and light atropia (so called from their differing specific weight). Heavy atropia is the alkaloid ordinarily known as atropia. Light atropia, which is present in small quantity and is difficult to isolate, is identical

⁴ Berichte der deutschen chemischen Gesellschaft, ix., No. 1, page 54.

⁵ Centralblatt für die med. Wissenschaften, 1880, page 230.

⁶ British Medical Journal, February 7, 1880, page 268.

⁷ British Medical Journal, February 21, 1880, page 280.

⁸ Berichte der deutschen chem. Gesellsch., xiv. pp. 104, 165, 254, 257, 380, 607, 909.

⁹ Comptes rendus, xc. p. 874.

tical with hyoscyamia, since it has the same chemical composition and melting point, and its gold salt is identical with that of hyoscyamia. Belladonna, considered by Kraut to be present, with atropia, in commercial belladonna, appears to be isomeric with atropia, and may be identical with hyoscyamia.

Datura stramonium also contains two alkaloids, heavy and light datura. Heavy datura is a mixture of atropia and hyoscyamia, since from it the gold salt of both atropia and hyoscyamia can be obtained. Light datura is identical with hyoscyamia.

Hyoscyamus also contains two alkaloids, crystalline and amorphous hyoscyamia. The former is the more abundant, and is the one called by Ladenburg hyoscyamia. This is isomeric with atropia, that is, it has the same chemical composition, and its decomposition products are identical with those of atropia. Moreover, hyoscyamia can be converted into atropia. They are not identical, for hyoscyamia melts at a lower temperature than atropia, and the physical properties of its gold salt differ from those of the gold salt of atropia. The mydriatic action of hyoscyamia is, in general, identical with that of atropia, but in certain cases the former appears to act in a different manner from the latter. Amorphous hyoscyamia contains a hitherto unknown alkaloid, which Ladenburg is still investigating.

From the Australian plant *Duboisia myoporoides* Ladenburg has extracted only one alkaloid, duboisia, the identity of which with hyoscyamia he has demonstrated beyond a doubt. They have the same chemical composition and the same properties, and their gold salts are identical.

The interesting results of these investigations are, then, the following:—

There are only two strong mydriatic alkaloids occurring in nature, atropia and hyoscyamia. These are isomeric, and resemble each other in a marked degree.

Duboisia and datura are each identical with hyoscyamia, and therefore isomeric with atropia. It is probable that hyoscyamia or the light datura of commerce can render the same service as duboisia in the treatment of diseases of the eye.

ANTAGONISM OF POISONS.

The conclusions of Dr. Falcik¹ concerning this subject are of interest in view of the many erroneous impressions which exist. He has shown that for no pair of poisons yet investigated does a mutual physiological antagonism exist. On the other hand, there are numerous instances of one-sided antagonism. The best known is in the case of muscarin, the alkaloid of poisonous mushrooms, and atropia. The latter is a true physiological antidote for the former. Their physiological antagonism has been exactly investigated in the case of most of the organs of the body. Myosis, salivation, vomiting, diarrhoea, changes of pulse and respiration, which are caused by muscarin, are removed or prevented by atropia, if the latter is applied simultaneously. Muscarin and atropia act upon the same organs, the former having an excitant, the latter a paralyzing, action; but while the latter can arrest the action of the former, the reverse has not been found true. A similar one-sided physiological antagonism exists between pilocarpin and atropia.

Physostigmin is an antidote to atropia, chloral hy-

drate to strychnia, atropia to both chloral hydrate and morphia, but all in a pharmacological, not in a physiological, sense. One will diminish the symptoms produced by the other, but does not act upon the same organs in a physiologically opposite manner.

In cases of poisoning by strychnia, chloral is undoubtedly the best antidote that can be employed, while atropia is to be looked upon as of great value in cases of poisoning by morphia.

Hospital Practice and Clinical Memoranda.

BOSTON CITY HOSPITAL.

MEDICAL CASES IN THE SERVICE OF DR. S. G. WEBER.

REPORTED BY S. E. WYMAN.

THICKENING OF MEMBRANES SIMULATING TUMOR; SYPHILIS.

CASE I. October 23d. E. F. D. S., twenty-four years. Family history good. Patient has used liquor very moderately during his life. Says he had a chancre with non-suppurating buboes one year and a half ago. Had severe sore throat and a general skin eruption subsequently, but dates not fixed.

His sister says that three years ago he had very severe headache, lasting about a month, and then he had relief for about six months, when headache returned for two months. The last attack of headache dates back to June 1, 1879, lasting two months. Since that time he has been comparatively free from pain. Eyesight began to fail when the last attack of headache ceased.

About three weeks previous to entrance he began to lose the use of his left arm and leg. No sudden attack nor loss of consciousness. No abnormal sensation or pain in leg or arm; no tremor or spasm in arm or leg; no trouble in deglutition; some interference with speech. Gaping and sighing are more frequent than formerly; no pain in body or back; tongue is protruded straight; slight paralysis in the left side of the face; ptosis on the right; paralysis of internal rectus, and imperfect action of superior and inferior recti muscles of both eyes. There is a lack of coördination of the hands; the left moves more tremulously than the right. Walks very feebly, and with eyes shut; would fall if not supported. Both legs decidedly weak. Feels two points in right hand at three fourths inch, and in left hand at one inch, apart, but distances are not constant. Pupils widely dilated; vision rather imperfect. Intellect decidedly dull. Heart and lungs normal. Remains of syphilitic eruption visible on legs and thighs. Five grains of iodide of potassium three times a day. Inunction of five grains of oleate of mercury daily in axillae.

October 26th. P. M. Has been very restless, and slept poorly. Has made several unsuccessful attempts to empty bowels. Enema of olive oil and turpentine.

Above prescription was followed by a very large dejection, consisting of masses of hardened feces. Patient fell into a quiet sleep.

October 27th. Appetite very voracious; apparently not satisfied, although he eats very heartily. The iodide of potassium was increased gradually to thirty

¹ Archiv der Pharm., May, 1880, page 338.

grains three times a day until October 31st. A slight conjunctivitis lead to its omission. Eyes examined by Dr. Williams, and nothing abnormal was found in either fundus.

November 1st. Motions of left eye are somewhat better than at time of entrance.

November 2d. Twenty grains of iodide of potassium three times a day. Shouting, noisy, and requiring to be tied in order to keep him in bed.

November 6th. Teeth somewhat tender. Use inunction once a day only. Increase iodide of potassium to twenty-five grains.

November 7th. Tongue a little swollen. Omit inunction.

November 10th. Slight conjunctivitis. Omit iodide of potassium. Has been growing more stupid for the past three or four days; can be aroused this a. m. with difficulty. Speech very indistinct. Swallowing is quite difficult, and liquids regurgitate through the nose at times. He became unconscious, gradually failed, and died at 6.30 p. m., November 15th.

Patient required, until within a few days, chloral and bromide of potassium in large doses nearly every night in order to sleep; otherwise he would continually get out of bed, and talk nearly all the time.

November 16th. *Autopsy* by Dr. E. G. Cutler, twenty-eight hours after death.

Brain. On removing the calvaria the dura mater was found to be normally thick, and the vessel normally full. The pia mater was thickened over the vertex, and also at the base, especially over the third nerves and those given off from the anterior portion of the pons; the thickening was most marked on the right side. The right third nerve was grayer and more translucent than normal. The same change, but less marked, was seen in the left third nerve. The arteries at the base of the brain, that is, a portion of the basilar, each middle cerebral, and one vertebral, showed rather circumscribed thickening of the intima. The brain was intensely injected in all parts. In the anterior portion of the right optic thalamus there was a limited amount of capillary hemorrhage. The *lungs* were rich in blood, and there were numerous hemorrhages into the alveoli. The left lung contained one or two hemorrhagic infarctions. Low down were places where the bronchial tubes were considerably injected. The *heart* was normal. The *spleen* was covered with old inflammatory thickenings; it was extensively adherent to the neighboring organs, was quite rich in blood, and there were some small ecchymoses in the pulp.

The statement made by patient that he had chancres only a year and a half previous to his entrance to the hospital is open to doubt, in view of his sister's statement that he had headache three years ago. The patient was probably mistaken, his memory being affected by the disease. In view of the paralysis of the right third nerve, the left facial, and the greater disturbance of the left limbs, and the general weakness of both sides, a local lesion, situated near the median line, but rather more to the right, either in the right crus cerebri or between the two crura, was diagnosed. Taking into account the preceding headaches and the specific history, the diagnosis of a tumor was made. The principal lesion was situated at the point indicated, but there was great thickening of the membranes instead of the more limited tumor which it was supposed caused the symptoms.

APHASIA, WITHOUT PARALYSIS; LESION OF LEFT ISLAND OF REIL.

CASE II. E. W. C., female, aged fifty-nine years.

November 12th was brought into the hospital with the following history: One year and a half ago had an attack of paralysis, from which she completely recovered. One week ago was attacked suddenly with difficulty of speech, but with no loss of power. When first seen she was lying on her back, with her eyes rolled upwards and forehead knit as if in pain. Speech was very indistinct and unintelligible. Could move all four limbs; pronate, supinate, and extend fingers of both hands equally well. Grasp of right hand judged to be somewhat less strong than that of left. Put out her tongue when told to, and without any deviation. Swallowed fairly well. Could sit up and help herself. Heart and lungs normal.

November 13th. Slept pretty well during the latter part of the night; considerable difficulty in swallowing. Lay with head and both eyes turned toward the right. Made no attempt to talk or protrude her tongue, but moved her left arm slightly when told to do so. Used right hand quite well. Much mucus in her mouth, causing loud rales during respiration. Some groaning. Conjunctivitis of left eye. Eyes moved slightly, but not beyond the median line, keeping continuously to the right of it. Reflex action retained in the feet. Temperature 97.4° F.; pulse 85.

November 14th. Involuntary passage of feces and urine during the night.

November 17th. Gradually failed, respirations becoming more and more rapid, and died at 2.45 p. m.

November 18th. *Autopsy* by Dr. E. G. Cutler, twenty hours after death. *Brain.* The vessels were tolerably well filled. There was atrophy of the convolutions of the convexity. Compensation by subarachnoid fluid. Old hemorrhagic effusion in the left occipital lobe. The left Island of Reil was much softened, apparently from embolic plugging of a vessel. One or two hemorrhages of small size were found in the substance of the motor convolutions on the left, particularly the third frontal convolution on the left near the fissure of Rolando. All the cerebral arteries were extremely changed, from atheromatous degeneration. *Heart.* The left ventricle was slightly hypertrophied. The valves were normal and sufficient. The substance of the heart was normally firm, and of good color. There was atheroma of the aorta and of the coronary arteries. The *lungs* were somewhat injected, and there were evidences of old inflammatory trouble at both apices. The *spleen* was dense and small from atrophy of the pulp, but otherwise not abnormal. *Kidneys.* Both together weighed five and three quarters ounces. The cortex of each was extremely atrophied, as was also the medulla. The amount of secreting substance was reduced to a minimum. The arteries were thickened. The *liver* was rather atrophied, and in various places its capsule was drawn in by cicatrices. The *uterus* contained evidences of former pregnancies, and there were several fibrous tumors in its wall.

The first attack was doubtless caused by the hemorrhage into the occipital lobe. The eyes and head were turned towards the right, yet the lesion was found in the left hemisphere; this is the reverse of what is usually found in conjugate deviation of the eyes and head. Perhaps the lesions of the motor convolutions on the left were sources of irritation leading to spasm of the

muscles of the right, and so caused the eyes and head to turn in that direction. The case is further of interest in view of the difficulty of speech without paralysis and with lesion of the left Island of Reil.

The accompanying chart of temperature is characteristic as showing the steady rise of temperature, indicating the approach of a fatal termination.

LARGE CEREBRAL TUMOR, WITH FEW SYMPTOMS TILL SHORTLY BEFORE DEATH.

CASE III. R. W. R., male, aged thirty-five, single. Entered the City Hospital November 16, 1879, but was not able to give any history. The following was subsequently learned from his father: His mother died of consumption; the rest of family history excellent. He has been a hard drinker and a wild young man, but no specific history could be obtained. Patient was always very pale, but well until twelve to fourteen years ago, when he received a blow in the back of the head from a brick which was thrown at him. He has had more or less headache since injury. Has been a great smoker for years. About four years ago vision began to fail, and he has become totally blind in the left eye and very nearly so in the right. Six to eight weeks ago he had an attack similar to present one, in which he had very severe headache and was unconscious for half a day. Has never had any convulsions nor loss of motor power.

On the 13th of November he began to have severe headache, but kept about his work until the noon of November 15th, when he went to bed, became unconscious during the succeeding night, and has remained so ever since. Patient is very anæmic; lies with his eyes closed, and will not answer any questions; is conscious of pinching, and moves all four limbs in response to the irritation. Pupils of nearly normal size, and respond, though somewhat sluggishly, to light. No cicatrix on tongue. Temperature 98.6° F.; pulse 64.

November 17th. Answers questions this morning, and says he feels better. Tongue protruded straight. Was restless during the night, and was constantly throwing off the bedclothes. Passed urine in bed. Heart and lungs normal.

17 Iodide of potassium grs. v.
Three times a day.

Soon became unconscious, and would not answer questions.

November 18th. Was quiet during the night; talked some. Involuntary passage of urine in bed, which continued until death.

November 19th. Was very noisy during the first part of the night, throwing off bedclothes, etc. Is able to drink milk without much difficulty.

November 22d. Talked a great deal during the night, and slept but little. Has more difficulty in swallowing.

November 23d. Had a comfortable night. Says he feels better, and has his eyes open.

November 25th. Has been unconscious for past forty-eight hours, and has great difficulty in swallowing anything, liquids regurgitating.

November 26th. Grew weaker, and died at twelve M.

November 28th. Autopsy by Dr. E. G. Cutler, forty-eight hours after death. The heart was rather small, and its color pale. There was a slight atheromatous condition of the anterior portion of the mitral valve. The aortic valves were sufficient. Lungs. Evidences

of old inflammatory trouble were found at the apex of the left lung, and there was edema of the posterior portions of both. The bronchial tubes contained more or less bloody fluid. The spleen was somewhat small. Its capsule was slightly wrinkled, and there were numerous adhesions. On section it was pale, and the pulp was slightly atrophied. The liver was rather small. Its surface was smooth; the capsule was not thickened. On section the organ was cyanotic, but otherwise not abnormal. The stomach was normal. The kidneys were very full of blood, otherwise not abnormal. Brain. At the base of the brain, in the median line, extending from just in front of the pons to just a little beyond the fissure of Sylvius, was a tumor about two and a half inches long by two inches broad, and of an irregular, lobulated surface. There was a certain amount of softening in the brain over the surface of the tumor, and a puriform fluid escaped in removing the brain. On section, the tumor had a fleshy appearance, and minute blood-vessels were freely scattered over the entire surface of the section. The tumor was estimated to be about the size of the fist. There was a considerable amount of fluid in the lateral ventricles, and the convolutions were flattened over both convexities; otherwise the brain was not abnormal. The bones at the base of the brain, that is, the base and portions of the lesser wings of the sphenoid, were considerably roughened and carious over the situation of the tumor. The cribriform plate was apparently ulcerated through.

The patient's condition when received was such that an examination gave no satisfactory data, and the earlier history was so imperfect that no diagnosis was made. The headache at intervals was not of itself alone sufficient to justify the diagnosis of tumor, especially in view of the statement that there was no loss of motor power. Especially deserving of notice is the fact that, notwithstanding the large tumor within the skull, the patient was able to keep about his work until eleven days before his death.

FISTULA IN ANO.

THE RESULTS OF INCISION IN THIRTY-SIX CASES, WITH ANATOMICAL REMARKS.

BY DUDLEY P. ALLEN, M. D.,
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THE cutting operation for the cure of fistula in ano has been criticised as inefficient and dangerous; inefficient because it not infrequently fails to induce a cure of the fistula, and dangerous because by cutting the fibres of the sphincter and muscle incontinence of feces results.

The treatment of fistula has largely been given over to irregular practitioners, who resort to ligature, stimulating injections and applications, methods of treatment which are neither more safe nor efficient than cutting, while they entail greater delay and expense upon the patient. The appended table shows the results that have been obtained in thirty-six cases of fistula in ano, most of which were patients in the Massachusetts General Hospital:—

From five months to three years have elapsed since the operations were performed, so that there has been abundant time for the ultimate results to show themselves. Most of the cases have been personally exam-

ined within the last few weeks or communicated with by letter.

The operation was performed by cutting the tissues included between the fistula and the rectum. An analysis of the table shows the following: Of thirty-six

THIRTY-SIX CASES OF FISTULA IN ANO.

Number.	Healed.	Not Healed.	Time required to heal.	Impaired Sphincter.	Incontinence.	Unimpacted Sphincter.	Remarks.
1	Yes.	-	9 w.	-	-	Yes.	Very slight loss of power in sphincter.
2	Yes.	-	7 w.	Yes.	-	-	
3	Yes.	-	6 w.	-	-	Yes.	
4	Yes.	-	8 w.	-	-	Yes.	
5	Yes.	-	1 w.	-	-	Yes.	
6	-	Yes.	-	-	-	Yes.	Slight mucous discharge.
7	Yes.	-	2 w.	-	-	Yes.	
8	Yes.	-	4 mo.	-	-	Yes.	
9	Yes.	-	6 w.	-	-	Yes.	
10	Yes.	-	7	-	-	Yes.	
11	Yes.	-	3 mo.	-	-	Yes.	
12	Yes.	-	10 d.	-	-	Yes.	
13	Yes.	-	5 w.	-	-	Yes.	
14	Yes.	-	1 mo.	-	-	Yes.	
15	-	Yes.	-	-	-	Yes.	
16	Yes.	-	4 mo.	-	-	Yes.	
17	Yes.	-	7 w.	-	-	Yes.	
18	Yes.	-	4 mo.	-	-	Yes.	
19	Yes.	-	2 mo.	-	-	Yes.	
20	Yes.	-	1 mo.	-	-	Yes.	
21	Yes.	-	4 mo.	-	-	Yes.	Slight mucous discharge.
22	Yes.	-	6 w.	-	-	Yes.	
23	-	Yes.	-	-	-	Yes.	
24	Yes.	-	3 w.	-	-	Yes.	
25	-	Yes.	-	-	-	Yes.	
26	Yes.	-	2 w.	Yes.	-	-	Sphincter slightly impaired.
27	-	Yes.	-	-	-	-	
28	Yes.	-	9 w.	Yes.	-	-	Sphincter slightly impaired.
29	Yes.	-	1 mo.	-	-	-	
30	-	Yes.	-	-	-	-	Sphincter slightly impaired.
31	Yes.	-	8 w.	-	-	-	
32	Yes.	-	10 w.	-	-	-	Amount of incontinence could not be ascertained.
33	Yes.	-	11 mo.	-	-	Yes.	
34	Yes.	-	3 mo.	-	-	Yes.	
35	Yes.	-	7	-	-	Yes.	
36	Yes.	-	1 yr.	-	-	Yes.	
36	30	6	-	4	1	31	

cases operated upon by cutting thirty were entirely cured. The time required varied from one week to one year. The average time was eight weeks, while if three especially tedious cases be omitted, which occupied in healing eight, eleven, and twelve months, respectively, the average time would be only five and a half weeks. Six have not entirely healed, but two of these were operated upon only five months ago, and have very little discharge except when the patient is overheated, and these will probably heal. There is perfect control of sphincter in all except five cases, and these five, with one exception, are of those which have entirely healed. The six which have not healed, with one exception, retain control over their sphincter. Of the five which have impaired power in sphincter, four have no trouble except in diarrhoea, and then, though there is not incontinence, the patient cannot retain discharges as long as before operation, and must make haste to defecate.

One case reports slight incontinence, but to what extent we have been unable to ascertain. The cases would seem to show, then, that the cutting operation is not a dangerous one, and that in a large proportion of cases it results in cure.

In several cases, after all purulent discharge had ceased, there was an occasional mucous discharge, when the patient was overheated. Examination shows this to come from the line of the wound, which, after cicatrization, sometimes leaves a slight linear depression,

which for a short time is subject to irritation. After a time the irritation and discharge usually cease.

The rapidity and certainty of healing are of course dependent upon the general health of the patient.

The method of performing the operation may be described in brief: A small probe is inserted into the fistula, while the forefinger of the opposite hand is placed in the bowel. By carefully following the course of the fistula an internal opening into the bowel may be found in a very large majority of cases. This opening should be sought for just above the sphincter, and a report of seventy post-mortem examinations of fistulae showed the opening in no case to be more than five to six lines from the margin of the anus. Having found the internal opening with a probe, the inner end of the probe is bent out of the anus, and the tissues which it includes between the outer and inner openings of the fistula are divided upon a director. It is also important to stretch the sphincter in order to paralyze it during the process of healing. An internal opening may be accompanied by multiple external openings, in which case all the fistulous tracts are freely laid open. A method of treatment which has proved very successful in the hospital is to scrape away thoroughly all the inner surface of the fistula with a curette, and when the tracts extend some distance outward from the anus after being curetted they have been stitched together, and thus long tracts have been united by first intention.

Cases are not always, however, so simple, for the fistulous tract may extend to a considerable distance upward. Quain, in his *Diseases of the Rectum*, says that when the fistula is more than one inch in length it is usually between the muscular and mucous coats. These tracts reaching upward beside the bowel may and usually have no internal opening high up, but communicate with the rectum at the same point as those which are wholly superficial.

To operate upon these by an extended incision of the mucous membrane would incur two dangers: first, the cut would include the whole of the sphincter muscle, and render the danger of incontinence far greater than in the superficial cases, where a few fibres remain uncut; and, second, since the parts about the rectum are very vascular, it is at times extremely difficult to control hemorrhage when it is beyond the reach of ligature. Cases of deep cutting have been followed by copious and almost fatal hemorrhage. In those cases where the fistula extends a considerable distance beside the bowel, if there be an internal opening low down this may be laid open, as in cases where there is no deep tract, and then the deep tract is best treated by curetting, injections, packing with stimulating applications, etc. After operation the parts are kept thoroughly cleansed, and the usual packing is charpie moistened with tincture of myrrh one part to water eight parts. The packing should be sufficient only to separate the parts, and cause them to heal from the bottom, and not to distend them, and thus prevent cicatrization. The patient is kept in bed with bowels quiet for from eight to ten days, but the fistula is dressed until healed.

In connection with the treatment of fistula in ano, it may be of interest to consider its cause. This will best be done by a careful examination of the parts involved. Omitting all unessential details, we will describe two causes of fistula which become apparent on a study of the rectum. They are, first, the existence of the diverticula of Morgagni, and, second, the internal hemorrhoidal veins.

In the *Wiener medizinische Presse*, 1878, Chiari says that, having made an examination of a large number of rectums, he finds that the diverticula of Morgagni collect and retain fecal matters; that they thus become distended, and later ulcerate, in this way forming fistulae.

On examining the rectum it will be found that on a level with the upper border of the sphincter is a portion of glistening smooth membrane, one fourth of an inch in width, differing in appearance from the integument below and the mucous membrane above. This is supposed to represent the point where, in fetal development, the depression from without meets the descending pouch of the large intestine from within. As the diaphragm which divides the two disappears and retracts, there are left small cicatricial bands, longitudinal and extending upward, and between these bands are found slight pockets or depressions. The appearance might be likened to a bag with a string tied about its mouth. The bag is then thrown into folds on its internal surface, and between these are depressions. If now between two of these folds were stretched a covering, a pocket would be formed just above the string which tied the bag. In the rectum the sphincter may be likened to a cord tied about the rectum. The longitudinal bands are caused by the drawing outward of the diaphragm which in the fetal state divides the rectum, and the external depression which comes to meet it. Not only are longitudinal bands the result, but they are also connected for a short distance at their lower extremity, thus forming pockets. If the normal rectum is examined these little pockets will be found surrounding it just above the sphincter, and varying from one thirty-second to one fourth of an inch in depth.

To find if these tended to collect fecal matter, at the suggestion of Dr. J. Collins Warren, several normal rectums were injected with plaster of Paris. The casts showed that several pockets in each rectum were largely distended, and projections were found on the casts of varying thickness, and from one sixteenth to one eighth of an inch in length.

What more natural cause could there be for the explanation of the formation of fistulae? We have the rectum, which is an elastic, distensible sack, closed at its extremity by the sphincter, which acts as a cord to close it. The fecal matter fills, and if retained distends, the rectum. Portions of fecal matter enter the small diverticula and enlarge them, and becoming fixed cause ulceration, which increases until fistulae are begun, which proceed outward and later break externally. That this is a reasonable explanation is attested by the fact, first, that these diverticula of Morgagni are found in various stages of ulceration, even to the formation of complete fistulae; and, second, because these diverticula are at the precise point where the internal openings of fistulae are almost universally found, as is attested by the seventy-five post-mortem examinations cited by Ashton, where in no case was the opening more than five to six lines distant from the margin of the anus.

A second source of fistulae mentioned was the internal hemorrhoidal veins. These are far better marked in some cases than in others, and may be found surrounding the rectum just above the sphincter. They form nodules, varying in size from a pin's head to that of a small pea.

An article in the *Archives générales de Médecine*, December 1, 1879, by M. Duret, says that the internal

hemorrhoidal veins end in small pouches during the fetal state; that later they become connected with the external hemorrhoidal veins by small canals of communication which penetrate the external sphincter muscle. By contraction of the sphincter the lower openings of these veins, or small distended sacks, are closed. By the forcing downward of the fecal matters, in ineffectual efforts at defecation, the escape of blood upwards is prevented, and these veins are thus dilated, and later pushed downward, forming hemorrhoids.

Microscopic section of these dilated veins shows them to be filled with blood, which appears to be partially fluid, and in some partially organized. It also shows that the tissues separating them from the rectum are in some cases very thin. The veins also extend upward for from three to four inches between the mucous membrane and muscular coat of the intestine. Now it is a known fact that internal hemorrhoids ulcerate. It is stated by Quain that fistulae more than one inch in length are usually between the mucous and muscular coats of the intestine. These long fistulae also often connect with the intestine at its lower extremity. The facts in the case would therefore justify the conclusion that internal hemorrhoids ulcerate; that the ulceration, instituting a phlebitis, proceeds upward along the vein, by the side of the intestine, at the same time that it burrows toward the surface. If the anatomical distribution of veins, as given by M. Duret, is correct, it would not be illogical to suppose that the suppuration or phlebitis followed downward or outward through the small vein which penetrates the sphincter muscle and connects the internal with the external hemorrhoidal veins, and that it thus reaches the surface of the body.

This following of the veins would possibly explain the multiple sinuses which at times radiate from one internal opening, and also the lining membrane of the fistulous tracts which at times is epithelial.

We shall attempt no consideration of the varieties of fistula, as internal, external, etc., nor of the causes commonly cited, as abscesses external to the rectum, the lodging of pieces of fish-bone, etc., but simply insist upon the fact that an anatomical consideration of the rectum shows the *diverticula* of Morgagni and the *internal hemorrhoidal veins* to be obvious and adequate sources of fistulae.

Why these causes do not give every one fistulae may be accounted for by the same reason that the New England climate does not give every one phthisis.

We would also repeat that the operation for cutting, from the cases already cited, appears to be an easy method of treatment, speedy of cure in most cases, and almost devoid of unpleasant consequences to the patient.

— Medical journalism in France seems to be in as bad a way as it is in this country, if we may judge from the comments of a foreign exchange, which states that Bourdeaux has just established its third medical journal; Toulouse and Rhems have each two; Montpellier three, Lille two, and Lyons, Limoges, Nantes, Nice, Marseilles, Caen, Tours, Nancy, and Rouen have each one. There are also two in Algeria. Besides these there are in several departments medical societies which publish their proceedings at monthly or longer intervals, and then the various mineral-water stations have their medical "journals" while the season lasts.

Medical and Surgical Journal.

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"MEDICAL EDUCATION: THE NORTHWEST STILL IN THE LEAD."

THE above is the somewhat sensational title of an editorial in the July number of the *Chicago Journal and Examiner*, which states that—

"While the medical department of Harvard has been simply giving notice of an intention to add a *fourth year* to the period of medical study at a future time, which, however, was to be optional with the student whether he should take it or not, the new St. Paul Medical College, medical department of Hamline University, boldly announces its adoption of a full graded course extending over *four years*, a full compliance with which is made obligatory upon all candidates for graduation. We quote from the annual announcement for 1880-81 as follows: 'Instruction is given by lectures, recitations, and clinical teaching, distributed throughout the academic year, which commences on the first Tuesday in October and closes on the last Saturday in May, with a recess of ten days at Christmas. The course of study has been enlarged and extends over *four years*, and the examinations for a degree are divided into *four*, one to be held at the close of each year. All examinations, both in the regular and adjunct branches, must be passed at some time previous to receiving the diploma. An examination, on entrance, in the higher English branches is required.' Will the medical press of the whole country take as much pains to notice the bold and positive stand taken by the young school in Minnesota as it has the simple declaration on the part of Harvard of an intention to do something in the future?"

We would add for the information of our contemporary that Harvard has already adopted a fourth year optional course, instruction in which will be given during the coming year. We regret not to be able to say that the course is a required one, for a large number of students have already signified their intention to take it, and we feel sure that a bolder move, like that of the Minnesota school, would have been attended with success.

—The *Medical Times and Gazette* of June 19th reports the removal of a scrotal tumor in Calcutta from a Hindu. The patient weighed 276 lbs. before the operation. The tumor after removal weighed 110½ lbs., or, making allowance for the contents of the hydrocele, at least one half of the man's original weight. The growth commenced shortly after puberty. Its size made it useful as a writing-desk for the patient.

SANITARY LEGISLATION AND PROGRESS IN JAPAN.

THE Japanese Central Sanitary Bureau began its existence in the year 1873, but the present report,¹ covering the two years from July 10, 1875, to June 30, 1877, is the first which has been published. The first task undertaken by the bureau after its organization was the preparation of a preliminary sanitary code. In this code provision was made for the establishment of local sanitary offices, for the regulation of the course of study to be followed in medical schools, for the examination of applicants for permits to practice as physicians and surgeons, for the examination of applicants for licenses as apothecaries; and special rules were laid down for the sale and handling of poisonous and powerful medicines. The provisions of this code not only covered all the points over which government control is exercised in Europe and America, but in some respects, and especially in those relating to the practice of medicine, go much beyond anything which has been attempted in this country. It was wisely decided to enforce immediately only such measures as were applicable to the large cities and such others as were urgently needed, but that the code in general should be applied to the whole country only as its advancing civilization and circumstances should permit or render desirable. At an early period a proclamation was issued, ordering that all patent medicines and secret remedies should be chemically examined and their sale controlled by the bureau, and shortly afterward a government laboratory was founded in Tokio, and a central office was established for collecting, keeping, and distributing pure and effective vaccine lymph. Gradually arrangements were made to control the adulteration of drugs, preliminary steps were taken to obtain statistics of mortality and of infectious diseases, to prevent such diseases, and a system for the inspection of public prostitutes was introduced. Each advance was made only after mature consideration, in order to follow such an intermediate course as to coincide with the gradual progress of medical science in Japan and the general condition of the cities and prefectures, so that many of the regulations were carried into effect, not in their proper sequence, but as circumstances would permit. When one looks still further into their report, and learns from Section VII. that in June, 1877, the total number of physicians returned as practicing in Japan, one prefecture not returning, was 31,268, or one to every 1100 of the population, of whom about sixty-six per cent. followed the Chinese system, thirteen per cent. the mixed system, and that of the remaining twenty-one per cent. who followed the "Western" system less than one per cent. were duly qualified by examination, the difficulty of the task undertaken by the Central Sanitary Bureau is apparent. The statistics in regard to apothecaries only make this difficulty more clear. The total number of apothecaries, according to the returns up to June, 1877, was 5993, or

¹ Annual Reports of the Central Sanitary Bureau of the Home Department of the Imperial Japanese Government. Report of the Director of the Central Sanitary Bureau on Choleraic Diseases in Japan during the Year 1877.

one for every 6000 of the population. Of this number 16 followed the Japanese system, 632 the Chinese, 35 the "Western," and 5288 a mixed system; 22 only had been licensed after examination. In some families the business is hereditary.

The mortality returns as given in Section I. of the report are, as yet, too incomplete to be of much positive value. Tables giving the statistics in regard to infectious and contagious diseases are contained in Section II. The utmost superstition still prevails respecting the proper means of guarding against them, and the lower classes still believe enchantment, or supplications to the gods, to be the only efficacious remedies; those sick with such diseases are strictly isolated, but no attention is paid to cleanliness, to the disinfection or destruction of infected bedding, clothing, furniture, etc. The ravages of small-pox have been at times very extensive. Vaccination was first introduced by a Dutch physician at Nagasaki in 1849, but the results of the early efforts were not very satisfactory, owing probably to the careless manner of performing the operation and the poor and insufficient supply of lymph. Hospitals in Japan differ from similar institutions in America and Europe, as is explained in Section IV., in affording medical treatment and attendance chiefly to the higher classes; formerly this was exclusively the case, but even since the establishment of hospitals by the government, the greater skill and reputation of the physicians and surgeons attached to them attract the rich rather than the poor. The total number of hospitals in 1877, including branch hospitals, those for the treatment of syphilitics and charity hospitals, was one hundred and fifty-nine. Of the general hospitals sixty-four were public, seven were government institutions, and thirty-five were private.

It is now the law in Japan that any person wishing to prepare any patent medicine should apply to the department of education for a license, presenting a sample of such medicine, with the names and proportions of its ingredients, directions for its use, and explanations of its supposed efficacy. These licenses are only good for five years. The report ingeniously remarks in this connection that—

The nature of these patent medicines is different from that of those which are sold in Europe and America.

In Western countries, this class of medicines is intended to cure only one particular disease or disorders of a simple nature; but in Japan, one and the same patent medicine is vaunted to be an infallible remedy for a large variety of diseases of a wholly different description.

Special measures are therefore necessary for the control of the sale of such medicines as these, as present circumstances do not permit us entirely to prohibit their preparation and sale.

For this reason special regulations, with penalties for their violation, have been issued.

As far as this country is concerned, we are afraid the compliment to our good sense is undeserved, and the difference, if there is any, is probably in favor of the Japanese. We wish our national and state govern-

ments had a little more of their courage and enterprise in seeking to control humbugs and charlatanism.

The report on choleraic diseases gives a short history of cholera in Japan, and an account of the epidemic which prevailed very extensively toward the close of the year 1877. The first Japanese record of Asiatic cholera in an epidemic form dates back to the year 1822, when it is thought the disease was probably brought over from Java to Nagasaki in some Dutch ships. The next serious outbreak was in 1858, and continued for nearly three years. This time it was believed that the first case, which appeared again at Nagasaki, was brought by the United States man-of-war Mississippi. In 1877 the first cases were observed at Kanagawa, and the infection was thought to have been brought from Amoy. This epidemic carried off seventy-eight hundred victims.

These reports are in English, and were printed in Tokio. The errors are very few and unimportant. The good sense, extensive study, and intelligent conclusions which they offer would be creditable to any health bureau in any part of the world, and they could hardly be more presentable if published in one of the "Western" countries. Japan is evidently getting past the stage where she need come to learn, and in some particulars pertaining to sanitary matters she may presently "give us points." The director of the central bureau is to be congratulated upon this first report, which it is to be hoped will now be annually followed by others.

BATHING IN FRESH POND.

In view of the recent decision of Judge Ladd, of the Cambridge police court, under which an individual was fined last week for bathing in Fresh Pond, from which pond the city of Cambridge draws its domestic water supply, it seems worth while to call attention to Chapter 224 of the Acts and Resolves passed by the General Court of Massachusetts in the year 1879. This chapter is entitled *An Act to Preserve the Purity*¹ of the Water Supply of Towns and Cities.

Section I. of this act imposes a penalty for rendering impure water used for domestic water supply, and authorizes constables to arrest offenders without a warrant; Section II. confers upon agents of water boards the powers usually exercised by constables; whilst Section III., to which the term "rider" seems very appropriate, reads as follows: "None of the provisions of this act shall be so construed as to interfere with the sewage of towns, cities, or public institutions, or to prevent boating on or bathing or fishing in such water, or the enriching of land by the owner or occupant thereof for agricultural purposes."

In support of his decision, Judge Ladd quotes Chapter 18, Section II., of the General Statutes, according to which "every municipal corporation may make such necessary orders and by-laws, not repugnant to the laws of the State, for directing and managing its prudential affairs." We fear Judge Ladd's decision will be found repugnant to Section III. of Chapter

¹ Italics are ours.

224, above quoted, to a no less degree than that section is repugnant to common sense and common decency. If the committee on public health of the legislature of 1879 gave its indorsement to this Section III., as we think it must have done, it is charitable to suppose that the meaning of the section was overlooked; if, on the other hand, the act originated in the committee, the concoction of the title of the act, and the composition of Section III. must have afforded the overworked members of that committee a few moments of cheerful and refreshing hilarity. It is evidently proper that the town of Natick should discharge its sewage into Lake Cochituate, and then bathe in it, and if the inhabitants of the city of Boston don't like to drink the water thus flavored, perhaps the shoemakers of Natick will permit themselves to be furnished with bath-tubs, when the inhabitants of Boston will only have water plus sewage to drink.

We sincerely hope the interpretation we put upon this Section III. may prove erroneous, and that Judge Ladd's law may be found as good as his equity.

MEDICAL NOTES.

— Dr. G. A. Moses gives the following account of obstetric practices among the Indians in the *St. Louis Courier of Medicine*: An Indian woman, of the Kiowa tribe, one of the wildest tribes, which has come scarcely at all in contact with the whites, had been in labor for three days, and it being apparent to the friends and midwife squaw that successful natural delivery was impossible, and that under the native treatment by incantations, beating of tom-toms, etc., the woman's strength was becoming rapidly exhausted, assistance of the post medical officer was desired. It was only after several visits to the wigwam that the doctor finally was allowed to make a very hasty and imperfect digital touch. The heel was arrested in the cavity. After still further delay he was permitted to apply the forceps, which, to the intense amazement of the lookers-on, drew forth a living infant. As soon as this was effected the physician was rudely pushed aside, and the Indian midwife took charge of her case, compelling the woman to rise to her feet. She was sustained in a bent posture, grasping with both hands the centre pole of the tent; then the squaw proceeded to carry out methodically Credé's method of expressing the placenta by compressing the uterus through the abdominal walls, with both hands pressing in the direction of the pelvic cavity, until the placenta appeared at the vulva, when it was seized with one hand and withdrawn; the patient was then allowed to resume recumbency, and a highly ornamented buckskin bandage was adapted to pelvis and abdomen; this was drawn snugly by buckles and straps. The doctor says it looked as though it had been in use some time, and was a most perfect-fitting bandage. The patient made a good recovery, and the white man's "iron hooks" are established in reputation among the band.

If the Indian mother gives birth to twins, only one

is allowed to live. In case of the birth being male and female, the latter is given to an old squaw, and nothing further is heard of the luckless papoose. In case of both being of the same sex, the feeblest is put out of the way.

— In regard to copper-test pellets for sugar, Dr. F. W. Pavy writes to the *Lancet*: When kept under suitable conditions they fulfill all that can be desired. I have received information from some who have procured them that they have become moist, and thereby spoilt on keeping. Hitherto they have been sent out in corked bottles rendered air-tight with sealing-wax. As long as the bottle has remained unopened they have been all right, but when the sealing-wax has been broken the cork has allowed the penetration of moisture, which, being absorbed by the caustic potash contained in the pellet, has led to its becoming moist. All that is wanted to prevent this occurrence is that they should be kept for use in a good stoppered bottle.

NEW YORK.

— During the week ending July 17th the special corps of physicians appointed for the tenement districts of the city visited 7336 houses, including 41,995 families, and found 1271 children whose parents had neglected to provide them with medical attendance. They gave 1053 prescriptions and distributed 1471 free excursion tickets.

During the six months ending June 30th, 4179 deaths of children under one year were reported, and of that number, 958 were less than a month old. Four hundred and seventy-seven of the deaths occurred in January, 466 in February, 536 in March, 523 in April, 685 in May, and 1512 in June. Of children under five years of age, 2760 died in the first three months of the year, and 4195 in the second quarter; making a total of 6955. During the same six months, two deaths from small-pox, 113 from scarlatina, 116 from diphtheria, 176 from croup, and 106 from malarial fever were reported at the bureau of vital statistics. Of 110 deaths directly attributable to habits of intemperance, 63 occurred among the native population, 41 among the Irish, and 21 among the German residents.

Owing to the great heat and the unusual amount of illness in the tenement-house districts, the number of poor sick children taken to the sea-side sanitarium at Rockaway is greater this season than ever before; as many as four hundred patients sometimes being received at the institution in a day.

— So far as can be made out, Dr. Tanner actually seems to be honestly carrying out his proposed plan of refraining from food for forty days, and, if the honesty of purpose is a fact, is certainly succeeding in his attempt to an extent that would seem almost incredible, according to the opinions previously entertained by the medical profession in regard to the powers of endurance of the human system. As previously remarked, however, we have no positive guaranty that no deception has been practiced in the matter; and the strongest point against Dr. Tanner's trustworthiness is the fact that he refused to under-

take his experiment under the auspices of a body of reliable regular physicians, such as the New York Neurological Society. Dr. Landon C. Gray, of Brooklyn, the acting president of the latter society, has published a card in the daily press, in which he explains the position of the society in regard to the matter. "Some time ago," he says, "it was understood that Dr. Tanner was desirous of placing himself in the hands of a committee to be appointed by the Neurological Society. Upon this committee were to be put, among others, the leading physiologists of New York, if they would consent to serve,—men in whom the world, regardless of schools, would place entire confidence; and the conditions of the experiment were to be so rigid as to preclude all doubt as to the result. In this way it was hoped that if Dr. Tanner could really fast for forty days, the phenomena of his fast would be thoroughly studied, and whatever scientific importance they might possess would be accurately determined. The plan was abandoned, because it was soon understood that Dr. Tanner objected to the conditions as being too strict. Learning from the papers some time afterwards that Dr. Tanner had had a misunderstanding about the matter with a prominent member of the society, I wrote him, offering to call a special meeting and endeavor to have a committee appointed. In a courteous reply he informed me that his arrangements were made at Clarendon Hall, and could not be altered, but that he would be glad to have a committee cooperate with the medical gentlemen already in charge. To this I answered that it would be impossible to get members of the Neurological Society to act conjointly with gentlemen who did not belong to the regular profession. Moreover, such a loose watch as was maintained at Clarendon Hall would satisfy no one and conduce to nothing. Dr. Tanner is a man of sufficient intelligence to understand that in order to prove that he alone, among the many millions of countless ages, can fast forty days he must subject himself to an examination as rigid and careful as human ingenuity can make it. Even then there will be skeptics. If he is not willing to subject himself to such a test, it is illogical on his part to complain of the doubt expressed by scientific men. Any person well versed in sleight of hand could feed himself easily, or be fed with ease, as the watch is now being conducted. I do not mean to express any opinion whatever as to Dr. Tanner's uprightness, for that would be unwarrantable; but the gentleman must remember that, hard as it may seem, a necessary assumption at the outset of his self-imposed test is that he will cheat at every turn."

It is true that since Dr. Tanner's attempt was commenced a number of regular physicians, on their own responsibility, have undertaken to "keep an eye" on him, but hitherto the watch has been conducted in such a careless manner that no result of the slightest value to science is likely to be derived from the experiment. In the mean while there is no direct evidence to show that he has partaken of food, although it would at least have been comparatively easy for him to have used some such article as coca, for in-

stance, to sustain his strength. At first he took little or no water, but of late has been drinking it pretty freely. At one period this, or something else, caused a most marked increase in his weight, which certainly is a remarkable phenomenon in the case of an individual in the midst of a fast of forty days. On July 8th, the tenth day of the attempt, he weighed one hundred and thirty-nine and one half pounds, having lost eighteen pounds since he had commenced it. By the 10th of July he had lost twenty-one and a quarter pounds, and by the 12th, the fourteenth day, twenty-four and a half pounds. On the sixteenth day he was exceedingly nervous, and one of the regular physicians who was watching him made the following note on the record of the fast: "Since I last saw him the doctor has failed rapidly, and is now quite weak, and unwilling to sit up any great length of time." In the evening, however, he took his accustomed drive through Central Park, and while out drank six ounces of water. When he retired for the night his pulse was 98, temperature 98° F., and respiration 18. His weight was then one hundred and thirty-two pounds, a loss of twenty-five and one half pounds since the beginning. During the following afternoon and evening he drank forty-four ounces of water, and after his return from his usual evening drive he was found to weigh one hundred and thirty-three and one half pounds, a gain of a pound and a half since the previous night, while his whole condition had considerably improved. He continued to drink freely of water, and by the end of the eighteenth day he actually weighed one hundred and thirty-nine pounds, only eighteen and a half pounds less than at the beginning, the marked increase in weight being attributed to the absorption of water by the tissues of the body. At the end of twenty days of his fast, however, his weight had become reduced to one hundred and thirty-five and one half pounds, notwithstanding that he had continued his water drinking as before. On the twenty-second day his weight was one hundred and thirty-four pounds, but he was for the most part cheerful and talkative, and in conversation said that all the pain or inconvenience which he had suffered in the earlier part of his fast was now gone, so that he did not even feel a craving for food. By the twenty-fourth day, however, his weight had become reduced to one hundred and thirty-two pounds, a point as low as that which he reached just before commencing the free use of water, and he showed unmistakable signs of increasing weakness.

—Dr. Vandever Newton, proprietor of the *Druggist's Circular and Chemical Gazette*, which was established by him in 1857, in the interests of druggists and chemists, has just died, at the age of seventy-seven years, from disease of the heart.

—The case of Jackson *vs.* Odell, which has recently been decided in the court of common pleas, establishes a precedent which ought to be of substantial service to many abused tenants in this city. It was stated that Dr. Odell hired a house of Mr. Jackson, and afterward found that a soil-pipe had broken in the cellar, that a quantity of foul matter from the

broken pipe had accumulated in a hole in the cellar bottom, and that from this matter poisonous emanations arose and spread through the house. It was further alleged that the landlord refused to make the necessary repairs when his attention was called to the condition of the sewerage, whereupon the tenant abandoned the premises two months before the expiration of his lease. The landlord sued for rent for these two months, but the jury, after considering the testimony, not only disallowed the landlord's claim, but found damages against him to the extent of fifty dollars, besides costs.

Miscellany.

LETTER FROM PORTLAND.

ANNUAL MEETING OF THE MAINE MEDICAL ASSOCIATION.

THE twenty-eighth annual meeting of the Maine Medical Association was held in this city on the 15th, 16th, and 17th of June, and was very numerous attended. Dr. S. C. Gordon, the president, occupied the chair during all the sessions, and discharged the duties of the office with great skill and to the satisfaction of all concerned. In his inaugural address, he called the attention of the association to various matters which have engaged its attention in previous years, such as the proposed laws for a state board of health, for the protection of the profession from malicious suits for malpractice, and the like, but advised that, at the next meeting of the legislature, the other bills which the society has endeavored to have enacted should be temporarily ignored, and that all efforts should be concentrated upon the passage of an effective anatomical bill. At the present time it is impossible to procure a subject for dissection by any lawful means. The physicians of Maine must either break a statute themselves or hire some other persons to do so for them, if they would have material for the study of practical anatomy. As the law stands, a medical man may have in his possession for scientific purposes a body which he has obtained by any lawful means; that is to say, he may dissect the corpse of a person who has bequeathed his remains to him, or the body of any one dying in a prison or jail, provided the criminal has not requested to have his carcass interred, and provided also that no friend claims it within twenty-four hours after death. It is very rare that a man wills his body into the dissecting-room, even those who have suffered most for want of material shrinking from doing the one thing which, more than any other, would tend to encourage a healthier public sentiment in this important particular; and the portion of the law which relates to defunct convicts has been of absolutely no service to the profession. This, however, is not because there is no mortality in our penal institutions, but because, when one of their inmates seems near his end, some pseudo-philanthropist conveys to him the pleasing information that if he does not request to be buried the doctors will cut him up. It is needless to say that this announcement invariably develops so strenuous a petition for quarters in the cemetery that the medical schools are cheated out of their rightful material. Even in the case of one of the

vilest wretches who ever paid on the scaffold the penalty of his hideous crimes, a fiend who combined burglary, rape, and murder in one offense, a sickly sentimentality, which would have shrunk from contact with him living and at liberty, stepped in to save him dead in a dungeon, and to defraud earnest searchers after knowledge of the human frame. But in spite of all these obstacles cadavers are had; and once in a while a quiet country community is shocked and startled by the discovery of the resurrecting exploits of some medical student, who has been careless with his tongue or clumsy with his shovel, and whose anatomical enthusiasm must, for the future, find vent in fresh tombs and graveyards new. The association felt the force of its president's suggestion, and appointed a committee which will cooperate with one from each of the medical schools, and try to persuade the next legislature so to alter the statute that the abundant material for anatomical purposes may be utilized, and the cemeteries protected from the ghoully desecration to which they have formerly been subjected.

A goodly number of essays and reports of cases were presented, as follows: Small Things to be observed in the Lying-In Chamber, by Dr. T. A. Foster, of Portland; Otitis Media Non-Suppurativa Chronica, by Dr. E. E. Holt, of Portland; Uterine Fibroids, by Dr. E. H. Hill, of Lewiston; The Pathology of Phthisis, by Dr. L. T. Dana, of Portland; New Remedies, by Dr. A. J. Fuller, of Bath; Asylum Needs, by Dr. G. W. Foster, of Bangor; Injuries of the Eye, by Dr. J. A. Spalding, of Portland; Progressive Locomotor Ataxia, by Dr. A. L. Hersey, of Oxford; Resection of the Elbow, by Dr. E. F. Sanger, of Bangor; Results of Operations for Malignant Disease at the Maine General Hospital, by Dr. C. O. Hunt, of Portland; Amputation at the Ankle-joint, by Dr. C. W. Bray, of Portland. These papers, as a rule, were worthy of the close attention which they received from the society, and I would like to present an abstract of each; but although space forbids that, it will not be improper briefly to allude to two which excited a great deal of interest. A whole evening was devoted to Dr. Dana's presentation of his views on the pathology of pulmonary tuberculosis and the succeeding discussion. The subject was handled in the broad and masterly manner which characterizes all the productions of the essayist, and if any of his auditors had previously entertained any doubts as to the competency of the professor of pathology and practice in the Medical School of Maine they would certainly have been reassured on hearing this graceful and scholarly production. Dr. Foster, of Bangor, who has given especial attention to mental disease, made an admirable statement of some of the most prominent needs of hospitals for the insane, and discussed very ably the vexed question of mechanical restraint. At his suggestion the society appointed a committee to visit and report on the management of the Maine Insane Hospital, at Augusta, in the hope and expectation that, by such means, a more intelligent interest in insanity may be awakened in the profession, and more rapid progress made in its prevention and cure.

The annual oration was pronounced by Dr. O. A. Horr, of Lewiston, who treated of the relations of the medical profession to progress in the State. Especial stress was laid upon the necessity of a state board of health, which, alas, we seem very unlikely to get for many years to come. Even the ravages of epidemics

do not disturb the apathy of our people. Diphtheria and scarlet fever have been frightfully prevalent and extremely fatal in many regions, but from none of them has gone up an appeal for a board which could do anything to arrest the diseases and prevent future damage from them. The association, however, is not disheartened, and may yet be able to engineer a bill through the legislature, though, if it ever succeeds, it will be in spite of the opposition of the yeomanry, and not because of their assistance.

The Medical School of Maine and the Portland School for Medical Instruction were reported by the official visitors to be in prosperous condition and doing excellent work. The class in the former was the largest for many years, and the course of instruction eminently satisfactory. The Portland School is doing a great deal of thorough work in a very unobtrusive way. It has for some time required some familiarity with Latin and physics of all applicants for admission. Naturally this keeps down the number of its students, but quality rather than quantity is believed by the instructors to be what is needed in the medical profession to-day, and they have no ambition to have a share in authorizing incompetents to take charge of the lives and health of the people. At the entrance examination in June, two thirds of the candidates were rejected.

The feature of this year's meeting which distinguished it from all its predecessors was the public dinner, which was had at the Falmouth Hotel, on Wednesday evening. The affair was a marked success, both as regards the substantial and elegant repast and the subsequent interchange of sentiment. Dr. Packard, of Bath, acted very acceptably as anniversary chairman, and Dr. Pendleton, of Portland, officiated gracefully as toast-master. The occasion was enlivened by the presence of representative men from the different professions and various institutions, the mayor of the city, and delegates from other medical societies. Among the last were four present or past presidents of state medical associations, namely, those of Massachusetts, Connecticut, Minnesota, and Colorado. This year each member who attended the dinner bought his own ticket; next year the association will pay the whole bill.

The principal officers for the ensuing year are as follows: president, Dr. W. W. Greene, of Portland; secretary, Dr. C. O. Hunt, of Portland; treasurer, Dr. A. S. Thayer, of Portland; chairman of the board of censors, Dr. O. A. Horr, of Lewiston. The next meeting will be held on the third Tuesday in June, 1881.

The one unpleasant feature of the meeting arose from the fact that last year the board of censors reported unfavorably on a certain application for membership. The members who recommended the applicant felt aggrieved at the refusal of the censors to give the reasons for their unfavorable report, and took occasion roundly to berate them at this meeting. A prolonged discussion, in which the rejected applicant was allowed to participate, followed, in the course of which the fact was developed that the censors agreed not to divulge their reasons in this case, because some of the testimony was given in confidence, and they felt that if they were to disclose the source whence their information was derived their successors would be unable to obtain unfavorable statements concerning any applicant, however unsuitable for membership.

The society voted that it would uphold its censors in keeping inviolate all communications made in confidence, and passed a resolution of approval of the action of its former board.

GAMMA.

CASE OF SUDDEN AND TRANSIENT SWELLING OF BOTH LIPS AND TONGUE.

On the evening of the 26th of June, Mrs. S. came rushing into my office with her infant son, aged ten months, who presented a hideous and ridiculous appearance: both lips, enormously enlarged, standing out stiffly, and the swollen tongue projecting almost motionless between them. The lips were not tender and pressure did not cause pitting, and there was only a trifling degree of redness of the integument. The infant did not exhibit any signs of pain. A large quantity of saliva was continually overflowing. The preponderating symptom was the immense swelling. The mother positively stated that no injury had occurred, and that the whole condition as above described had occurred in a period of half an hour before calling at my office. The child was unable to grasp the nipple or swallow from a teaspoon.

I have only to add that the swelling soon after began to subside, and in less than twelve hours the enormous distention was all gone, and the parts restored to their natural position, size, and shape. No treatment was pursued except the application of very weak lead water, to satisfy the mother.

A. I. LAWBAUGH, M. D.

PHOENIX, MICHIGAN.

BRITISH MEDICAL ASSOCIATION.

FORTY-EIGHTH ANNUAL MEETING.

The forty-eighth annual meeting of the British Medical Association will be held at Cambridge, on Tuesday, Wednesday, Thursday, and Friday, August 10, 11, 12, and 13, 1880. President, Denis C. O'Connor, A. B., M. D., Professor of Medicine in Queen's College, Cork. President elect, G. M. Humphry, M. D., F. R. C. S., F. R. S., Professor of Anatomy in the University of Cambridge, Senior Surgeon to Addenbrooke's Hospital. An Address in Medicine will be delivered by J. B. Bradbury, M. D., F. R. C. P., Physician to Addenbrooke's Hospital, Linacre Lecturer in Physic. An Address in Surgery will be delivered by Timothy Holmes, M. A., F. R. C. S., Surgeon to St. George's Hospital. An Address in Physiology will be delivered by Michael Foster, M. D., Hon. M. A., F. R. S., Professor in Physiology in Trinity College, Cambridge.

The business of the association will be transacted in eight sections: Section A, Medicine. President, George Edward Paget, M. D., D. C. L., F. R. S., Cambridge. Section B, Surgery. President, William S. Savory, M. B., F. R. S., London. Section C, Obstetric Medicine. President, W. S. Playfair, M. D., London. Section D, Public Medicine. President, Henry W. Acland, M. D., LL. D., F. R. S., Oxford. Section E, Psychology. President, J. Crichton Browne, M. D., LL. D., F. R. S., London. Section F, Physiology. President, William Rutherford, M. D., F. R. S., Edinburgh. Section G, Pathology. President, Sir James Paget, Bart., D. C. L., LL. D., F. R. S. Section H, Ophthalmology. President, William Bowman, F. R. C. S., F. R. S., London. A subsection of Otolary will be formed, of which Mr. W. B. Dalry, F. R. C. S., of London, will be chairman, and Dr. James Patterson Cassells, of Newton Terrace, Sauchiehall Street, Glasgow, honorary secretary.

Tuesday, August 10, 1880. Two P. M., Meeting of Committee of Council at the Guildhall. 2.30 P. M., Meeting of the Council of 1879-80 at the Guildhall. Four P. M., short service, with sermon by the Bishop of Ely, in King's College Chapel. Eight P. M., General Meeting in the Senate House. President's Address; Annual Report of Council and other business. Ten P. M., tea and coffee in the Hall of Caius College (close to the Senate House).

Wednesday, August 11th. 9.30 A. M., Meeting of Council of 1880-81 at the Guildhall. Eleven A. M., Second General Meeting in the Senate House. Address in Medicine. 12.30 P. M.,

Conferring Honorary Degrees in the Senate House. Two to five p. m., Sectional Meetings in the New Museums and Lecture Rooms. Nine p. m., Soirée in the Fitzwilliam Museum and grounds of Peterhouse by the Reception Committee.

Thursday, August 12th. 9.30 p. m., Meeting of the Committee of Council at the Guildhall. Ten a. m., Third General Meeting in the Senate House. Reports of Committees. Eleven a. m., Address in Surgery in the Senate House. Two to five p. m., Sectional Meetings in the New Museums and Lecture Rooms. 6.30 p. m., Public Dinner in the Hall of Trinity College.

Friday, August 13th. Ten a. m., Address in Physiology in the Senate House. Eleven a. m., Sectional Meetings in the New Museums and Lecture Rooms. 1.30 p. m., Concluding General Meeting in the Senate House. Reports of Committees and other business. Four p. m., Garden party in the grounds of King's College by the President. Nine p. m., Conversation in St. John's College and grounds. Ladies will be admitted to the soirée, garden party, and conversation.

The following subjects have been arranged for discussion in the various sections: (1.) Medicine. On Hysterical Anæsthesia, opened by Dr. Bristowe; and on Asthma, introduced by Dr. Andrew Clark. (2.) Surgery. On the Treatment of Wounds, by Professor Lister; and on Stricture of the Urethra, by Sir Henry Thompson. (3.) Obstetric Medicine. On Uterine Hematomas, by Dr. Atthill; and on the Removal of Uterine Tumors by Abdominal Section, by Mr. Spencer Wells. (4.) Public Medicine. On the General Working of the Public Health Administration in Great Britain and Ireland, opened by Dr. Alfred Carpenter and Dr. Francis T. Boulton, and on Diseases communicable to Man from Diseased Animals when used as Food, by Mr. Francis Vacher and Mr. Edmund J. Syson. (5.) Psychology. On the Influence of Alcohol on the Causation of Insanity. (6.) Physiology. The Evidence derived

from Clinical Observations and Physiological Experiments as to the Seat of the Formation of Urea in the Body, by Professor Gamgee, F. R. S.; and on Sleep and Hypnotism, by Professor W. Preyer, of Jena. (7.) Pathology. The Influence of Injuries and Morbid Conditions of the Nervous System on Nutrition, by Mr. Jonathan Hutchinson; and on Micro-Organisms, their Relation to Disease, opened by Professor Lister. (8.) Ophthalmology. Some Points relating to the Perception of Colors, by Professor Donders; and the Nature of Glaucoma. Subsection of Otology. The following questions will be discussed, namely: The Therapeutic Value of Electricity in Ear-Diseases; and the Comparative Value of the Various Mechanical Aids to Hearing, with special regard to the several kinds of Artificial Drumheads, and to those Instruments which assist Deafness by conducting or transmitting Sound, either directly or indirectly, to the Organ of Hearing.

Annual Museum. The Pathological Collection will be in the Anatomical Museum. Honorary Secretary to the Pathological Collection, C. Creighton, M. D., Anatomical Museum, Cambridge. The exhibition of surgical instruments, microscopes, pharmaceutical preparations, dietetics, and sanitary appliances will be in connection with the reception room in the Guildhall. Honorary Secretary, G. Wallis, Esq., Corpus Buildings, Cambridge. Honorary Secretary to the Sanitary Collection, W. Arncliffe, M. B., Station Road, Cambridge.

Excursions. On Saturday, August 14th, there will be excursions to Ely, Peterborough, and Audley End. Honorary Secretary to the Excursion Committee, G. Wallis, Esq., Corpus Buildings, Cambridge.

Annual Dinner. The number of persons that can be accommodated in the hall of Trinity College is limited to three hundred and fifty. Tickets for the annual dinner will be reserved for members who make application, accompanied by payment of one guinea.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 23, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diarrhoeal Diseases.	Lung Diseases.	Diphtheria and Croup.	Typhoid Fever.
New York.....	1,085,000	813	489	43.29	36.53	5.90	2.95	.36
Philadelphia.....	901,380	490	236	37.34	31.22	2.85	1.81	3.87
Brooklyn.....	564,400	327	208	49.54	43.42	3.36	1.22	.03
Chicago.....	—	375	254	43.57	32.53	3.20	5.33	.53
St. Louis.....	—	190	108	32.10	22.63	1.57	.52	1.04
Baltimore.....	393,796	231	120	42.87	30.73	1.73	2.07	3.03
Boston.....	365,000	163	80	36.19	26.99	3.68	6.74	1.22
Cincinnati.....	280,000	154	79	27.27	21.42	7.14	1.94	.65
New Orleans.....	210,000	100	43	22.00	4.00	2.00	3.00	1.00
District of Columbia.....	170,000	91	53	27.47	24.17	2.19	—	—
Buffalo.....	—	68	41	41.16	36.75	1.47	2.94	—
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	153,883	80	42	41.25	16.25	6.25	8.75	6.25
Milwaukee.....	127,000	64	42	37.50	31.25	1.56	3.12	—
Providence.....	102,000	54	34	44.44	27.77	—	1.85	—
New Haven.....	60,000	35	17	25.71	17.77	—	—	—
Charleston.....	57,000	42	28	14.28	4.76	9.52	—	1.38
Nashville.....	37,000	34	17	32.35	14.70	2.94	—	5.88
Lowell.....	54,000	41	27	43.90	36.58	7.31	2.43	—
Worcester.....	53,000	29	18	51.74	48.27	6.89	—	—
Cambridge.....	50,400	24	14	41.66	33.33	—	8.33	—
Fall River.....	49,000	—	—	—	—	—	—	—
Lawrence.....	38,600	23	15	21.73	17.39	8.69	—	—
Lynn.....	34,000	11	6	36.36	18.18	9.09	—	—
Springfield.....	31,800	22	14	59.09	54.54	—	—	—
New Bedford.....	27,200	12	5	41.66	25.00	8.33	8.33	—
Salem.....	26,500	15	10	33.33	33.33	13.33	—	—
Somerville.....	23,500	12	8	58.33	50.00	—	—	8.33
Chelsea.....	21,000	4	4	50.00	—	—	50.00	—
Taunton.....	20,200	9	7	66.66	66.66	—	—	—
Holyoke.....	18,400	14	4	57.14	42.85	—	—	7.14
Gloicester.....	17,300	4	3	25.00	—	—	—	25.00
Newton.....	17,300	—	—	—	—	—	—	—
Haverhill.....	15,350	10	4	50.00	40.00	—	—	—
Newburyport.....	13,500	4	1	25.00	25.00	—	—	—
Fitchburg.....	12,600	5	4	60.00	20.00	20.00	20.00	20.00
Twenty Massachusetts towns.....	159,510	63	31	46.03	34.92	4.76	4.76	3.17

Deaths reported, 3613; 2066 under five years of age; principal "zymotic" diseases small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fever) 1441, diarrheal diseases 1126, consumption 334, lung diseases 142, diphtheria and croup 97, typhoid fever 52, malarial fevers 42, scarlet fever 37, whooping-cough 33, measles 29, cerebro-spinal meningitis 16, erysipelas six, small-pox two, typhus fever one. From malarial fevers, New York nine, Brooklyn eight, St. Louis seven, New Orleans six, Baltimore four, Philadelphia two, Chicago, District of Columbia, Milwaukee, New Haven, Charleston, and New Bedford one each. From scarlet fever, Chicago eight, Baltimore seven, Providence five, New York, Philadelphia, St. Louis, New Orleans, Pittsburgh, three each, Buffalo and Milwaukee one each. From whooping-cough, Brooklyn five, New York, St. Louis, Nashville, four each, Baltimore three, Cincinnati, District of Columbia, Pittsburgh, Charleston, two each, Philadelphia, Chicago, Boston, New Orleans, Providence, one each. From measles, New York, Chicago, New Orleans, four each, Cincinnati, Pittsburgh, three each, Brooklyn, Baltimore, Lowell, two each, Boston, Lawrence, Springfield, Haverhill, Chicopee, one each. From cerebro-spinal meningitis, New York five, Chicago four, Lynn two, St. Louis, Providence, New Haven, Holyoke, Clinton, one each. From erysipelas, New York three, Providence, New Haven, Worcester, one each. From small-pox, Chicago two. From typhus fever, Philadelphia one.

Sixteen cases of diphtheria, one of small-pox, two of measles, 14 of scarlet fever, six of whooping-cough, three of typhoid fever, were reported in Brooklyn; no cases of small-pox in Chicago; 22 of diphtheria and five of scarlet fever in Boston; six of diphtheria in Milwaukee; four of diphtheria, five of measles, four of scarlet fever, one each of cerebro-spinal meningitis and whooping-cough, 15 of diarrheal diseases, in Providence.

Total number of deaths slightly increased; deaths under five stationary; deaths from diarrheal diseases somewhat diminished.

Deaths under five diminished in New York, Brooklyn, and Philadelphia; increased in Chicago. No yellow fever reported.

In 35 cities and towns of Massachusetts, with an estimated population of 931,569 (population of the State about 1,690,000), the total death-rate for the week was 23.99 against 20.86 and 23.98 for the previous two weeks.

For the week ending June 26th, in 149 German cities and towns, with an estimated population of 7,699,115, the death-rate was 29.3. Deaths reported, 5505; 2569 under five: pulmonary consumption 452, acute diseases of the respiratory organs 312, diphtheria and croup 105, scarlet fever 85, measles and *rötheln* 73, typhoid fever 50, whooping-cough 43, puerperal fever 19, typhus fever (Königsberg, Danzig, Elbing two, Thorn, Berlin, Dortmund three) nine, small-pox (Posen) one. The death-rates ranged from 13.8 in Darmstadt to 51 in Berlin; Königsberg 35.3; Breslau 31.5; Munich 32.7; Dresden 27; Leipzig 23.4; Hamburg 23.9; Hanover 15.3; Bremen 24.3; Cologne 26.1; Frankfurt 20.3; Strasbourg 27.2. For the same week, Vienna 23.2; Paris 25.2.

For the week ending July 3d, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 18.9. Deaths reported, 2732; acute diseases of the respiratory organs 177, diarrheal 134, whooping-cough 102, scarlet fever 98, measles 73, fever 43, diphtheria 13, small-pox (all in London) 13. The death-rates ranged from 12 in Portsmouth to 30 in Oldham; London 18.5; Bristol 17; Birmingham 18; Manchester 19. In Edinburgh 22, Glasgow 20, Dublin 34.

In the 20 chief towns in Switzerland for the same week, population 445,790, there were 20 deaths from acute diseases of the respiratory organs, diarrheal diseases 19, typhoid fever four, diphtheria and croup two, whooping-cough one. Death-rate of Geneva 17.7; of Zurich 24.7; Basle 16.3; Bern 22.1.

The meteorological record for the week in Boston was as follows:—

Date.	Barometer.				Thermometer.				Relative Humidity.				Direction of Wind.				Velocity of Wind.				State of Weather. ¹				Rainfall.	
	Mean.				Mean.				Mean.				7 A. M.				7 A. M.				7 A. M.				Duration.	Amount in inches.
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	
July 11	30.004	69	80	66	66	44	79	63	NE	SE	Calm.	13	8	0	F	F	C	—	—	—	—	—	—	—	—	—
" 12	30.096	69	77	62	69	66	61	65	NE	E	S	8	7	6	O	F	C	—	—	—	—	—	—	—	—	—
" 13	29.805	68	79	61	95	80	89	88	S	N	Calm.	10	22	0	R	O	C	12.50	1.49	—	—	—	—	—	—	—
" 14	29.985	65	73	59	82	51	64	65	NE	SE	S	6	8	4	O	C	C	—	—	—	—	—	—	—	—	—
" 15	29.876	68	73	60	74	95	90	86	S	Calm.	SW	1	0	1	O	R	O	5.10	.30	—	—	—	—	—	—	—
" 16	29.692	70	81	63	100	90	86	92	Calm.	E	S	0	7	8	G	O	F	2.40	.84	—	—	—	—	—	—	—
" 17	29.778	74	84	66	90	42	68	66	W	W	SW	6	14	3	F	C	F	—	—	—	—	—	—	—	—	—
Week.	29.891	70	84	59	—	—	77	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.44	2.67

¹ O, cloudy; C, clear; F, fair; G, fog; H, hazy; R, rain; S, smoky; T, threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JULY 17, 1880, TO JULY 23, 1880.

GREENLEAF, C. R., major and surgeon. Granted leave of absence for four months. S. O. 158, A. G. O., July 20, 1880.

MOSELEY, E. B., captain and assistant surgeon. Granted leave of absence for twenty days. S. O. 66, Department of the Plate, July 17, 1880.

PRICE, C. E., captain and assistant surgeon. Granted leave of absence for two months, with permission to apply for two months' extension. S. O. 154, A. G. O., July 15, 1880.

GIBSON, R. J., first lieutenant and assistant surgeon. Having reported at these headquarters, ordered to report to the commanding officer, Fort Leavenworth, Kansas, for temporary duty. S. O. 155, Department of the Missouri, July 19, 1880.

TAYLOR, A. W., first lieutenant and assistant surgeon. Having reported at these headquarters, is assigned to temporary duty at Fort Supply, Indian Territory. S. O. 155, C. S., Department of the Missouri.

BOOKS AND PAMPHLETS RECEIVED.—The Pathology, Diagnosis, and Treatment of Diseases of Women, including the Diagnosis of Pregnancy. By Graily Hewitt, M. D. Lond. Third American from the third London edition. Illustrated. Philadelphia: Lindsay and Blakiston. 1880.

Transactions of the Indiana State Medical Society. 1880. Indianapolis.

Eleventh Report of the State Board of Health of Massachusetts for the Six Months ending June 30, 1879. Boston.

Sympathetic Affections of the Eye. By C. J. Lundy, M. D. (Reprint.)

Diabetic Cataract, Iritis, etc. A Clinical Lecture by C. J. Lundy, M. D. (Reprint.)

Prescribing Alcoholics. By John Blackmer, M. D. New York. 1880.

An Unique Case of Conjunctival Lupus. By E. S. Peck. (Reprint.)

Hallux Valgus, with a Report of two Successful Cases. By Albert N. Blodgett, M. D., Boston, Mass. (Reprinted from the Medical Record, July 10, 1880.)

How Vivisection concerns every Citizen. By Lewis S. Pitcher, M. D. (Reprint.)

Original Articles.

THE PREVENTION OF THE SPREAD OF TYPHOID FEVER.¹

ANNUAL DISCOURSE BEFORE THE MASSACHUSETTS MEDICAL SOCIETY, 1880.

BY THOMAS H. GAGE, M. D., OF WORCESTER.

THE views, therefore, of so eminent and original an observer as Dr. Budd would seem to demand our first and most respectful consideration.

He held that typhoid fever is in its essence a contagious or self-propagating fever; that it is a member of the great natural family of contagious fevers, of which small-pox, scarlet fever, and measles are to us the most familiar examples; that, like other members of the family, it has for its exciting cause its own specific poison, and never any other; that this specific poison breeds and multiplies itself to an unlimited extent in the living body of the infected man; and that this reproduction of it in the infected body, together with all the disturbance to which its rapid and tumultuous growth gives rise, constitutes the fever. He held that this enormous reproduction of the poison in the system is in typhoid fever precisely the same in kind as that of which we have in the pustular eruption of small-pox an outward ocular demonstration; that the disease of the intestine, which is the distinctive anatomical mark of typhoid fever, and its only constant and characteristic lesion, is the specific eruption of the fever; and that this intestinal eruption bears precisely the same pathological relation to the disease that the pustular eruption upon the skin does to small-pox.

As might be anticipated from such views, he held that the contagious matter by which the fever is propagated is cast off, chiefly, in the discharges, from the diseased intestine, and that it makes a large constituent part of every intestinal evacuation. Further, that, as a necessary result, privies, sewers, and cess-pools, which, under existing sanitary arrangements, are the common receptacles of these discharges are also the principal instruments in the transmission of the contagion, but that they never originate it, and that it is never in them, except as they have received it from a diseased person.

Taking cognizance, however, of the fact that physicians, nurses, and other attendants upon the sick are often remarkably exempt from infection, and that, consequently, the contagious matter as it appears in the dejections upon their issue from the body is not probably in a condition favorable to the manifestation of immediate activity, he held that it requires to undergo some changes, outside the body, to fit it for transmission. It was his idea that when first cast off it is, so to speak, in *bulk*; that it appears in the discharges in the form of "clots or pellets of yellow matter," which are "to the contagious germs that float impalpable in air or water much as the block of granite is to the dust into which it may be ground;" and that before it can exert to its full extent the contagious power inherent in it, the infective germ or particle must be liberated from its entanglements and the organic husks in which it is imbedded, by drying, fermentation, or some other mode of disintegration and subdivision. But while it was his belief that such processes external to the living body were necessary to the liberation of the

"fever seed," and so to its ultimate dispersal, he did not think that the contagious agent acquired by the means any new powers, or gained any increase in quantity.

With regard to the spreading of the disease, he maintained that the poison, having been thus propagated and cast forth and prepared for final dispersion, may be conveyed to healthy persons in the vicinity of the sick, and even to those at a distance, by the same media of transmission that serve to convey the poison of other contagious diseases, with, however, one important additional medium, that of drinking-water, which the poison of this infects because the discharges infect the ground. And he believed that the course and progress of the disease in individual cases, and in its mode of spreading, increased and confirmed the evidences of its analogy with the contagious eruptive fevers; that, like all the members of that class, it has its incubative stage, and its stages of invasion, continuance, and decline; that, like them, it usually attacks the same individual but once; that it spreads as they spread from single cases; and that its spreading requires, as with them, the lapse of a fixed and uniform time after the occurrence of the first case,—a time during which the poison may not only prepare itself for transmission, but be transmitted to and incubate in the person of a new sufferer.

Thus, according to Dr. Budd, typhoid fever is an eruptive fever, differing only from other eruptive fevers in the seat of the eruption, and in the manner of giving off and dispersing its contagious poison.

As a necessary result he held that it is kept in existence by a continuous succession of cases, and that wherever a case occurs it is the lineal descendant of one that somewhere preceded it. He recognized, of course, the great difficulty, at times, of tracing this lineage, and the fact that it is often impossible. But he held that if due care is exercised in obtaining the historical facts the difficulty will not be greater in this than in many another sporadic case of universally acknowledged contagious disease. It was his unhesitating belief that the line of descent, discovered or undiscovered, always exists. But he held that, while it may not be always easy to learn the origin of the first single case in an outbreak, no such difficulty can ever exist with regard to any of the cases that may follow. These, whatever their number or the order of their occurrence, will be the immediate or remote descendants of that. To the contamination of the air, or of the ground, by the poison derived from the intestinal discharges of the first all that follow may trace an undoubted origin.

Observing now that these bowel discharges, with all the contagious properties they possess, are as they issue from the body completely within human control,—subject, indeed, to human disposal,—it occurred to him that if the poison they contain could be destroyed before being cast out upon the ground, or into privies, or cess-pools, or sewers, the spreading of the disease through their agency might be prevented. Upon the idea so suggested he proceeded to act. Knowing the power of strong chemical agents to destroy the contagious poison of other contagious disease, when subjected to them in circumscribed and limited form, he determined to subject the typhoid excreta to the influence of precisely such agents. He caused the dejections to be received into vessels containing solutions of strong caustic and disinfectant substances, and after they had been so received directed that still more of the same solutions

¹ Concluded from page 104.

should be poured upon them. 'Remembering also, from the subtle and impalpable nature of the poison, that everything which might have been soiled would be liable to become a medium of its transmission, he caused equally disinfectant precautions to be exercised with regard to the bed and body linen of the patient, and with regard to the person of the patient himself. He did not forget the minutest details or the remotest possibilities; not even the possibly soiled hands of the attendant or nurse. He put such measures to the test of severest trial, and demonstrated that what had seemed theoretically possible was actually practicable. He satisfied himself that the discharges might be disinfected, and that disinfecting them prevented the spreading of the disease. He applied the methods in hospital practice and in a large private practice, and with uniform success. He applied them in convents and schools and other large establishments where the disease was in progress and rapidly spreading, and through their agency arrested the epidemic.

Upon such views and by such methods Dr. Budd attained the object of his "burning desire," and thenceforth to show why prevention by disinfection is possible, by what means it may certainly be accomplished, and to urge the adoption of the disinfectant plan upon the profession and the public, became almost the absorbing purpose of his life. He prepared for popular use a set of rules for preventing the spread of the disease, with a clear statement for the popular ear of the assured knowledge which makes prevention possible. These rules are so simple, so plain, and withal so practicable that almost any one may comprehend them, and almost any one may easily apply them. They are too long for reproduction here, and I can only refer you to them now. I wish they might be distributed in every household in New England, and I cannot believe that the lesson they are intended to teach would be taught in vain. I simply quote the paragraph with which they close, and with it take my leave of the distinguished author and his attractive views: "These are golden rules. Where they are neglected the fever may become a deadly scourge; where they are strictly carried out it seldom spreads beyond the person first attacked."

It will occur, I presume, to every one familiar with the history of opinions upon typhoid fever that there is little of positive originality in these views of Dr. Budd, except so far as they relate to the measures of prevention proposed. In forming his theory of the nature of the disease, and of its pathology and mode of spreading by contagiousness of the discharges, it is probable that he only took up and enlarged upon ideas which had been advanced before his time. Bretonneau, in France, had published his well-known observations ten years before Dr. Budd saw the epidemic at North Tawton, and had pointed out what appeared to him to be the true significance of the abdominal lesion. It was with him that the opinion originated that this lesion is a true funicular eruption, and that typhoid fever is an exanthematous fever. The opinion has since been maintained by many observers of great eminence, and by none with more ability than by Trousseau.

No one here who recalls the memorable address delivered before this society forty-five years ago will fail to observe how strikingly the elaborate views we have been considering sustain and extend the parallel of marked affinities drawn there by Dr. Bigelow between typhoid fever and the class of eruptive fevers. And no one conversant with the well-known opinions of Dr.

Nathan Smith upon the contagiousness of the disease will fail to notice how they corroborate and explain the original observations of that remarkable man. Nor will it escape remark that the opinions of Dr. Smith, which were given to the profession almost sixty years ago, were founded upon an experience of precisely the same general nature as that which first attracted to the subject the attention of Dr. Budd.

The doctrines I have presented for your consideration, with all their practical conclusions and applications, have been adopted without qualification or reserve by living scientific men of the highest eminence. Among such it is enough to mention the names of Sir Thomas Watson and Dr. Aitken, both of whom have lent to them, in their elaborate works upon *The Theory and Practice of Medicine*, their powerful sanction. But they have received the most influential support and perhaps the most decided impulse at the hands of the distinguished author of the article upon typhoid fever in *Ziemssen's Cyclopædia of Practical Medicine*. It is true that Liebermeister is not in full accord with Dr. Budd in regard to the natural history of the typhoid poison. He maintains with the latter that it multiplies in the body and is contained in the alvine evacuations. But it is his idea that it requires for the full development of its infective powers to undergo a stage of growth and multiplication outside the body, in connection with decomposing animal and vegetable matter, such as, eminently, it finds in privies and cess-pools and sewers. According to his theory, "the poison travels from the diseased individual to localities favorable for its growth and multiplication, and from these localities again into the human body."

As to the fact that the disease never occurs spontaneously, but is due always to a disease germ originating in some previous case, and as to the absolute certainty of the relation between the first case of any outbreak and the cases that follow, these authors are in perfect accord. The danger that will result from allowing single cases to establish centres of infection, and so to give rise to epidemics, is constantly dwelt upon by Liebermeister. It is especially against the formation of these foci of infection through the agency of the intestinal discharges that he urges preventive measures. That their formation may be prevented, and that therefore spreading may be prevented, he gives the most constant and encouraging assurance.

The measures upon which he relies differ in nothing essential from those advised by Dr. Budd. They are applied to the same material and with the same purpose, and are recommended with precisely the same degree of confidence. Alluding to their efficiency, he declares that "if the physician," in their application, "is supported by tolerably intelligent attendants, he may give the fullest guaranty that no extension of the disease will ensue from a single case."

Numerous authors and observers, whose high character gives great weight to any opinions they may offer, and who have adopted fully, or in the main, the views of Liebermeister in regard to the origin and cause of spreading in epidemics of the disease, have borne almost equally plain and decided testimony to the value of disinfectant methods. Professor Loomis, of the University of New York, in his recently published *Lectures upon Fevers*, says in regard to this matter, after giving direction for the disinfection of the discharges, "This procedure will certainly destroy the infective power of the typhoid poison contained in the

intestinal discharges, and in the majority of instances you will prevent the spread of the fever."

A committee of distinguished Fellows of this society, appointed six years ago by the city of Boston to examine into and report upon the causes of the high rate of mortality in that city, speaking of the measures of prevention against this disease, say, "Our first line of defense against the spread of typhoid fever from a diseased individual consists in the proper treatment of the dejections, which are held to contain the seeds of the disease."

In a lecture upon the origin and propagation of typhoid fever, delivered within a few weeks before the Royal College of Physicians, of London, by Dr. William Cayley, of the London Fever Hospital, the speaker, after a discussion of the important question as to how soon after their issue from the body the stools acquire contagious properties, draws the following practical conclusion: "That we have in all cases a few hours, during which it lies in our power to render the poison innocuous and to prevent the spread of the disease by direct infection."

Mr. Simon, the eminent English sanitarian, speaking of the importance and possible value of disinfectant measures in the prevention of infectious diseases, and this among the rest, says, "It is greatly to be hoped that with time and with progress of general education the systematic doing of such acts as these will in each sick house be considered an imperative duty of good citizenship, and may at last be so fully understood in that light as to be made as far as practicable an obligation at law."

But it is unnecessary to pursue either the theory or the testimony farther. I have spoken to you of the spreading of the disease as it occurs among us. I have pointed out the fact that in our experience spreading begins with a single case, and that other cases do not usually follow for two or three weeks, — a fact sufficient of itself to establish an *a priori* probability that the first stands to the last in the relation of cause to effect. I have called attention to a theory which explains this relation, and shows that the last cases are caused by a poison derived from the first, and that the intestinal discharges of the first are the medium of communication. I have shown how there has grown out of this theory a possible and practicable plan for preventing the disease from spreading, and have suggested the general features of that plan. I have given you the assurance of its most prominent advocate that it has been put to the test of severest practical trial for years, and always found successful, and I have introduced abundant corroborative testimony from other sources of high authority. In doing this, I have accomplished the main object I had in view at the beginning by showing that there is not only reasonableness, but great weight of testimony, in favor of the possibility and practicability of preventing, or at least of diminishing, the spreading of the disease as it occurs among us.

I need hardly dwell upon the obvious, practical conclusion that if this theory is true every case of the disease, wherever it may occur, whether mild or severe, ambulatory or confined to the bed, may be, if left to itself, the first case of a serious outbreak. Nor do I need to remind you that if this plan of prevention is to be carried out and is to be effectual it must be entirely under the advice and direction of the attending physician, and form an important part of the general and

prescribed treatment of each individual case, and that an essential prerequisite of its success is "that whatever be done should be done in that thorough and conscientious way which alone befits acts which may issue in health or disease, in life or death, to indefinite numbers of men."

I am aware that for many years a very different theory of the cause of typhoid fever and of the epidemics which mark its course has prevailed in Massachusetts. I suppose it still prevails. It is that the disease originates in a poison which is generated outside the human body, in dead organic matter, in filth, in decomposition of animal and vegetable substances, in putrescence. This theory, which originated with Dr. Murchison, and from whom it received the name of "pythogenic," — born of putrescence, — has been, as you are well aware, very ably presented and supported here by the late Dr. Derby, in a paper on this subject, which has justly attracted the attention of sanitarians in all parts of the world. The conclusions arrived at by Dr. Derby, in forming which he had the assistance by correspondence of a great number of the leading physicians of the State, have long been the apparently accepted doctrines of the medical profession among us. Under this theory it has usually been considered a satisfactory explanation of one of the terrible outbreaks we have considered to find that the air of the house had been vitiated by decomposing vegetable matter in the cellar, or by emanations from surrounding filth; or that the drinking-water had been made foul by the filtration into it of the products of decomposition from neighboring privies or sink-drains. To these influences, or to some combinations of them, have been ascribed almost every example of spreading I have found alluded to in our "health of town" reports; and in none of them until those of the present year have I found allusion to the intestinal discharges of the typhoid patient as the source of the poison by which privies and cess-pools and sewers become the communicators of the disease.

I have avoided entering into any argument in support of the theory to which I have called your attention to-day, and I do not propose to enter into one to show that the theory of origin in putrescence is incorrect. It is only to the difference between the two in their practical bearing upon prevention that I would wish to direct attention. The doctrines of Dr. Budd and of Liebermeister, that the typhoid poison has a vital, living origin in the human body, propose a simple, plain, practical test, by which they may be tried and their truth or falsity proved. Upon the result, when the method is faithfully carried out, they are content to stand or fall. The test is not difficult to apply. If applied and unsuccessful, no harm has been done. If applied and successful, a great good has been accomplished. Had they been put to the test in the three cases to which I have called your particular attention by way of illustration, and had they been as successful as their advocates promise, the result would have saved in those instances alone a protracted and dangerous illness to at least twenty-three persons and not less than nine valuable lives.

It seems hardly possible that we can overestimate the importance of the point we have been considering in its relations to the general subject. From the earliest times of which we have any authentic medical knowledge, typhoid fever has been among us a perpetual and unrelenting scourge. Some of our most

dreaded and destructive forms of pestilence come and go, — ravage for a time, and then depart. Diphtheria, one of the oldest of human diseases, had been absent from New England for almost two whole generations before its unlooked-for reappearance in 1857, and had become well-nigh forgotten in our medical literature. Small-pox almost wholly disappeared from our community during the thirty or forty years which immediately followed the introduction of vaccination; then gradually regained a footing, and has continued to prevail ever since to a greater or less degree. Cholera, now and then, at long and irregular intervals of time, suddenly and abruptly visits us, lingers for a time, and then as suddenly and abruptly takes its departure. Cerebro-spinal meningitis, at times one of the most malignant of epidemics, gives also long and happy periods of exemption. But typhoid fever stays. It never leaves us. It never grants our people a respite even for a day. Somewhere among us it is always present, doing its specific work, which is to multiply and replenish and scatter abroad the morbid agencies by which, from generation to generation, it perpetuates its baleful existence among men.

In forty years, from 1840 to 1880, a period which falls within the professional recollection of many of the gentlemen whom I see before me, there have perished by typhoid fever alone, in Massachusetts, forty thousand persons, — *about* forty thousand persons. It is a common opinion, founded upon observation and statistics, that for every one who dies by this disease at least eight or nine suffer by it and recover. If we adopt the method of computation, it will appear that the number of those who, during the same period, have been made sick by it and have not died can hardly be less than three hundred and fifty thousand. These are startling figures. But if either of the statements were made less general and in terms more precise and particular, as by the aid of what are considered reliable statistics would be practicable, the immense aggregates would be increased rather than diminished. The annual average of this sickness and death is as if, every year, for the space of forty years, all the inhabitants of some one of our populous and important towns, like Northampton, for example, or Malden, had been attacked by typhoid fever, and one in ten had died.

But, after all, bald figures and statistical statements can convey but an imperfect idea, except by suggestion, of what our people have really suffered in their persons and their homes, directly and indirectly, by the disease. Just as, after a long and destructive war, it is possible to count up the immediate casualties of the field, — so many slain, and so many wounded, — but impossible to state in words or figures the indirect, remote, far-reaching consequences of the deadly strife upon individuals and the community, so here, reviewing the contest of years between our people and a most destructive disease, we can count up the dead and compute the number of those who have sickened and have not died, but we cannot give in arithmetical statement or in words the disastrous result of the unequal conflict upon their fortunes and their happiness.

We cannot adequately estimate even the pecuniary loss which it has brought upon individuals, nor yet that which it has occasioned the state, by the death and disabling of such vast numbers of its efficient and productive members; much less can we enumerate the families it has broken up and scattered, the cherished hopes it has crushed forever, the dependent and

the helpless from whom it has snatched the reliance and support, or yet the many, many homes where its dark shadow has fallen, never to be lifted up.

Fellows, the animating purpose of what I have now imperfectly presented has been to suggest and to urge the adoption of some tried and approved methods by which the physicians and the people of the State, in their individual capacity, may effectually aid and supplement the efforts of boards of health and sanitary authorities generally, in the prevention or in the mitigation of one of the severest features of the disease. And here I close, invoking for the subject once more not merely a present consideration, but a future and fuller discussion.

APPENDIX.

RULES FOR PREVENTING THE SPREAD OF TYPHOID FEVER, DRAWN UP FOR POPULAR USE.

The means by which typhoid fever may be prevented from spreading are very simple, very sure, and their cost next to nothing.

They are founded on the discovery that the poison by which this fever spreads is almost entirely contained in the discharges from the bowels.

These discharges infect: (1) The air of the sick-room. (2.) The bed and body linen of the patient. (3.) The privy and the cess-pool, or the drains proceeding from them.

From the privy or drain the poison often soaks into the well and infects the drinking-water. This last, when it happens, is of all forms of fever poisoning the most deadly.

In these various ways the infection proceeding from the bowel discharges often spreads the fever far and wide.

The one great thing to aim at, therefore, is to disinfect these discharges on their very escape from the body, and before they are carried from the sick-room.

This may be perfectly done by the use of disinfectants; one of the best is made of green copperas. This substance, which is used by all shoe-makers, is very cheap, and may be had everywhere. A pound and a half of green copperas to a gallon of water is the proper strength. A tea-cupful of this liquid put into the night-pan every time before it is used by the patient renders the bowel discharge perfectly harmless.¹ One part of Calvert's liquid carbolic acid in fifty parts of water is equally efficacious.

To disinfect the bed and body linen and bedding generally, chloride of lime, or MacDougall's or Calvert's powder, is more convenient. These powders should be sprinkled by means of a common dredger on soiled spots on the linen, and about the room to purify the air.

All articles of bed and body linen should be plunged, immediately on their removal from the bed, into a bucket of water containing a tablespoonful of chloride of lime or MacDougall's or Calvert's powder, and *should be boiled before being washed*. A yard of thin, wide gutta percha placed beneath the blanket, under the breech of the patient, by effectually preventing the discharges from soaking into the bed is a great additional safeguard.

The privy, or closet, and all drains communicating with it should be flushed twice daily with the green

¹ As the discharge is sometimes much more copious than at others, the quantity of disinfectant added must of course be copious in the same proportion. A tea-cupful is mentioned in the rules, but the principle is to be lavish of the chemical.

copperas liquid, or with carbolic acid diluted with water.

In towns and villages where the fever is already prevalent, the last rule should be put in force for all houses, whether there be fever in them or not, and for all public drains.

In the event of death the body should be placed as soon as possible in a coffin sprinkled with disinfectants. Early burial is on all accounts desirable.

As the hands of those attending on the sick often become unavoidably soiled by the discharges from the bowel, they should be frequently washed.

The sick-room should be kept well ventilated day and night.

The greatest possible care should be taken with regard to the drinking-water. Where there is the slightest risk of its having become tainted with fever poison, water should be got from a pure source, or should at least be boiled before being drunk. Immediately after the illness is over, whether ending in death or in recovery, the dresses worn by the nurses should be washed or destroyed, and the bed and room occupied by the sick should be thoroughly disinfected.

These are golden rules. Where they are neglected the fever may become a deadly scourge; where they are strictly carried out it seldom spreads beyond the person first attacked.

W. B.

NOTE. Dr. Budd's own practice was to place in the sick-room, or close at hand, a large can filled with the mixed solution of carbolic acid and sulphate of iron; to keep the night-pan always charged with it, and after each use of the pan to pour upon the discharge a quantity of the solution sufficient to insure the disinfection of what had been voided.

Calvert's liquid carbolic acid, which is referred to, is of about the same strength as the acidum carbolicum impurum of the United States Pharmacopoeia, and the latter may be substituted for it.

"MacDougall's powder contains about thirty-three per cent. of carbonate of lime, fifty-nine per cent. of sulphate of magnesia, the rest being water.

"Calvert's powder contains from twenty to thirty per cent. of carbolic acid mixed with the powdered refuse from alum works."¹

These "powders" are favorite disinfectant compounds in Great Britain, and can be obtained without difficulty, but Dr. Budd appears to consider the chloride of lime for dredging purposes equally efficacious.

T. H. G.

BACTERIA, AND THEIR RELATIONS TO DISEASE.²

BY WILLIAM F. WHITNEY, M. D., OF BOSTON.

It is proposed in this paper to give a brief sketch of the classification and mode of development of bacteria, together with a consideration of the points in favor of regarding them as the originators of the diseases with which they are found associated, in order to see what principles should serve as guides in the interpretation of results or the criticism of the work of others.

¹ The Antiseptic System, A. E. Sansom, London, 1871, page 204.

² Read before the Massachusetts Medical Society at its annual meeting, June 8, 1889, and recommended for publication by the society.

First, considering their natural position and mode of development.

These organisms are doubtless vegetables, and as such have been placed in the lowest division of the cryptogams (the order containing the mosses, fungi, and the like), under the name of bacteria or schizomycetes. Their general characteristics are described by Cohn as follows: Cells without chlorophyll, of round, oblong, or cylindrical form, at times twisted or bent, which increase entirely by division and vegetate either singly or in colonies. The cell contents consists of protoplasm, surrounded by a cell membrane, closely allied to cellulose, and insoluble in caustic alkalies. Their presence in large numbers gives a cloudy or milky appearance to the fluid in which they vegetate; but if present in small numbers, or if the index of refraction is the same as that of the fluid in which they are suspended, their presence is only to be determined by aid of the microscope.

The bacteria are divided into four tribes, and these again into one or more genera, as follows:—

Tribe I. Spherobacteria (Round Bacteria). Genus 1. Micrococcus.

Tribe II. Microbacteria (Rod-Like Bacteria). Genus 2. Bacterium.

Tribe III. Desmobacteria (Thread-Like Bacteria). Genus 3. Bacillus. Genus 4. Vibrio.

Tribe IV. Spirobacteria (Screw-Like Bacteria). Genus 5. Spirillum. Genus 6. Spirochete.

The development of the spherobacteria (micrococcus) is as follows: The cells divide, and are usually found joined together by twos, the point of junction being markedly contracted. By further division there can be formed short chains of three, four, eight, or more members, which are either still, straight, or bent, and in consequence of their contractions have an appearance like a rosary. This has received the name of the torula form. Besides this, there occur two other forms: one where the cells have become twisted or disarranged, and form small irregular masses of bands, and but a step removed; the second, or so-called zoogloea form, where the cells are produced in all directions, and bound together by a very tender, gelatinous, or mucous-like mass, giving to the whole, under the microscope, an appearance very like that of shark skin. These bacteria have no movement.

Further than this they present no distinction of size or form, and their division into species is based upon the action which they are supposed to exercise; and they have been distributed among three groups, namely, chromogenous (producing pigment), zymogenous (causing fermentation), and pathogenous (causing disease).

The pigment-producing micrococci are all harmless. The oldest and best known, the micrococcus prodigiosus (Ehrn.), will serve as an example, for it is that which produces red spots on boiled potatoes or bread, and has given rise to the superstitious name of "the bleeding host." There are several others named after the colors which they produce: a yellow, which is insoluble in water; and orange, green, and blue, which are soluble in water.

Of the ferment-working micrococci, the one causing the alkaline fermentation of the urine, called micrococcus uree, is the best recognized, and the indirect effect it has upon the economy will be considered later. Micrococci are always found in putrefying substances associated with the rod-like forms (bacterium proper), but as yet their peculiar action has not been determined.

The evidence of the existence of pathogenous micrococci will be entered upon more fully in the second portion of the paper.

The microbacteria (rod-like bacteria) are closely allied to the micrococci by the smallness of their cells and their union together by means of gelatinous or mucous masses; but they differ, apart from their physiological activity, in their short cylindrical form and the spontaneous movement of their cells. In this tribe is only one genus, namely, bacterium. They increase by division; but the daughter cells are never united in chains, as in the torula form of micrococcus, but are joined together by a glue-like mass into the zoöglea form, which differs from that of the micrococci in its less finely granular appearance under the microscope.

The blue and yellow color occurring at times in milk, as well as the blue-green color sometimes seen in pus, are due to a chromogenous bacterium.

The best known form, however, is that which is always present in all putrefying substances, and which, from the careful works of Pasteur and Cohn, and verified by all subsequent observers, is to be considered as the originator of the process. The acetic and lactic acid fermentations are also due to a bacterium, according to Pasteur.

Another form, larger than the last mentioned, is found upon still but not stagnant water, and at times upon cooked potatoes. It is apparently without fermentative action, and is called bacterium lincola.

There is no pathogenous bacterium.

The third tribe, the desmobacteria (thread-like bacteria), comprises two genera, the first possessing straight threads and called bacillus, and the second having wavy, bent, or twisted threads, and named vibrio. The single cells consist of elongated cylinders, which increase to longer or shorter chains, that are not constricted in the manner of the rosary form (torula) of the micrococci, but are cylindrical throughout. The desmobacteria form colonies, but are never joined together by the glue-like mass into the zoöglea form of micrococci and bacterium. At times they show motion, and then occur periods of repose depending upon unknown conditions, except that it seems to stand in some relation to the amount of oxygen present.

There are no chromogenous members in the tribe of the desmobacteria.

One of the genus bacillus, *B. subtilis*, has been found to be the agent in the butyric acid fermentation. It consists of very thin, fine, tender fibres, the points of division of which are not easily recognized. They have a motion which is quite peculiar, at times swimming forward in a straight line; then quickly with a zig-zag motion, as if finding their way among obstacles; then motionless for a long time; and then moving straight forward and again backward, without turning upon their axis.

Several members stand in the closest relation with disease. In the first rank comes the bacillus anthracis, Cohn, the cause of gangrene of the spleen (charbon, miltzbrand). It is hardly to be distinguished from the foregoing by its external appearance.

Moreover, there are three others, which, as will be seen later, are intimately connected with septicaemia and pyæmia, with malaria, and with leprosy.

The genus vibrio is distinguished by its wavy outline, and forms a connecting link with the twisted or spirillum forms of the next tribe. Their threads are united together in countless numbers to form colonies.

During life they have a motion like that of bacillus, and the picture presented by the entangling and disentangling of these myriads of threads is peculiar in the extreme. They are found in the mouth about the teeth, but as yet no action has been traced to them.

The fourth and last tribe, the spirobacteria, are characterized by the thick and closely wound spiral, which in one case is surmounted by a cilium, which distinguishes it at once from all other bacteria, although Ehrenberg suspected that many more would be found to possess them. Two genera are recognized:—

(a.) Spirochæte, with a more flexible and longer narrow wound spiral.

(b.) Spirillum, with stiffer, shorter, and more distinct spiral.

The spirochæte occurs as spirochæte plicatilis in the month, and as spirochæte Obermeyerii in remittent fever: the first apparently without action, and the value of the latter to be considered later.

No action has as yet been referred to the spirilla, and it seems little likely that they would have been overlooked, as from their size they are easily recognized, the spirilla vulnans with its long cilia being a perfect giant among bacteria.

The inexactness of these divisions is clearly seen, but it is the best there is to-day, and will at least serve as a working system. Cohn very truly says that we find ourselves, in the kingdom of the bacteria, in a position similar to that of the traveler who wanders about in an unknown land in the dusk of evening, when the light is not sufficient to distinguish the objects sharply and clearly from each other, and where he feels sure that in spite of every precaution he cannot guard himself from error.

THE DISEASES CAUSED BY BACTERIA.

In considering the diseases said to be caused by bacteria, it will be well to present first those about which there is the least doubt, in order that the controverted points may be the more easily understood.

The disease the parasitic origin of which is best established was also the first to be discovered. This disease occurs chiefly among animals, and is known under the name of gangrene of the spleen,—charbon, *Fr.*, miltzbrand, *Ger.* It, however, is capable of being communicated to men, and has received the name of malignant pustule. It was first mentioned by Devaine in 1850, and the following is the description of the microscopic appearances of the blood: “The corpuscles, instead of remaining distinct, generally glue themselves together into irregular masses; besides, there were present small filiform bodies having about twice the diameter of a blood corpuscle. These little bodies did not present any spontaneous movement.” These few lines, written thirty years ago, are the starting-point of what must be considered one of the most important questions of the day, with the right solution of which the welfare of all is most closely united.

It will be impossible to follow the development of the subject step by step. But a summary of the work of Devaine, Pasteur, and Kock will show that the subject has been placed upon as sure a foundation as any incapable of mathematical demonstration.

Kock traced the development of these little bodies, which belong to the genus bacillus and are called bacillus anthracis. He found that when a small quantity of material containing bacilli was injected into a mouse there was in a short time a great increase of these ele-

ments; and, after growing to a certain length, they began to divide. He therefore concluded that the bacillus was capable of development within the blood and tissues of living animals in the same manner as other bacteria without the body.

In order to follow the changes closely, a small drop containing bacilli was placed in a little blood serum or humor aqueus and kept in a warm chamber freely supplied with air. Placed under the microscope, the development of a single thread could thus be observed. It was seen first of all to increase to many times its original length. Then it became finely granular in appearance, and in places appeared small, strongly refracting particles at regular intervals. These further developed into somewhat oval, strongly refracting bodies, imbedded in the substance of the thread, and making the field of the microscope look as if covered with chains of pearls.

From this it was concluded that in the blood of a dead animal or other suitable fluid, within certain conditions of temperature and with a free entrance of air (oxygen), the bacillus forms extremely long, unbranching threads, and finally countless spores.

If now a drop of fluid, which, under the microscope, showed nothing but spores, was allowed to dry quickly, care being taken to prevent the admixture of foreign matter which might contain the spores of other bacteria, and reserved for several hours or days, and then placed in a suitable breeding fluid (previously sterilized), and kept at a constant temperature of 35° C., the following changes were seen. After one half hour the substance lying between the spores disappeared; after three quarters of an hour the spores began to increase in size, and then developed in the following manner: each egg-shaped spore became surrounded by a clear, glass-like mass; this increased at one point in the direction of the long axis of the spore, until it assumed a long, oval form, with the spore remaining at one end of the cylindrical body. The spore then began to lose lustre, quickly became pale, fell to pieces, and finally disappeared. With this the circle of changes in the development of bacillus anthracis is ended.

From this it is seen that the spores of the bacillus anthracis under certain conditions (constant uniform temperature, proper food, and free access of air) develop directly into the bacilli originally found in the blood.

The temperature between which the production of spores was possible varied between 18° C. and 40° C., but the point at which they attained their quickest growth was about 35° C.

Further experiments showed that substances containing only the bacillus *thralls* retained their inoculability, when dried, from a few days to several weeks, the length of time depending upon the amount of the substance dried.

Substances containing *spores*, on the other hand, even when thoroughly dried at ordinary temperature, retained their virulence for years unimpaired.

An experiment to prove the necessity of oxygen for the proper development of the spores consisted in placing a little fluid containing bacilli in a watch-glass exposed to the air. Bacteria and micrococci were developed with putrefactive changes, but at the same time the bacillus produced its spores. If, however, the substance was placed in a closed glass tube or cell to which a free entrance of air (oxygen) is not permitted, the bacilli do not grow, but gradually undergo

degeneration, while the bacteria and micrococci thrive luxuriantly, and putrefaction takes place.

To prove that the virulent properties were inseparably connected with the bacillus, fluid containing spores was allowed to stand quietly in a tall vessel, when it was found that the different layers of the fluid were capable of producing the disease in direct proportion to the number of spores they contained as shown by the microscope. Pasteur carried this a step further, and filtered the fluid through plaster of Paris, through which the bacilli were unable to pass. He found that the filtrate only had the property of causing the blood corpuscles to agglutinate at the point of application, while the filtrate (containing bacilli) was infectious in the extreme. Pasteur has also succeeded in cultivating the bacillus through twelve generations in a purely mineral fluid (by successively taking a single drop of the preceding for a new cultivation, thus making the amount of original substance used a vanishing quantity in the last generation), and the last generation was as effective in producing the disease as the direct inoculation.

It is a well-established fact that certain animals are incapable of inoculation, and this has been urged to show that the bacillus has nothing to do with the disease beyond an accidental association. But the same argument could be used to show that datura is not poisonous because sheep can eat it with impunity, or that belladonna is harmless because hens and rabbits are unaffected by it.

The manner in which the bacillus acts in the economy is not as yet fully decided. Part of its action is undoubtedly due to its great avidity for oxygen, of which it deprives the tissues, and its development in such large numbers as to form veritable emboli, and thus obstruct the circulation. Its pyrogenic action is shown by the local inflammation of the lymphatic glands, which is a constant accompaniment of the disease.

(To be concluded.)

ECZEMA AND ITS RELATIONS: A RAMBLING SKETCH.¹

BY GEORGE A. BETHUNE, M. D.

"Knowledge by suffering entereth."

It occurred to me, as part of the duty which it has so often been said every man owes to his profession, to give my own personal experience in eczema.

It is hardly necessary to say that eczema is a very common disease, which perhaps few escape altogether. In its more severe form it is the cause of great trouble. Bielt says that it does not kill, but often makes life not worth having. According to a late English writer it is a not infrequent cause of suicide.

It seems occasionally a hereditary substitute for gout. Several of my father's family were victims of this disease, though neither my father nor myself ever had it. It may be connected with catarrh of the mucous membrane of the nose and, as I suspect, of the intestines. It attacks every kind of skin, but especially fine skins and those which sweat freely. Sweating, no doubt, softens the epithelium and denudes the skin, and so leads to inflammation. This was the case with myself and my father, men of usually strong health, but both severe sufferers from eczema. In

¹ Read before the Boston Society for Medical Improvement.

both cases the bowels were rather disposed to be loose and subject to diarrhoea on slight provocation.

I well remember, many years ago, when I was a medical student, making an engagement with a friend to go out shooting in midwinter. For some time previous the weather had been very mild. We were to start early in the morning. Suddenly during the night the thermometer fell below zero. My friend appeared punctually, and we started. I put on two shirts, and did not feel the cold at the time, as it was quite calm, and the exercise was delightful. I shot a partridge on the wing, the only shot I had. On returning to the house I was seized with severe griping, and the whole contents of the bowels were emptied, as in a case of cholera. I was entirely relieved, and drove home, nine miles, perfectly comfortable.

A similar result followed from a different exposure in Paris within two or three years of this time, after a dinner at the Rocher de Caucale, such a one as now may be vainly sighed for, in company among others of my friends Dr. Hooper, Dr. Inches, Dr. O. W. Holmes, and the late Dr. Mason Warren. It perhaps, under these circumstances, will not be thought remarkable that I exceeded the strict bounds of moderation. On reaching home I was seized in the same way as I had been on exposure to cold, was relieved in the same wholesale way, and immediately fell into a sound sleep, and awoke as well as usual.

Thirty or forty years ago I was considerably troubled with piles, attached inside the sphincter and pediculated. This tendency, with horseback exercise, may have had an influence in the subsequent eczema. I removed two or three of the piles with scissors without much difficulty. I dare say this has often been done, but I never knew but one man who stood up before a glass and removed a firm double tooth, Dr. Harwood, of this city, who, I hope, is still living,—an ardent sportsman, and perhaps the best dentist in the world. This may seem overstated, but a friend of mine, who went to London many years ago, had occasion to consult one of the leading dentists, who, on opening his mouth, immediately said, "I know who filled your teeth,—Harwood, of Boston. He is the best filler in the world."

PERSONAL HISTORY.

I never had the muscular strength of my father and brother, who were both powerful men, but I have always been what is called tough, and have found but few who can beat me on a long-continued exertion. I have always had a rapid circulation and reaction, and when heated in shooting in hot weather, can sit down in a brook and partly cool off, not only without harm, but with great comfort, and this repeated four or five times a day. I have for many years been subject to occasional palpitation and pain in the cardiac region from nervous emotion, violent exertion, alcohol or strong coffee at night. In the early years of my practice, under worry of mind, I was so much affected in this way that I suspected organic disease of the heart, and consulted the late Dr. James Jackson, one of the wisest of men I have known, and always kind to younger men. After careful auscultation he smiled, said I had no organic disease, but rather an active heart, and added that my case was common with young men, and especially with young doctors. In a few days I was well.

In my father's case the *stomach* opened the gates of safety. I well remember the annual dinners of two

societies to which he belonged, and which he enjoyed highly. He was a temperate eater and drinker, though he always had wine on his table. On these social occasions he was tempted to eat and drink more than usual. I also well remember his return home, gay and cheerful,—a state of mind which lasted perhaps half an hour,—a gradual tendency to taciturnity, with paleness supplanting his usual ruddy look, sudden and profuse vomiting, with entire relief, to be repeated in all its particulars on the next anniversary. He died without any mortal disease that I could discover, at the age of ninety-one.

For at least forty years he was a severe sufferer from eczema in several places, but especially in the right leg, where it was combined with varicose veins and ulcers. I have often wished of late that I had at that time been able to apply in his case Dr. Martin's india-rubber bandage, as I am confident that it would have relieved and perhaps cured him. It should also be said that he was always getting a cold in the head, and always getting well.

In midsummer of 1836 a patch of eczema solare appeared on my right foot, just below the second toe. This followed an exposure to the hot sun on the deck of a Rhine steamer, and disappeared in a week, but returned at the same season for six or eight years in succession. I remained free from it till the spring of 1869, when the itching drew my attention to a red fungous granulation which I found at the lower part of the abdomen. I showed it to Dr. Cabot, who at first was startled, as it had a somewhat malignant look. After a moment's examination, however, he said it was nothing, and applied the solid nitrate of silver. It went off in a day or two, and he now agrees with me that it was an unusual form of eczema, induced by sweating.

I have before alluded to my habit of horseback exercise, which I kept up in all weathers for twenty years. In May, 1869, after a ride of ten miles, I was suddenly attacked with so violent itching that I could hardly remain long enough in the saddle to get home. I immediately consulted Dr. Cabot, who said it was trifling, and prescribed black wash. That night and for two or three nights I was kept awake by severe itching and an exudation of serum which absolutely soaked the bed. I again saw Dr. Cabot, who diluted the wash. The severe itching subsided, but I made no advance. I then, of my own accord, used Wilson's benzoated zinc ointment, with immediate improvement. I found so constant relief from this that from that time I have kept it in three places in my house, and apply it at once on feeling the itching. I also used cold-water injections of two ounces, applied with a common ear syringe as the readiest way, and found great benefit from cotton-wool inserted at the anus, and retained in place merely by the sphincter. I could not, with my habits of exercise, keep a T-bandage in place. At first I found the cotton-wool unbearable, but after withdrawal and reinsertion the part got used to it, and I should not have known of its presence by any sensation. In addition, I used twice a day sitz baths, of one half to three quarters of an hour each.

I was advised rest, but circumstances and habits made this impossible, and I found, to my great surprise, that the *most violent exercise* on foot was followed by decided improvement. I tried, after strong persuasion of two of the *lady*, as it is now the fashion to call them, an ointment of petroleum, and also one of "cuticura" at the earnest request of Mr. H., a lawyer of

high character, and entirely reliable for what he states of his own experience, who had consulted me for the same disease, and whose certificate appeared in the *Daily Advertiser*; but as he had already told me some time before that he had been *entirely cured* by the application of apple juice, he did not make much impression. I, however, to oblige these gentlemen, tried their applications without bad results, and returned to my benzoated zinc ointment.¹

I will mention an incident. A year ago last summer, on returning from Chateaugay Lake in New York, I was sitting on a barrel in the baggage-car, smoking, when a well-dressed, smart-looking man came in, whom I noticed observing me rather earnestly. After a while he came and spoke to me. He said he was a *drummer*. I remarked that, whatever might be objected to that class of men, I had never yet met with a *stupid drummer*, and asked him what he drummed. He said he sold "a certain cure for the piles." "And by the way, doctor," said he, "what is good for the piles? I am almost dead with them, and have tried everything, without relief." I gave him some instructions about his food; recommended cold-water injections, *the habit of relieving his bowels just before he got into bed*, when he would assume the *supine* posture, instead of his usual habit of evacuation after breakfast, and then standing or sitting many hours after having determined blood to the parts by the effort at stool. I have not seen or heard from him since. I mention this to show that even the great quacks and their missionaries are subject to the infirmities of common men.²

To return to our subject. For many years the original local disease has been so far kept under as to give but little trouble. I have observed that occasionally a part long infiltrated from eczema after being first hypertrophied afterwards becomes thinner by absorption. Of late years I have now and then suffered from attacks between the fingers and toes. For this last, shooting in felt or india-rubber shoes, with a hole in each to let out the water, and thick woolen socks coming above the knees, even sometimes in ice-water, keeping moving with soaked feet three to four, or in hot weather even six to eight hours a day, I have found of the greatest service.

In any form of eczema in which tissues under the surface are involved, after the acute inflammation has passed, in my experience the first principle is to disgorge the tissues. Often infiltration is followed by absorption, and so that the part itself becomes permanently smaller and harder, with a loss of its natural elasticity. I have also found, when itching begins, a great relief by emptying the vessels by pressure with the thumb and forefinger. The best time for this is early in the morning, when the circulation is languid and less trouble from reaction occurs, just before the cold bath.³ I regret much that on my first attack

I was not freely bled, and would certainly bleed in a similar case in myself or others in future.

EFFECTS OF ALCOHOL.

I generally drink a half pint of claret with water a day; in exceptional high health and after violent exercise one pint. I can go to bed and sleep soundly *immediately* after a full meal, if I have had such active exercise as shooting. As has often been said, why should not man follow the example of other animals, which sleep after eating? I suspect the reason is that, especially in cities, men eat and drink *too much*, and the effort of digestion interferes with sleep. I have tried more than once, by leaving off alcohol for three weeks at a time in the country, if I could observe a difference in any respect, but could not. In this, as in some other things, I am guided by a feeling of want in the system, for example, lager beer for a bitter and slight stimulant. I sometimes go six months or a year without it; then *sudden* longing for it comes on. In the same way seltzer water or plain soda at other times answers the demand from within.

Within the last three or four years I twice suddenly, without cause, and without obvious disease, began to feel my general health running down, with a partial loss of appetite, eating and drinking one third less than usual, without diarrhoea, loose instead of solid discharges, an almost total loss of my taste for tobacco, with a general feeling of inertia and depression and an inclination to sleep. This state of things lasted many months, and passed off as suddenly as it came, with entire reversal of all the symptoms.

The body is a most curious machine, with a mechanism inside and out incredibly fine, complicated, compensating, and therefore sensitive, complying with the general law in mechanics that, other things being equal, liability to derangement is proportionate to the delicacy of structure. In therapeutics it is especially necessary "to do the *right thing at the right time*." A coarse statistical statement is often worse than useless, and though founded on apparently similar facts may be to the last degree misleading and harmful. Two cases of pneumonia, for instance, may present the same anatomical lesion, and yet from the start one may require bleeding and the other stimulants.

Perhaps the same may be true of typhoid fever. In the epidemic of spotted fever of 1814, Dr. James Jackson told me he had a good many cases. This was no doubt a form of typhus, and was very fatal. Dr. Jackson also told me that if he was called early in the attack he always bled his patient, and *all such cases recovered*. This, if it does not prove the value of bleeding, is at any rate strong evidence that it is not so harmful as it has been the fashion to represent it for twenty or thirty years.

A balance should be kept between *what is called dirt* and cleanliness. Lord Palmerston said there was no such thing as *dirt*; it was only something in the wrong place. In Africa, an English traveler says that some of the tribes anoint themselves with a greasy clay to prevent disease of the skin, which is induced by constant sweating in a hot climate; and I cannot doubt that too great sweating increases skin disease by melting the epithelium and leading to denudation. Knead-

scratching relieves itch and aggravates eczema, unless compensated for by rupture of vessels or disengagement of infiltration; and why does scratching relieve itching?

¹ Mr. Metcalf informs me that benzoïn was first used in this ointment by Erasmus Wilson, who had learned from perfumers that this was their secret for preserving pomades indefinitely. It is the most elegant ointment made, and is also remarkable for keeping sweet for an almost indefinite period. This is probably owing to the chemical composition of benzoïn, the formula of which is C₁₄H₁₀O₂.

² Dr. White tells me that he had an analogous case in the late discoverer of Belding's salve for the cure of "salt rheum." He died at the hospital under his care, the worst case of eczema he had ever known.

³ Itching may often be developed, and the seat of the infiltrated tissue detected, by pressure.

Query. The difference between itching and pain; and why

ing dough, a favorite employment of Southern ladies for promoting delicacy and whiteness of the hands, when a *constant* occupation occasionally terminates in baker's itch.

There are some things in our modes of living which I think are peculiar to the northern parts of this country, and which must tend to excite eczema. In England the usual temperature for a sitting-room is 60° F. In ours 70° F. at least; often much higher. A part of this is undoubtedly due to the greater moisture of the air and the relative dryness of the air in this country, and therefore we require a greater amount of heat for comfort. After making due allowance for this there still remains a large balance against us. In theatres, etc., with the blaze of gas, it is still worse, and with an intolerable atmosphere. Now this ten or more degrees is attended with a *positive loss of vital force*. I mentioned this to one of the members of the board of health, who agreed to the truth of this view, and said that it had never been presented in their reports. That there is no real necessity for so much heat is proved by the fact that when we first go to the sea-side or to sea for two or three days most of us suffer from cold. This soon passes off, and after landing, especially if on this side the water, the heated and close rooms for a while are intolerable.

Our modern furnaces have contributed much to this habit. *A furnace should be confined to the entry*. All other parts of the house should be heated by open fires of wood (the best fuel), coal, or gas. The fact is that the *expense* of ventilation is its greatest enemy. Most of the world are ready to risk health in saving money for dress or amusement. From my own experience I would recommend persons with a tendency to eczema a naked exposure to the air at night before going to bed, and also before dressing in the morning — Franklin's air-bath.

I now come to the last part of this paper, which has stretched out to a length I never anticipated. I wish to say a few words on the oft-disputed question of the constitutional or local origin of eczema. In the number of the JOURNAL for October 23, 1879, Dr. White presents, with his usual ability, his reasons for considering eczema mainly a local disease, and calls for proof to the contrary. Dr. White insists on scientific proof in a case where scientific proof is not possible. The humoral doctrine, though I agree with him in thinking it, often, perhaps generally, a mere superstition, has a foundation on fact and observation; and with regard to vicarious diseases, what will Dr. White do with *ricarious menstruation*, probably older than Hippocrates?

Intestinal hemorrhage with relief in typhoid fever may be mentioned in the same connection; also the more frequent relief from trouble in the head by nose-bleed. I freely admit that the cure of eczema is effected to a great extent by *local* means, but this, as has been before remarked, does not prove the *local origin* of the disease. If you break a link in the chain of causation, though it may seem small, you may break the disease itself.

The study of medicine within the last forty or fifty years has been much benefited by a more scientific method of investigation. Fully admitting this, I would still urge that there is much in the study and practice of medicine which is, and ever must be, dependent on a kind of observation which almost escapes analysis. This is not peculiar to medicine; it enters to a large ex-

tent into the affairs of our daily life. We are constantly making inferences and acting upon them, frequently unconsciously, on which may depend the most important consequences. The difference between the Rothschilds and Barings and common men, in the success which they have obtained and transmitted for so long a time, is mainly dependent on rapid apprehension in their dealings of what is going on in the *minds* of other men.

How absurd it would be to attempt to put this in the form of statistics! What is *manner* and all that it implies? Almost without knowing it we often form our conclusions of character from what a man *does not say*, as well as from what *he does say*, — from his tone of voice, expression, attitude, and gestures. What is all this but symptoms and diagnosis? If the gradual accumulation of the results of the rude observation of thousands of men for thousands of years were obliterated, we should have a heavy task before us, not only in medicine but in most other things in daily life. This I think accounts, in part at least, for what Dr. White calls "a strange vitality."

It is true that the skin has, as Dr. White says, as much right to an independent existence as any other part of the body; but it covers the whole body, and no one doubts that, whether the body sympathizes or not with it, it sympathizes with the body. Why is the skin in cholera covered with cold sweat; and with regard to "striking in," as it is popularly called, does not every physician feel more or less alarm when the eruption suddenly disappears in scarlatina or measles?

I am far from saying that this is the cause of the change for the worse which often accompanies it, but at any rate it shows an intimate relation. This no doubt has been at times grossly exaggerated, but it is real; in the same way as the eruption in the plague must be as much a part of the constitutional disease as the fever. Even the darts of diathesis of the French, which has been so much ridiculed, is founded on the observation of the old physicians that certain families are constitutionally predisposed to certain eruptions.

TANGIBLE CAUSE.

An eczema occurring spontaneously may present identical structural changes with one caused by foreign agency, and yet the cause may be from within. In a case of intermittent recurring, after being apparently cured, with an interval of months or even years, with or without an obvious exciting cause that we can trace, if we had not known of the *previous attack*, how absurd it would seem to attribute the present one to something all the time present in the system of a man apparently well!

SCROFULA.

This constitutional agency in producing skin disease I presume all will admit. I do not know why Dr. White passes over it in this connection.

BRAIN AND NERVOUS SYSTEM.

Dr. White admits the sequences of neuralgic pains and disease of the skin, as in herpes zoster. But does not this imply a *close relation*? "Faulty innervation" as a term is objected to, and it no doubt is often loosely used, but it may be a form expressing a fact, and Dr. White surely does not wish to be understood *literally* when he questions what it means without some discoverable tissue change.

DIGESTION.

Dr. White urges, and I agree with him, that the influence of food is overrated. With regard to acne, however, I think the influence of diet is very marked. My personal observation, at a time of life when we are very sensitive on the subject, was proof positive to me, as I well recollect. Dr. Jacob Bigelow, the most skeptical of men, told me that he was satisfied by experiment that the popular idea of the influence of rich food was well founded. I understand Dr. White to admit that though he does not object to good butter, he cautions patients strongly against *bad*. This I think concedes the principle, and I would ask, is the red nose of the drunkard a "vulgar error"?

I will only add that I think the difference in the views of Dr. White and myself arises mainly in our different education. His study and practice of chemistry and afterwards of his specialty have both led him so much in the direction of pure science that he naturally inclines to reject all evidence which does not fall within its bounds. The history of Lady Montague's discovery of inoculation, of Jenner's of vaccination, of the itch insect, of ergot, of iodine in its relation to burnt sponge as a remedy for scrofula, and of many others of the greatest value, all point in the same direction.¹

I will conclude this too long paper with a case of my own. On the 16th of March I was consulted by a man, aged forty, from Aroostook County, Maine. He reminded me that nine years ago his wife had been under my care for an affection of the eyes, had recovered, and had continued well. A year ago, he said, he was attacked with disease of the eyes which had recurred from time to time, and his sight was much impaired. He had consulted an eminent specialist in Bangor and another in Portland. He then came to Boston and took the advice of another distinguished specialist, and not satisfied with this went to the Eye Infirmary. I asked him why he came to me. "Because," said he, "you were the only one of the five who asked a single question as to the general health."

RECENT PROGRESS IN THE TREATMENT OF DISEASES OF THE THROAT.

BY F. I. KNIGHT, M. D.

EXTERNAL INCISIONS FOR THE REMOVAL OF BENIGN INTRA-LARYNGEAL NEOPLASMS.

DR. J. SOLIS COHEN² gives illustrations of several of the methods of operating and comments thereon. The importance of restriction of the operation, which Dr. Cohen speaks of, cannot be mentioned too often till surgeons stop making those sweeping incisions from the hyoid bone to the trachea, which unfortunately are still too common. Dr. Cohen says that section of the

¹ It would be well to consider here the popular idea of the influence of prenatal impressions on the mother as the cause of peculiarities in the child. At the time I was a student it was generally accepted that they had no influence, and this, I remember, was the opinion of the late Dr. Walter Hanning, then professor of midwifery. The general opinion of scientific men at the present time is that such impressions do have a greater or less influence.

It was contended for many years by naturalists, as opposed to the popular opinion, that the parr were a distinct species of fish, and not, as afterwards acknowledged, undeveloped salmon. The experiments of Mr. Shaw proved that the popular view was the correct one.

Still another popular belief, that has since been proved by scientific experiment, is that the vaccine disease of cattle is really the small-pox.

² Archives of Laryngology, vol. 1, No. 2.

cricoid cartilage is to be avoided, if possible, as its division is apt to impair the solidity of the laryngeal skeleton, and is liable, though but rarely, to be followed by necrosis. Section of the thyroid cartilage is likewise to be avoided if other means suffice for ample access to the neoplasm, as the consequent agglutination of the anterior portions of the vocal bands, in cicatrization, cannot be effectually prevented, and the resulting diminution in the length of the vibrating portions of the vocal bands necessarily impairs the quality of the voice.

Small growths, immediately beneath the vocal bands or upon their edges, and inaccessible to intra-laryngeal manœuvres, are not infrequently accessible to direct attack through an incision in the middle crico-thyroid ligament. This operation, the easiest of the series, involves the minimum risk incurred in artificial openings into the air-passage, leaves but an insignificant external cicatrix, and does not engender any impairment of vocal function. Dr. Cohen gives a case in which this restricted operation was performed on a gentleman for the destruction by galvanocautery of nodules of papilloma beneath the anterior commissure of the glottis and upon the lower surface of the vocal bands.

In regard to section of the thyroid cartilage, Dr. Cohen says that its extreme liability to impair the voice irretrievably should always be borne in mind, and for this reason it may be questionable, in certain cases, especially in children, when the growth is in the upper portion of the larynx, whether the more conservative operation of sub-hyoid pharyngotomy should not be performed in preference. Dr. Cohen, however, farther on gives a case which shows that sub-hyoid pharyngotomy, that is, simple section of the thyro-hyoid membrane, does not always give sufficient room in children for a successful operation. A child, five years old, aphonic from birth, was seen in consultation with Dr. J. H. Packard. A neoplasm was discovered at the anterior commissure of the vocal bands. As it was impossible to have the repeated interviews necessary for a laryngoscopic operation, an external operation was decided upon. In order to avoid injury to the vocal bands, sub-hyoid pharyngotomy was chosen instead of thyrotomy. Dr. Packard performed the operation, but when the epiglottis was drawn out through the wound it was found impossible, either by direct sunlight or reflected light, to illuminate the interior of the larynx beyond a meagre area just below the upper border of the aryteno-epiglottic folds, so that the growth could not be exposed to vision. Attempts were made to remove the growth by forceps, but the opening was too small to admit the passage of both finger and forceps, and the growth could not be distinguished from the supra-arytenoid cartilages without either digital aid or illumination; so the operation was abandoned. [It should be borne in mind that papilloma not infrequently disappear spontaneously in children, so that it may be better oftentimes not to open the larynx at all, but insert a tracheotomy tube, if necessary to relieve the dyspnoea, and wait, as was strongly urged by Dr. H. K. Oliver some years ago. — REP.]

EXTIRPATION OF THE LARYNX.

Dr. Max Schüller³ gives a very interesting account of this operation. The number of operations known to the author is nineteen, three for sarcoma, fifteen for

³ Billroth and Lucke's Deutsche Chirurgie, No. 37, Stuttgart, 1880.

carcinoma, and one for perichondritis from unknown cause. The three patients operated on for sarcoma not only survived the operation, but have remained free from disease. Of the fifteen from whom the larynx was removed on account of carcinoma, five died of pneumonia and two of exhaustion within two weeks after the operation. Five others died from a return of the disease long after the operation. Two patients (one operated on in September, 1877, by Wegner, and one in July, 1878, by Billroth) were alive, but there had been a recurrence of the disease in the latter; of one case there had been no late intelligence. The recurrence usually took place, not at the seat of the operation, but in the neighboring lymphatic glands. In our present knowledge the prognosis is most favorable in the case of sarcoma. It cannot be denied that the operations so far do not offer much encouragement as to the final result in cases of carcinoma, but we must not forget that we are yet in the infancy of the operation, and that the disease was far advanced in most of the cases subjected to it. If extirpation is practiced earlier, as soon as the diagnosis is assured, the prognosis will become more favorable. Schüller considers that complete removal of the larynx is indicated only in the case of malignant growth. It has been proposed also for organic stricture from inflammatory processes, in order to substitute a larynx which would perform its function for one which would not, but laryngotomy, with partial resection, suffices for these cases, and is far less dangerous; moreover, the preservation of a part of the laryngeal walls renders the fitting of an artificial larynx easier. Schüller gives an excellent description of the proper method of operating.

In Vol. I., No. 1, of the *Archives of Laryngology* is a very full account of the first extirpation of the larynx done in this country, by the operator, Dr. Friedrich Lange, of New York.

ADHESIONS OF THE VOCAL CORDS AFTER DIPHTHERIA.

Dr. Jules Boeckel¹ showed, at a recent meeting of the Medical Society of Strasburg, the larynx of a child on whom tracheotomy had been performed for diphtheria. The patient recovered, but it was impossible to withdraw the canula, suffocation being threatened on every attempt to do so. Some months later the child died of scarlatina. The pathological specimen showed that there was an adhesion of the vocal cords in their entire extent, except at one point, where an opening remained scarcely admitting the point of a probe. Dr. Boeckel thought that the union of the vocal cords was due to the agglutination of the abraded surfaces after the elimination of the pseudo-membranes.

BURSAL CYSTS OF THE THYROID CARTILAGE.

Dr. J. W. Robertson² reports a case of cystic degeneration of the thyroid bursa. The tumor was flat, and covered the whole surface of the subcutaneous portion of the thyroid cartilage, extending backwards under the muscles on the right side, and pressing the larynx backward and toward the left. It was about the size of a large walnut, oblong and flattened in shape, and its fluid contents could be easily diagnosed. The larynx, except in position, was apparently healthy. The lungs were emphysematous, with a

small portion of consolidated tissue in upper part of right lung. It being found impossible to extirpate the cyst entire, it being closely adherent to the anterior surface of the cartilage, the sac was simply cut away with scissors, and the internal wall of the cyst destroyed. The hyoid bursa, which was similarly affected, was eradicated in the same manner. The cysts were filled with a thick, glairy fluid, similar to that of a ranula. The wound healed slowly by granulation. A few applications of tincture of iodine to the granulations beneath the loose skin soon dried up a peculiar serous discharge, which lasted some time after the operation. In a week's time the larynx had resumed its proper position, deglutition and respiration were normal, and the voice improved, but still hoarse from catarrh.

LARYNGOTOMY SUBHYOIDEA VERA, SEU SUBEPIGLOTTICA.

Dr. Carl Langenbuch³ calls attention to the fact, stated by Langenbeck, that the operation commonly called subhyoid laryngotomy is really a pharyngotomy, the opening being made above the epiglottis. Dr. Langenbuch then gives the details of an operation by himself, in which the opening was made under the epiglottis. The patient had a small polyp at the anterior commissure of the vocal cords. A transverse incision of the skin was made, the muscles were separated from the hyoid bone, the thyrohyoid membrane was divided transversely close to the upper edge of the thyroid cartilage, and a median incision was made through the ligamentous tissue of the superior thyroid notch and the upper third of the thyroid cartilage (the latter was perhaps unnecessary). A transverse section was then made of the root of the epiglottis. The slight hemorrhage was easily checked. The larynx was now drawn downward and outward by means of two strong hooks (one on each side), and a good inspection of the interior of the larynx afforded, and the growth easily removed by the scissors. Communication with the external air continued only two days, and the voice, which had been hoarse previously for five years, became normal.

Roser subsequently called Langenbuch's attention to the fact that he (Roser) had studied this operation experimentally on animals in 1851, an account of which was published in Shuppert's thesis in that year.

A NEW SUBCUTANEOUS METHOD FOR THE REMOVAL OF NEOPLASMS IN THE LARYNX.

Under this title Professor Rossbach⁴ describes a case of growth on the anterior third of one of the vocal cords, which he removed by means of a narrow knife introduced through the lamina mediana of the thyroid cartilage, the subsequent movements of the knife being guided by using the laryngoscopic mirror. Rossbach thinks the method may become generally useful in laryngeal operations. This method of operating has been used before by Eysell, of Halle.

ELECTRIC LIGHT FOR LARYNGOSCOPY AND RHINOSCOPY.

Dr. A. Wellington Adams,⁵ of Colorado Springs, claims priority in the application of electricity to laryngoscopy and rhinoscopy, and describes an apparatus

¹ London Lancet, December 27, 1879.

² Toledo Medical and Surgical Journal, October, 1879.

³ Berl. klin. Woch., No. 5, 1880.

⁴ Berl. klin. Woch., No. 5, 1880.

⁵ Medical Gazette, May 22, 1880.

which seems very convenient for the purpose. The light is arranged on the stalk of the laryngeal mirror, and several advantages are claimed for it over the "electrical polyscope" of M. Trouve.

APHONIA SPASTICA.

Dr. M. A. Fritsche¹ communicates six cases of this affection, first described and named by Schmitzler in 1875. It consists in cramp of the muscular apparatus of the larynx on attempted phonation, an affection analogous to writer's cramp. There is usually total loss of voice. The great effort made by the patient to produce sound is noticeable, but it "sticks in his throat." On laryngoscopic examination the vocal cords are seen to be pressed tightly together, not presenting the usual elliptical opening, but on forcible effort sufficient air escapes through the glottis posterior to the vocal processes to produce an interrupted, convulsive whisper. In the lighter form of the affection there is only a momentary spasmodic closure, limited to the anterior part of the glottis. For treatment electricity, especially the constant current, is of the most value. The prognosis in acute cases is favorable, but in chronic ones less so.

FUNCTIONAL SPASM OF THE LARYNX.

Professor C. Gerhardt² under this title relates a case of the same affection, which bears a closer resemblance to writer's cramp from the fact that it came on only when the patient pronounced certain words or syllables. Professor Gerhardt has previously reported the case of a flute player who suffered from a spasmodic affection of the larynx whenever he produced certain notes.

EXTREME STENOSIS OF THE PHARYNX.

Dr. T. Gilbert Smith and Mr. W. J. Walshaw³ report a case of extreme stenosis of the lower pharynx resulting from syphilis. The tongue could not be protruded beyond the teeth. The right posterior pillar of the fauces was drawn backwards, and was adherent to the posterior wall of the pharynx. The uvula and a considerable portion of the soft palate had disappeared, leaving a clean semicircular border to the portion that remained. On laryngoscopic examination the epiglottis and vocal cords could not be seen, but an aperture one eighth of an inch in diameter was visible at the bottom of a funnel-shaped depression to the left of the middle line, on a level with the epiglottis. This was separated by a thick cicatricial band from another and deeper depression to the right, which terminated in a cul-de-sac containing pus. This small aperture was the only entrance to the larynx and œsophagus. Dilatation was not effectual until several cicatricial bands had been divided, when dilatation was resumed by means of the finger and œsophageal bougie. When the patient left the hospital the aperture measured three quarters of an inch in diameter. She was seen nine months after, and the aperture had not contracted in the least. In regard to the treatment the following suggestions are made: (1.) Tracheotomy. (2.) Division of cicatrices with a guarded knife. (3.) Several small notches are preferable to a deep incision, and when possible the parts should be divided from above downwards, so as to allow a full view of the tis-

ues divided. (4.) The aperture should be enlarged in a direction so as to allow the passage of liquid food clear of the entrance to the larynx.

ANGIOMA OF THE LARYNX.

Dr. O. Heinze⁴ reports a case of this rare affection. The tumor projected from the right ventricle, and was removed by means of the simple wire loop followed by galvano-cautery. Profuse hemorrhage followed the use of the simple loop, and Heinze warns us that galvano-cautery should always be used in such cases to avoid possible danger from hemorrhage. The piece removed lost its black color and became bluish-gray, and showed in section a fine spongy structure, and under the microscope a net-work of connective tissue, with blood in the interstices and numerous blood-vessels. Heinze was able to find only five cases previously reported.

TREATMENT OF NASO-PHARYNGEAL POLYPI.⁵

At a meeting of the Société de Chirurgie, Vernueil showed a patient on whom he had divided the soft palate, and had then cut away a portion of the tumor with an écraseur. He then applied cauterization of chromic acid every two or three days. The polypus gradually softened and atrophied. Duplay showed a patient who had been treated for the same affection with injections of chloride of zinc. Rochard mentioned a case in which the soft palate had been divided, the projecting portions of the tumor cut away, and the remainder removed by injections of chloride of zinc. Auger deprecated the removal of polypus by radical operations, and recommended injections of perchloride of iron.

(To be concluded.)

Hospital Practice and Clinical Memoranda.

MASSACHUSETTS GENERAL HOSPITAL: SKIN GRAFTING.

REPORTED BY DUDLEY F. ALLEN, M. D.

A METHOD of skin grafting which has been used in the Massachusetts General Hospital during the present year has produced remarkable results. Essentially the same plan has been pursued in various cases, but it is sufficiently illustrated by a single case.

A woman eight months pregnant was brought to the hospital, entering the ward of Dr. Charles B. Porter. She was in a low condition and suffered from constant diarrhœa. She had borne five children and had three miscarriages in rapid succession. Her right leg, with the exception of one half inch on the front, was girdled by a gangrenous phlebitis, six inches in width, extending from just below the malleoli up the leg. The foot was largely swollen and cyanosed. Her legs and external genitals were marked with varicose veins. She had considerable fever and could retain almost no food. Her pulse was quick and feeble. A consultation was called to decide upon the advisability of either inducing premature labor or amputating the leg, as it seemed impossible that the woman should recover, saving the leg and safely delivering the child. The patient's con-

¹ Berl. klin. Woch., Nos. 15 and 16, 1880.

² Archives of Laryngology, vol. i. No. 2.

³ British Medical Journal, April 17, 1880.

⁴ Archives of Laryngology, vol. i. No. 2.

⁵ Bull. gen. de Thérapie, December, 1879. London Medical Record, April, 1880.

dition was so poor that it was feared that interference of any sort would prove fatal, and preparations were made for Cæsarian section, should it prove necessary. The leg was now placed daily in a bath of one to forty carbolic acid, and allowed to soak for five minutes, and all the slough was pulled away. It was then washed in one to twenty carbolic, and finally rinsed off with pure water. A deposit, gray, thick, friable, and diphtheritic in appearance formed several times on the ulcer, but at length ceased to reappear, and the ulcer healed gradually, decreasing, perhaps, one fourth in area before delivery.

A month after entrance the mother was delivered of a healthy child. When the labor pains began, by the previous direction of the surgeon, the mother was bathed from head to foot with carbolic water, the leg was done up in a thorough Lister dressing, and the patient was carried into another room, that all danger of septic infection from the leg, which had been gangrenous, might be avoided. A week later the mother's condition was excellent. The Lister dressing was removed, and the ulcer was found healthy and granulating. The healthy state of the ulcer on the removal of the Lister dressing suggested the latter's renewal as a good method of treatment. At this time three hundred and thirty-five grafts were placed upon the surface of the ulcer.

The method of grafting may be of interest. The surface of the ulcer was rinsed off with one to forty carbolic. Grafts were then taken from the healthy skin, above the ulcer and below the knee. Each piece of skin was secured by sticking a very sharp cambric needle into the skin, lifting it a little, and cutting the piece off with a sharp scalpel, a method which was seen suggested some time since in a Philadelphia journal, but by whom we have now forgotten. The piece of skin was placed immediately upon the surface of the ulcer, care being taken that the cut surface should be in intimate contact with the granulating surface. The grafts were laid upon the ulcer in straight lines, being about the size of a pin's head, and separated from each other not more than one eighth to one sixth of an inch in the lines, though the lines themselves were separated from each other about one fourth of an inch. These lines of grafts were held in place by a piece of gold-beater's skin which was cut from a condom, laid upon them, and fastened to the sound skin at either extremity by collodion. The carbolic spray was then turned upon the leg for from two to three minutes, and a regular Lister dressing was applied. The surface from which the grafts were removed did not have a diameter greater than two and a half inches.

Five days later the Lister dressing was removed. It seemed that nearly every graft had taken and was growing, and the whole surface of the ulcer was nearly covered with epidermis. By this time the surface from which the grafts were taken was entirely healed, and a little later was scarcely visible. Thirteen days after the grafting the Lister dressing was omitted, only three dressings having been applied. At this time the whole ulcer was healed, with the exception of two small points, whose combined area was less than one square inch. About a week later the patient left the hospital, in excellent condition, with only one opening in the ulcer one third of an inch in diameter. There are several points in the practice of grafting which are well worth consideration:—

(1.) The surface to be grafted must be in healthy condition, else the grafts will not take.

(2.) The general condition of the patient must receive careful attention. Grafts that have become attached and look well will at times wholly disappear if the patient suffers from disordered digestion for even one or two days, or from the fever accompanying the collection of pus in parts that have no immediate connection with the grafts.

(3.) The grafts may be lifted with a sharp needle and cut off with either scissors or scalpel. The scissors are perhaps easier to use, and with them scarcely a drop of blood is drawn. The disadvantage is, however, that the scissors are slightly more painful than the scalpel: they curl up the grafts, so that it is less easy to lay them flat upon the granulations than if cut with a knife; and although with the scalpel there is bleeding the blood is not squeezed from the grafts as with the scissors, and the vessels are not so thoroughly closed. We have placed side by side grafts taken in both ways, and though we could not fully demonstrate that the grafts taken with the scalpel are the most sure to grow, we are decidedly of that opinion.

(4.) To fasten the grafts firmly in place is of great importance. Various methods have been practiced. The problem is to fasten the grafts firmly with something that will not disturb either grafts or granulations when it is removed; and it is also desirable to see the grafts, in order to place each successive line more accurately. Gold-beater's skin fulfills every indication. Ordinary adhesive plaster retains the pus which floats the grafts off from the granulations. Silk gauze holds the grafts perfectly, and allows the pus to escape through it and be absorbed by the dressings. The difficulty is that after about two days the granulations penetrate it, and if it is left beyond that time it is removed with difficulty, tearing the granulations and pulling off with the granulations more or less grafts, and causing bleeding. Gold-beater's skin, as taken from a condom and placed upon the grafts, holds them perfectly, so there is no danger of their being removed during the remainder of the dressing; it is transparent, and makes it possible to see the grafts; it dissolves in a little more than twenty-four hours, so that there is nothing to be removed. In short, in the many cases in which it has been used it has proved a perfect success.

(5.) The Lister dressing is desirable when it can be applied, though this is not easy in all locations. Its desirability depends largely, we suspect, upon the fact that it makes it possible to leave the grafts undisturbed for a long time without the wound becoming foul or septic. We have not inserted the grafts under the spray, but simply played the spray upon the wound for a moment before the application of the dressings, to disinfect it, and continued it through the dressing. The piece of protection between the surface of the wound and the gauze dressing should be only sufficient to cover the wound; else it will confine the pus, and endanger the floating off of the grafts by the pus which is secreted.

The essential details in skin grafting would then seem to be to have the patient and the surface to be grafted in good condition; to place the grafts, full of blood and right side up, upon the granulations; to hold them securely in their places; and to dress them by some method which does not necessitate frequent change.

—Thirty of the beds of Charing Cross Hospital (London) have been closed for want of funds.

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

A. T. CABOT, SECRETARY.

MAY 3, 1880. DR. HASKET DERBY read a paper upon The Use of the Artificial Leech in Ophthalmic Surgery. The reader urged that this method of abstracting blood was particularly applicable in cases of choroiditis, in which it is important that the blood shall be drawn rapidly.

The heurteloup may properly be used not only in the acute inflammatory stage, but also later, when the disease has assumed a more chronic form. The leech should be applied to the temple, and at least two fluid ounces of blood rapidly drawn. This is best done in the evening, so that the night's rest shall follow the operation, and the patient should spend the following day in a quiet, dark room. These applications should be made about once a week for five or six weeks, general treatment with corrosive sublimate, etc., being also used during this time.

This treatment Dr. Derby illustrated by the report of several cases, in which a marked improvement in vision had followed each application of the artificial leech. In ophthalmia and iritis, where a slow depletion is proper, ordinary leeches fulfill the indications.

DR. WADSWORTH thought the treatment by rest and exclusion of light of great value in these cases. He had seen sudden improvement in a case of choroiditis where no local treatment had been used, and such cases would give rise to a doubt as to the importance of the part played by local depletion. The scars resulting from the use of the artificial leech he had found at times quite disfiguring.

DR. DERBY said that he was in the habit of shaving a small surface on the temple and applying the heurteloup there, where the subsequent growth of the hair would conceal the scar.

DR. WEBBER exhibited some sections of the spinal cord from a case of myelitis reported by him in his paper before the society, December 15, 1879. These showed very well the enlargement of the axis cylinders with the fusiform swellings along them; also the considerable dilatation of the blood-vessels. In one section distinct vacuoles in the axis cylinders were to be seen.

DR. MARION reported a case of saccharine diabetes as follows: "W. S., a young man sixteen years of age, was first seen by me December 1, 1879. He was of healthy parentage, in good circumstances, and of correct habits. He was well developed, and felt well in every respect, except for the fact that for the week previous he had passed a large amount of urine, had suffered unusually from thirst, and had had an inordinate appetite. Upon examination the urine was found of a pale straw color; acid reaction; specific gravity, 1043. Sugar was present in large amount.

"The following chart shows the clinical features of the case for several weeks:—

	Pulse.	Temperature (F.).	Urine.	Specific Gravity.
Dec. 19, 1879.	46	96.4°	12 pts.	1043
" 21,	72	96.8°	11	1040
" 25,	80	98.6°	14	1037
Jan. 3, 1880.	92	96.9°	11	1043
" 5,	80	98.2°	11	1035
" 8,	72		9	1033
" 12,	84		10	1036
Feb. 2,	84	98.4°	10	1035

"About the 1st of February he fell into the hands of another physician, more sanguine than I as to his chance of recovery. Although said to be improving, he gradually lost flesh and strength.

"March 23d, I was called about ten in the evening to see him, in the absence of his physician, who lived in the city proper. He was suffering somewhat from pain in the right iliac region, which soon passed off, or was no longer noticed.

"Respiration was hurried and hollow. The chest was unusually resonant. Examination of the heart was unsatisfactory on account of the labored respiration. He became unconscious about four A. M., and died at eight.

"Autopsy, thirty-two hours after death. Body well developed, though emaciated; rigor mortis very well marked; face and extremities more or less covered with a pustular eruption, accompanied here and there by hemorrhagic crusts. A creamy fluid issued from the veins over the sternum; this was also noticed in the mesentery and in other parts of the body. There was almost no subcutaneous fat.

"Upon removal of the sternum the heart seemed very prominent. The pericardium contained a small amount of fluid. The cavities of the heart were dilated and their walls thinned. The right side was much distended, and was filled with a creamy, curd-like substance; that in the auricle being more friable than that in the ventricle. The right pulmonary artery contained a clot resembling the spinal cord both in color and in consistency. The left side of the heart was empty. The pleurae were mottled. The lungs were healthy, except the middle and lower lobes of the right lung, which were collapsed. The pleural cavities contained a small amount of fluid, as did also the peritoneal cavity. The spleen was normal. The kidneys were slightly enlarged and hyperemic. The liver was slightly fatty, and the blood from its cut surface was of a bright brick-red color. The stomach was dilated and the intestines were healthy, although all the mucous membranes were pale. Microscopic examination of the clot and the creamy liquid showed finely emulsified fat."

Dr. Marion thought the case should be characterized as one of lipemia and fat embolism.

[We are requested by Dr. Marion, the attending physician, to state that this case is the one reported in the JOURNAL for June 17th by Dr. Marshall L. Brown, who was present at the autopsy. — Ed.]

MAY 17, 1880. DR. DOE reported a case of Latent Peritoneal Effusion. The patient, a girl of twenty-two, after wetting her feet, had a cessation of her catamenia, which were in progress at the time. Two weeks later she noticed an increasing enlargement of her abdomen, which was soon accompanied by vomiting and by slight soreness in the umbilical region. She continued at her work, and only finally gave up in consequence of increasing weakness. Soon after the abdominal distention reached its height a pleuritic effusion in the left side commenced in a similarly insidious manner, the only symptoms being lividity of the cheeks and increased frequency of respiration.

The abdominal effusion, which, when at its height, reached one inch above the umbilicus in the erect posture, began to subside three weeks after its first appearance, and had vanished at the end of two months. As the pleuritic effusion was slowly disappearing a pneumonia, evidenced by dullness and fine crepitant rales, showed itself at the base of the opposite side. This, however, rapidly cleared up, and the patient, steadily

improving, was discharged from the hospital, well, nineteen weeks from the commencement of her illness. The catamenia did not return while under observation.

The treatment consisted of supporting measures combined with diuretics and hydragogue cathartics. The reader considered the case one of subacute peritonitis, commencing in the neighborhood of the uterus, and consequent upon congestion of the same.

Several members of the society spoke of cases of peritonitis depending on various causes, some with and some without an effusion, in which the course had been similarly devoid of symptoms.

Dr. C. E. STEDMAN said that he thought cases like that reported not very infrequent in anæmic girls. He mentioned briefly such a case, in which anasarca and double pleuritic and peritoneal effusions existed, and which recovered under a tonic treatment with change of air.

Dr. F. C. SHATTUCK recalled the fact that Dr. J. B. S. Jackson had noticed the frequent coincidence of pleural and peritoneal effusions.

THE FIFTY-NINTH SEMI-ANNUAL MEETING OF THE WHITE MOUNTAINS MEDICAL SOCIETY.

The meeting was held at Thayer's Hotel, Littleton, N. H., July 21st and 22d, and was called to order by the president, Dr. C. G. Adams, of Island Pond, Vt. In his address the president mentioned some of the good work already performed by the society, and urged each member to labor earnestly for the future welfare and honor of the same. The address was well received, and was the key-note to the proceedings. The meeting was fully attended, was earnest and profitable.

Dr. E. Mitchell, Lancaster, N. H., then addressed the meeting upon Bright's disease. He illustrated some of the prominent characteristics of the disease by recent cases in his practice. This address was followed by a general discussion upon disease of the kidney and the significance of albuminous urine.

Dr. S. L. Wiswell, Cabot, Vt., read a paper upon Treatment of Curvatures of the Spine by the Plaster-of-Paris Jacket. Seven cases were reported; cure followed treatment in all the cases; it was claimed that all these cases could and should be treated by our country physicians; that the fixtures could be furnished for about six dollars, and that some lighter and more rapidly hardening material would yet supplant the plaster of Paris, though that was the best now in use.

Dr. Peck, of New York city, read a paper on Glaucoma, illustrating his subject by diagrams and recently prepared specimens. Remarks were made upon the same topic by Dr. Spaulding, of Portland, Me. These gentlemen, after discussing the pathology of glaucoma, kindly pointed out some of the more prominent symptoms whereby it could be recognized by the general practitioner, such as dilated pupil, hardness of eyeball, blue color. Dr. Peck had excellent results from the use of eserine.

Dr. Watson, of Groveton Junction, N. H., reported cases of diphtheria, presenting a specimen of false membrane recently thrown off from the trachea, which reached nearly an inch below the bifurcation into the bronchia. The patient, the wife of a physician, soon died.

Reports on epidemics were made. Scarlatina, diphtheria, and measles have occurred in various localities in Northern New Hampshire and Vermont, but no

disease has prevailed over any large extent of this part of the country.

Several important cases were presented for diagnosis and treatment, one of some obscure disease of the brain, one of traumatic inflammation of the knee-joint, and one of malignant disease of the liver.

A case of congenital entropion of each lower eyelid in a boy ten years of age was brought before the society. Dr. Spaulding kindly consented to perform the operation usually prescribed for such cases. The operation was very neatly and successfully done.

Four new members were received, and two, Drs. Spaulding and Peck, were made honorary members.
W. C.

Recent Literature.

Diseases of Women. By LAWSON TAIT, F. R. C. S. Second Edition. New York: William Wood & Co. 1879.

We are glad to see the second edition of so good a work as the one under consideration; and the author may justly feel complimented at the warm reception it has generally received. The subject of gynaecology is here treated according to the anatomical relation of the parts, which necessarily divides the book into most unequal sections. The work contains but few cuts, as the author has found that illustrations of pathological appearances rarely convey any intelligible idea of the facts except in the form of expensive lithographs, which would greatly enhance the cost of the book.

In the sections on the Mons Veneris and the Vulva, more space is devoted to the consideration of the eruptive and parasitic diseases of those parts than is usually the case in much larger and more extended works on the same general subject. The author also discusses the malformations of the vulva and the appearances of the hymen in its relations to medico-legal cases. He takes it for granted, evidently, that his readers are familiar with the details of the various gynaecological operations, for, excepting ovariectomy, he refers to but very few of them, and then most briefly. With some exceptions, the treatment advised is fairly open to the criticism that it is not up to the recognized standard of present gynaecologists, — certainly not those in America. We are glad to see the author denounce in strong terms the practice of applying solid nitrate of silver to the cervix for so-called "ulcerations of the womb," recommending instead mild applications, although he makes no reference to operative interference, which so many gynaecologists have found a more speedy and effectual method of overcoming the trouble when dependent upon lacerations of the cervix.

The section on the Fallopian Tubes and Fimbriae, including, as it does, extra-uterine pregnancy, is exceedingly valuable and instructive, and second to none on this important subject, save Dr. Parry's work. The section on Diseases of the Ovary, comprising about one third of the volume, is an enlargement of the author's Hastings Prize Essay of 1873, and wital a most scholarly production. The book is full throughout of careful thought and rich experience; and these merits, together with the wise consideration of many matters of grave consequence, which by most gynaecological writers are either briefly treated or passed over entirely, render it an essential addition to medical literature.

Medical and Surgical Journal.

THURSDAY, AUGUST 5, 1880.

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GENERAL HYGIENE AND SCHOOL HYGIENE IN WISCONSIN.¹

THE report of the Wisconsin Board of Health for the year 1879 presents increasing evidence, as is shown by the secretary, that the work of the board is reaching the people for whose benefit it was established. It is manifested in the numerous communications received, in which the advice and help of the board are asked in sanitary matters affecting the rights and duties of individuals or communities; in the requests from local boards of health for instruction on points arising in the discharge of their legitimate duties; in the appeals from teachers for advice in matters affecting the hygienic surroundings of their pupils; in the demand for inspection of nuisances and for the suggestion of remedies; in the reliance which is shown that, through the action of the board, an efficient control may be brought to bear upon adulteration and fraud in articles of food and commerce.

The vital statistics of Wisconsin are as yet of little value, the record of marriages, births, and deaths as collected under existing laws being too imperfect to permit any accurate conclusions to be drawn from them. Arrangements, however, were made to collect such statistics in connection with the late national decennial census, and the board recommends that the State cooperate with the general government in securing the compilation of such statistics at the intermediate quinquennial periods.

The most striking feature of this Wisconsin report is the large proportion of space devoted to the discussion of school hygiene and the sanitary arrangements of school-buildings. No less than three out of seven papers treat of these subjects, the importance of which is evidently fully appreciated, and the writers are clearly determined that their towns shall not remain behind older communities in these matters. It is apparent that the need exists for a thorough reform in many essential respects, but the appreciation and announcement of the fact is already a long step toward securing the requisite remedies. A special correspondent writes concerning the schools of his own county as follows:—

"The sites of many school-houses are unwisely selected, and during wet seasons are very unhealthy. Many cases of illness can be traced to them. There are some good buildings, but they are uncomfortable in arrangement and not ventilated. I venture the statement that not a single school in this county [one

of the best in the State], excepting, perhaps, those of the cities and larger villages, is properly ventilated, can be perfectly heated, or has a sufficiency of cubic space for each pupil. Their feet freeze while their brains are heated. The furniture is universally unsanitary; the seats are too high or too low, slant too far forward or too far back, and the same is true of the desks.

"The light is effectually shut out of some school-buildings; to my knowledge, there are three school-houses within a radius of five miles, each of which has a large attendance, and each of which has just three windows. These windows contain just nine square feet of glass each, giving a window surface of twenty-seven square feet to a floor surface of six hundred square feet [*a proportion of one to twenty-two*!]. Place a plant in such a room away from the sunlight, and it becomes puny and faded. Children cooped up in such rooms become apathetic, myopic, and frequently sick. Who has not heard complaints of headache, languor, malaise, from pupils in such rooms? Give them better air and more light, and these complaints will disappear.

"Not only are such buildings Black Holes, so far as light is concerned, but they are damp as well. Some stand only a few inches above the ground; others have the sills directly on the ground; and in others still a portion of the building is planted *into* a side hill, or banked up with earth to shut out any air which might otherwise stray under the floor to dry and thus prevent the decay of the timbers. Who will guarantee that, when the room is heated, the floor shall not warp and spring? Let this take place, and at once the evil odors of putrescence are poured in upon the already exhausted, overtaxed, and unstrung pupils. Raise a plank from one of these ground-floors, and note the terribly offensive and dangerous effluvia which salutes the nose! Some of our country schools are little better than pest-houses. Take one, for example, which measures twenty by thirty feet on the floor, and is eight feet high—not an unusual size; it contains four thousand eight hundred cubic feet, and into it are put, say, forty pupils; each pupil will have a breathing space of one hundred and twenty cubic feet (no allowance being made for the space occupied by furniture, stove, etc.), and in cold weather the air will be changed three times in the course of the day, that is, during the recesses and at noon. In addition to all this, the thermometer, if there were any, would mark from 90° upward, instead of 65° or thereabouts. Is it any wonder that pupils are stupid, tired, sick with headache and similar ailments?

"The picture is a sad one, but it is drawn from actual experience and observation. Remodel the school-rooms, and let fresh air circulate in and under and all around the building. Let education be more gradual, and then there will come from our school-houses men and women not less well educated, and better fitted to do the work and bear the burdens of life."

In a paper by Dr. J. T. Reeve, entitled *Our Public Schools in their Relations to the Health of Pupils*, which was prepared in response to a request that he

¹ Fourth Annual Report of the State Board of Health of the State of Wisconsin. 1879.

make an investigation into the extent to which hygienic studies are pursued in the public schools, with suggestions thereon, the writer shows that such studies are almost wholly unknown in the common schools, and that no knowledge of physiology or hygiene, either physical or mental, is considered essential in the teacher. The questions of school age and the capacity of young children are also dealt with, and liberal extracts are given from the opinions of prominent teachers in the State, all of which go to establish the fact that children are harmed rather than benefited by admission to the public school at the minimum age now sanctioned by law.

This paper next discusses the number of studies pursued and the amount of work required by them, together with the circumstances and health conditions under which that work is being performed, and maintains that injury is done to our children by the nature of the tasks imposed, and by the unhygienic condition of the buildings in which the tasks are to be wrought out and their surroundings. The writer enters a plea that physiology and hygiene may have a larger place in our educational systems, and points out many ways in which the health conditions of students may be improved. He insists that teachers should be sanitary students, and that they should recognize more clearly than they have hitherto done the composite nature of childhood, and that mental and physical culture must be coordinated if the child is to arrive at efficient manhood or womanhood.

The chairman of the committee on the inspection of public buildings presents a paper giving a report of the sanitary conditions of the normal school buildings of the State, in which existing defects and the remedies therefor are pointed out. Professor Chittenden contributes, under the head of Our School-Houses, still another article, based upon several hundred reports upon the actual condition of as many school-buildings in different parts of Wisconsin, in which material worthy of careful consideration is presented. The information is arranged under the following heads: Sites, School Yards, Drainage, Cellars and Air Spaces, Height of Buildings, Ventilation, Heating Apparatus, Arrangement of Light, School Furniture, Hat and Cloak Rooms, Out-Door Accommodations, Water Supply, and Means of Preventing the Spread of Contagious Diseases through the Medium of the Public Schools. These papers must prove of immense service in Wisconsin, and they might be read with profit in Massachusetts, especially by some persons in authority.

An account by a special correspondent, Dr. Schweichler, of an epidemic outbreak of typhoid fever at Port Washington, with extracts from other correspondence, closes a useful, interesting, and valuable report. As the boards of health in Wisconsin and other Western States become older and still more trained to their work it is perhaps permissible to believe that their people and governments will extend to them, in an ever-increasing degree, that confidence, liberality, and cordial cooperation, without which their highest efficiency and most beneficial influence must necessarily be greatly curtailed.

MEDICAL NOTES.

— The board of managers of the Boston City Hospital have purchased 30,000 feet of land from the Water Power Company at a cost of one dollar per foot, as a site for their new hospital building.

— The wife and child of Frank Bugbee, M. D., of Lancaster, N. H., have just died from malignant diphtheria. Dr. Bugbee is a prominent member of the White Mountains Medical Society.

— Caesarean section has very recently been performed in the town of Whitefield, Coos County, N. H. The full particulars of the case will be prepared for the JOURNAL.

— The Thirtieth Annual Report of the Indiana State Medical Society contains several papers of interest. The address of the president, Dr. J. R. Weist, of Richmond, is a happy statement of the problems with which preventive medicine is now occupied, and gives a striking picture of the terrible ravages of disease before sanitary science restrained its progress. A noticeable paper is that of Dr. W. S. Haywood, M. D., of Indianapolis, on Human Longevity, in which he shows that there are no authentic cases of individuals exceeding an age of one hundred and three years.

— The Medical and Chirurgical Faculty of the State of Maryland issues its Eighty-Second Annual Report. The Inaugural Address is by Professor S. C. Chew, on Medicine in the Past and in the Future. The annual address was delivered by Dr. J. W. Mallet. There are a number of reports of sections, an article on the sphygmograph, by Dr. A. B. Arnold, and some interesting cases of tumors of the jaw, by Dr. L. McLean Tiffany.

— The Proceedings of the Connecticut Medical Society at its eighty-ninth annual meeting are to be specially commended as containing a number of very elaborate and carefully prepared articles. The plan of establishing reports on matters of professional interest in the various counties does not seem to have worked well, but few satisfactory reports having been received. Drs. Carnall and Wordin have two excellent "eye" papers, quite intelligible to the general practitioner. Dr. Stearns, of Hartford, contributes a paper on The Insane Diathesis; Dr. Foster, of New Haven, an essay on The Hereditary Transmission of Syphilis. We should say that this volume was quite above the average of annual society reports. It is most carefully and neatly edited by Dr. C. W. Chamberlain, of Hartford, the secretary.

— The *North American Review* for August has articles on the following subjects: Ruined Cities of Central America, by the Editor; The Law of Newspaper Libel, by John Proffitt; Nullity of the Emancipation Edict, by Richard H. Dana; The Census Laws, by Charles F. Johnson; Principles of Taxation, by Prof. Simon Newcomb; Prince Bismarck as a Friend of America, concluded, by Moritz Busch; Recent Literature, by Chas. T. Congdon.

— The *Lancet* says that a chair of vegetable physiology has been established at Paris. The first lecture has just been delivered by M. Dehairan at the Museum d'Histoire naturelle.

— In the *Obstetrical Journal* Dr. B. S. Schultz, of Jena, gives the Indications for, and the Methods of, Dilatation of the Uterus. The uterus may be dilated (1) for the purposes of diagnosis; (2) to give room for the use of instruments or medications; (3) to give free passage to menstrual blood, catarrhal secretions, or semen. From incisions reaching up to the inner os uteri there is risk of bleeding and of secondary metritis and parametritis, and dilatation by sponge tents is open to the same and even greater objections. These risks may be diminished, without detracting from the benefit following, by (1) dilating with laminaria tents preparatory to performing the high bilateral incisions; by this method the uterus can be emptied of stagnant secretions and (by washing it out with a two per cent. solution of carbolic acid) disinfected, by which means the risk of infection from the freshly-cut surfaces is diminished, and an incision confined to the seat of stenosis can be made. (2.) The cervical canal can, in the same manner, be efficiently opened up, after the use of laminaria, by a blunt dilator. The author gives the latter method the preference, and has constructed a dilator, working in the sagittal direction, with which he operates either in the knee-elbow or in the lateral position, using strict antiseptic precautions, and washing out the uterus. (3.) In dilatation with expanding agents, antiseptic precautions should be observed before, during, and after the operation; from this point of view laminaria tents are the best. Out of more than a thousand cases the author has seen parametritis only five times, and in every one of these some neglect in the application of the antiseptic method was discovered. If during the use of laminaria the temperature rises above 38° (100.5° F.) the operation should be discontinued. The author considers that the hurtfulness of stagnant catarrhal secretions is not sufficiently appreciated.

— Under the title, Another Death from Chloroform, the *Canada Medical and Surgical Journal* reports the following: A case of death from inhalation of chloroform occurred at the City Hospital, Hamilton, Ont., on the 3d of June last. The unfortunate individual was a woman who had been admitted for the treatment of mammary abscess. The anæsthetic used was a mixture of one part of spirits of turpentine and eight parts of chloroform. The patient had already, a very short time previously, been anæsthetized for the purpose of incising the breast, and although a similar agent (but containing somewhat more turpentine) was made use of no bad effects were observed. On this occasion, however, after inhaling for a few minutes only the quantity first administered, there occurred sudden spasm, pallor, difficulty of breathing, and cessation of pulse. Every effort was instantly made and persisted in by Dr. Kittson, the attending physician, and Dr. Mills, the resident surgeon, to restore animation, but in vain. The post-mortem examination failed to reveal any organic lesion, and the following verdict was rendered by the coroner's jury: "That Catharine Donahue came to her death on the 3d of June, 1880, from chloroform administered in the Hamilton City Hospital, and it appears to this

jury that the chloroform was administered in a proper manner, and her death could not have been foreseen, and no blame can be attached to any one."

— The reports that come to us from the other side on the use of Chian turpentine in cancer are not all favorable. Mr. Lawson Tait reports that at the Women's Hospital they have been using the drug very largely in various kinds of cancer of the uterus, rectum, and breast, and they have the assurance of Messrs. Southall that the Chian turpentine they are using has been submitted to and "approved by Mr. Clay." His objection to the experience of Drs. Simpson and Macdonald does not therefore apply to theirs. In the practice of his colleagues, and in his own, some twenty cases have been subjected to the treatment for several weeks, without the slightest improvement in any case, — without the slightest appearance that the ordinary progress of the disease has been interfered with in the least.

Mr. W. F. M. Jackson gives the following unfavorable result attending its administration. He states that a patient of his suffering from cancer of the pancreas, eager to catch at any straw, procured, unknown to him, a box of Chian turpentine pills from Mr. Clay, of Birmingham. She took in all about thirty pills; when, finding herself no better, but rather worse, she discontinued the medicine. She began the pills on April 27th; on May 25th, or about three weeks after taking the last pill, she vomited a solid, sticky, yellow, fish-shaped mass, smelling strongly of turpentine, weighing one hundred grains, and measuring two inches and a half by three quarters of an inch, and being in depth a quarter of an inch, apparently a crude, undigested block of Chian turpentine.

Mr. G. W. Wigner, of London, also calls attention to the fact that Mr. Clay's descriptions of the drug are not exact. In quoting the account in Watts's Dictionary, one word appears to have escaped his notice: Watts calls Chian turpentine viscid. Now this would correspond with the spurious sample, but not with the genuine ones, which are brittle.

— Quoting from the *Gazette des Hôpitaux*, the *Medical Times and Gazette* says: Dr. Franck, in a paper which he read at the Biological Society, observed that he was of the opinion that the clinical observer could derive no precise indications from cerebral thermometry. Prof. Paul Bert stated that he was no wise surprised at M. Franck's conclusions, and it is for this reason that he had himself abandoned the researches he had undertaken on this question. In fact, it has now been amply shown that, with the exception of the two facts, — first, that the temperature of the anterior part is raised under the influence of intellectual exertion, and, secondly, that a similar elevation takes place in the same points in an infant on awakening, — there is no conclusion to be drawn from local thermometry applied to the brain.

— "At a recent meeting of the district medical society of Munich," says the *British Medical Journal*, "Professor Ranke showed a female child, five months old, the subject of congenital absence of all four limbs. It was the fourth child of healthy parents,

and while lying in its cradle with the face alone exposed it presented a perfectly healthy appearance; the facial expression was lively, the eyes followed the movements of the by-standers, and all the senses were well developed. The body was strong and healthy. The shoulder and pelvic girdles, with all their muscles, were present as in the normal condition. The shoulders presented small prominences, formed by the union of the clavicles with the acromion processes, and covered by little cushions of fat. In place of the lower limbs there was on each side, over the region of the acetabulum, a projection of skin, which could be somewhat retracted by muscular action into the cushion of fat surrounding it. The movements of the body were extremely lively and powerful. The coccyx was well developed; the child, placed on the tubera ischii and the coccyx, could retain the erect position with little support. Dr. Ranke attributed the deformity to arrest of development, and not to intra-uterine amputation. The child at the time appeared healthy and likely to live, but it has since died."

— The *Druggist's Circular* says: Ground mustard mixed with a little water is an excellent agent for cleansing the hands after handling odorous substances, such as cod-liver oil, musk, valerianic acid and its salts. A. Huber states that all oily seeds when powdered will answer this purpose. In the case of almonds and mustard, the development of ethereal oil under the influence of water may perhaps be an additional help to destroy foreign odors. The author mentions that the smell of carbolic acid may be removed by rubbing the hands with damp flaxseed meal, and that cod-liver-oil bottles may be cleansed with a little of the same or olive oil.

— A county-court decision at Sheffield, England, has affirmed that false teeth are not necessities, and that the dentist who supplies a married lady with them cannot recover the amount of their cost from her husband.

Miscellany.

PROLONGED ABSTINENCE FROM FOOD.

MR. EDITOR,—While the newspapers are daily recording the condition of "Dr." Tanner during his continued fast, allow me to report a case which came under my observation yesterday in an official manner. I was ordered by the pension department to make an examination of P. M., who resides near this city, and is alleged to be disabled by reason of disease contracted during the late war, more particularly while in a rebel prison. I found him considerably emaciated, with paralysis of the lower extremities and loss of voice, evidently partially or wholly demented, with the face flushed and the extremities cold, with very sluggish circulation. Age thirty-four, pulse 56, and of moderate strength and fullness; respiration 12; temperature 94° F.

The remarkable part of the case is that he has taken no food during the past forty-five days, or water, except to rinse his mouth, during the past nineteen days;

in fact, has been unable to swallow either during those respective periods. Owing to his present condition and the imperfect history obtained, a satisfactory diagnosis is impossible. An autopsy only would be conclusive. However, the facts above stated can be fully sustained.

J. C. NOYES, M. D.
OFFICE OF THE BOARD OF HEALTH,
OSHKOSH, WIS., July 22, 1880.

INCURABLE DISEASE.

SAYS the *London Lancet*: "Maladies which cannot be 'cured' are the opprobria of medicine as an art, and for the most part, they are not less the enigmas of medicine as a science. It should not, however, be hastily assumed that cases which cannot be cured must therefore be regarded as beyond the hope of recovery. There is a wondrous power of self-cure in the organism, and many a sufferer condemned by the 'faculty' has been relieved by nature. It is most desirable that this should be borne in mind for two principal reasons: first, because hope is itself a great specific, even for diseases which seem to be beyond the reach of any remedy, and nothing so greatly tends to destroy the natural chances of recovery as the depression produced by an adverse prognosis, which is often amusingly falsified by the facts of experience; second, it is a most irrational position to take up that *any* malady is incurable. How can the scientist possibly feel sure of the proposition on which he erects his postulate? If it be generally difficult to prove a negative, it is absolutely impossible to do so when that negative is one that excludes the possibility of recovery from a disease. If the practical physician assumes that a case is incurable, he shuts himself out from the field of inquiry and experiment, where a remedy may be found. We are led to make these remarks by signal proof of the *impolicy* — to take no higher ground — of the position we condemn. Patients who are said to be suffering from incurable maladies go to adventurous practitioners, who try empirical remedies, or to 'quacks,' and recover after they have been 'given up.' The results of this procedure are to be traced in the advertisement columns of the lay newspapers, in which 'cures' for incurable diseases abound, and it is absurd to suppose that no good follows their use. The *post hoc* is not the *propter hoc*, but that counts for nothing to the public, to the physician who has 'waited on events' while he tried his method, or to the quack who reaps the credit of a success he has neither earned nor deserved. These persons do not cure the cases they claim to have benefited, but the cases do get well. And the *modus operandi* is this: A distinguished and able practitioner makes a diagnosis or gives a prognosis which sounds like a death-knell. The patient and his friends are disheartened, and for the time hopeless. By and by hope revives, and in the moment of its rekindling, or after several successive collapses and recoveries of the spirits, the patient falls under the care of some one who, honestly or dishonestly, with or without knowledge, professes to be able to 'cure' the case. It is true, perhaps, — though even the most expert clinicians may occasionally be mistaken, — that the disease is incurable, but the case may nevertheless 'recover;' and it does recover under the stimulus of hope and perhaps good regimen. Contempt is poured on science, and quackery or empiricism triumphs. The issue is most

satisfactory to the patient, but not so to the medical man. The moral of the tale does need not to be pointed. It lies on the surface. The category of "incurable" diseases should be reduced, and no case ought to be "given up" or condemned; for while there is life there is hope and hope itself may, and does, cure even diseases which science, in its supposed omniscience, asserts to be incurable, the physician being fooled.

MIDWIFERY IN SIAM.

SOME very interesting and curious notes on obstetric practice in Siam have been published by Dr. Samuel R. House in the American *Archives of Medicine* for 1879. The chief practitioners, he says, are elderly women. Male practitioners are summoned only in exceptional cases. Utterly ignorant as these are of anatomy and of the nature of the process of parturition, and holding that all delays and obstructions are caused by demoniacal interference, much of their practice consists in incantations and exorcisms and in rude methods to hasten expulsion. A favorite way is to press with great force on the abdomen and its contents, — shampooing vigorously with thumbs and fists. They even stand with bare feet upon the poor woman's body, crowding the heel upon the front or sides of the distended uterus. The writer has seen a large psoas abscess produced by the violence used on such an occasion. If the patient be feverish and restless, the midwife fills her mouth with perfumed water over which a charm has been muttered, and spouts it dexterously in a fine and not unrefreshing spray over the all but naked body of the sufferer, — bidding at the same time the evil spirit to be gone. In cases of tedious labor, a large brass bowl is procured, a long wax taper is lighted and fastened in the bottom of it by a few drops of the melted wax, silver coins to the amount of ninety cents (which are to revert to the midwife as fee) are stuck on the sides of the candle, and the bowl is filled up with uncooked rice, on which some coarse salt, dried peppers, etc., are thrown; and over this, with hands laid palm to palm and bowed head, an incantation is addressed to the invisible powers which have control over the malicious demons that are hindering the birth of the child.

For any bad symptoms that may arise, medicines are administered in accordance with their theory of pathology and therapeutics, that all disturbances of the system are produced by undue preponderance of one of the four elements, — fire, wind, earth, or water.

When the delivery is accomplished, one rushes out for salt; another for warm water and an earthen basin to wash the child; a third with frantic haste brings for the mother's comfort an earthen tray full of fire-brands, snatched up from the kitchen-fire, which soon fill the room with a blinding smoke. Meanwhile, from a piece of split bamboo a rude knife is fashioned, and with this the umbilical cord is cut, or rather sawed through, for with nothing metallic may the cord be severed. Since they never tie the cord, this is not bad practice, as by its liability to bleeding is prevented. An old earthen jar receives the placenta, which, with two or three handfuls of coarse salt thrown upon it, is buried in the garden, averting thus evil that would otherwise befall mother and child. The child is washed and laid on a soft pillow, around which, to protect from drafts and mosquitoes, a close curtain is ex-

temporized by using the three-yard piece of printed muslin that constitutes a Siamese dress. From the first day, babes in Siam are fed with honey and rice-water, and have the soft pulp of bananas crammed into their little mouths.

It is ingrained into the native female mind in Siam that the most direful consequences to both mother and child will ensue, unless for thirty days after the birth of her first child (a period diminished five days at each subsequent birth) she exposes her naked abdomen and back to the heat of a blazing fire, not two feet distant from her, kept up incessantly, day and night. From this curious custom none dare to exempt themselves. No superstition has greater hold upon them or more terrifies them with fear of coming evil if they fail to comply with it. Their medical science also bolsters up the custom by teaching that after the birth of the child there is always a diminution of the fire element in the system, tending to produce stagnation, a flabby state of the uterus, bad humors in the blood, a bad quality of the milk, and other unknown and terrible dangers to parent and offspring, from which this free external application of heat alone can deliver them. They think, too, the due quality and proper duration of the lochial discharge depend on this exposure to the fire. It is vain to tell them of the mothers in other countries who receive no detriment from their dispensing with such a usage. The manner of conducting this slow torture is as follows: A fire-place is brought in, or extemporized on the floor of the lying-in chamber by having a flat box or a simple rectangular frame-work of planks or trunks of banana-trees, three feet by four, filled in with earth to the depth of six inches. On this the fire is built with sticks of wood nearly or quite as large as one's wrist. By the side of this oblong frame and in contact with it, raised to the level of the fire, a piece of board six or seven feet in length is placed, and on a coarse mat spread upon this, or on the bare plank itself, the unfortunate woman lies, with bare back and limbs, quite nude indeed, save a narrow strip of cloth about her hips, with nothing else to screen her from a fire hot enough to roast a duck. There, acting as her own turnspit, she exposes front and back to this excessive heat. The husband or nurse is ever hard by to stir up and replenish the fire by night and by day. If it blaze up too fiercely, there is at hand a basin containing water and a small mop with which to sprinkle it on the flames and keep them in check. For the escape of the smoke no provision is made. Hot water alone is allowed to quench the patient's thirst.

His late majesty, Maha Mongkut, admitted the superiority of obstetric practice, and would gladly have abolished this absurd and injurious custom of his people. When he succeeded to the throne, in 1851, and children began to be born to him, he made some attempts in this direction. Upon the birth of the first of the eighty-one children begotten by him during his seventeen years' reign, Dr. House was summoned, in consultation with an older medical missionary, to the royal palace. Dr. Bradley had been sent for in the morning, and found the lady, who had given birth to a princess five days before, doing the usual penance of lying before a hot fire on a hard board, with the window-shutters of the apartment all closed, suffering from fever greatly aggravated by the heat and smoke. Representing the urgency of the case to his majesty, he obtained prompt and full permission to treat the

patient as he thought proper. The fire was at once, of course, removed, the window-shutters thrown open, the patient transferred to a comfortable mattress and cool water freely used, with some simple medicinal treatment. Thus relieved, the lady did well; and the success of the treatment was gratefully acknowledged by the king in an English letter accompanied with a purse of silver. There is, however, Dr. House says, no reason to suppose that this lady in her subsequent confinements dispensed with the broiling process. The queen herself, who, the ensuing year, gave birth to a prince, lay by the fire from choice, though suffering at the time with a grave disease which eventually caused her death.

It must be added, says Dr. House, there is one compensation to offset the mischievous consequences of this practice. It makes the women of the land escape the evils (prolapsed, etc.) that often result in other countries from resuming household duties too soon after the birth of a child. The Siamese mother is guaranteed by this custom, for one month at least, the fullest liberty to rest by her own fireside, undisturbed.

“CRUELTY TO WOMEN.”

THE following sensible editorial on a much-mooted subject is taken from the *London Lancet*:—

“It seems only too likely that the subject of providing seats for young women serving in shops will again fall out of public notice before the consideration it has received bears fruit. Under these circumstances it is necessary to go one step farther, and to say that the large houses of business which have not declared their determination to provide seats, as required by the obligations of humanity, or intimated that it is already their practice to do so, and that the young persons in their employ are not only permitted, but encouraged, to sit in the intervals between serving customers, are defying public opinion and inflicting a grievous wrong on humanity. It is a little absurd for the heads of these firms to send their contributions to the hospital fund as *charity*. What they give is an inadequate dole in aid of relieving—for it is impossible to *cure*—the injuries they daily inflict! We are not making this assertion at random, but speaking by the book,—the case-book of hospital work,—and affirm that some of the most painful and destructive diseases to which women are liable are distinctly produced and perpetuated by the cruel practice of compelling them to stand behind counters during long and weary hours for the profit of their employers. If it be true that the press of business is so great in the large establishments of Regent Street, Oxford Street, and other great thoroughfares that there is no time for those who attend upon customers to rest, let the heads of these houses of business devote a portion of their enormous gains to the humane purpose of saving life and health in their establishments by increasing the number of their employees. The matter is too serious to admit of its being shelved. It is no mere sentimental grievance we are concerned to redress. We have little sympathy with some of the proposals made by philanthropists for the ‘good of humanity’; but this is a veritable case of cruelty and of disease-making. The evil is as grave and obvious in its character as though physical injury were intentionally inflicted on those patients who apply to surgeons for relief. A correspondent of

the class we are trying to rescue from this cruelty writes as follows:—

“I have watched with much interest and anxiety your continued appeals on behalf of shop-women, for whom, as one of them, I beg to express our grateful thanks, and to assure you how much we appreciate your efforts for us. It appears that our employers do not recognize the necessity of providing seats, but even if they do so under pressure, I am quite convinced it would in most cases be a mere farce, for we should never be permitted to use them; and, indeed, in ordinarily busy times the duties behind the counter are of such a nature as to make it almost impossible that there can be any sitting down. It seems as if nothing can really help us save the strong arm of the law. Let medical men (as being the best judges) decide how many hours a woman may daily stand without serious injury to health, and then let the law say that no woman shall be compelled to exceed those hours. This will give us the power to protect ourselves,—a power we do not now possess; for, alas, we are too many. The difficulty lies not in finding assistants, but in their finding employment; and were our duties made heavier instead of lighter, there would still be no lack of ‘hands.’ I can speak from experience of the ill effects of long hours of standing. Some time since I was compelled to seek advice. The doctor whom I saw most kindly, without fee, or reward, or solicitation on my part, called upon my employer to explain the absolute necessity of my being allowed to sit down as frequently as possible, in order to avoid being laid up altogether. This was stated to be *quite impossible, as others would expect the same privilege.* [The italics are our own.] It was then proposed that I should be allowed two hours’ rest in the middle of the day. After most strongly and persistently urging my case the doctor was victorious, and I have indeed reason to thank him daily for this ‘rest,’ which has no doubt saved me from an illness. There are, perhaps, hundreds of poor girls who need this rest as much as I did.”

“If these young women are kept standing, by shop-walkers employed for the purpose, to make a show of business which is not real, we say that practice is dishonest, and looking to the contingent mischief done it is unworthy of the heads of houses of business affecting to conduct their trade and make their profits honorably. If, on the other hand, the business done in these establishments is really so great, and pressing that those who serve cannot obtain a little rest, nothing but the most unpardonable greed can prevent such increase of their numbers as would put an end to the evil and cruelty of which we complain. We leave this obvious rejoinder to the disingenuous and pitiful excuse of the shop-walkers, ‘We are too busy to let our young people rest,’ to the consideration of those ladies who retain any spark of human sympathy in their natures, when they ‘go shopping.’ We fear the number of feeling women is small. If ever there was a proof that the feminine nature is *not* gentle, or the sympathies of woman keen and active, the perpetuation of this grievous wrong is a proof that cannot be gainsaid. To obtain a wider selection of materials for a dress, or see the newest patterns of robe or mantle, a ‘lady’ will sanction by her patronage, and aggravate by her exacting demands on the strength and endurance of those who wait upon her, the ‘cruelty to women’ we are striving to put down.”

REPORTED MORTALITY FOR THE WEEK ENDING JULY 24, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diarrhoeal Diseases.	Lung Diseases.	Diphtheria and Croup.	Typhoid Fever.
New York.....	1,085,000	641	370	40.09	30.88	5.46	4.06	.62
Philadelphia.....	901,280	406	196	33.49	25.86	5.66	2.21	1.97
Brooklyn.....	564,400	252	145	45.23	38.88	5.15	3.57	—
Chicago.....	—	280	189	43.93	33.21	3.57	7.50	.36
St. Louis.....	—	139	77	33.09	20.86	4.31	1.43	1.43
Baltimore.....	393,796	152	81	38.16	23.68	1.31	2.62	3.93
Boston.....	365,000	191	100	45.02	39.79	3.14	3.14	1.57
Cincinnati.....	280,000	83	39	44.58	21.69	2.41	3.61	7.22
New Orleans.....	210,000	93	25	25.80	8.60	2.15	3.25	—
District of Columbia.....	170,000	73	39	26.02	17.81	8.22	2.74	2.74
Buffalo.....	—	51	26	43.14	35.29	—	—	—
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	—	54	30	42.57	14.81	1.85	7.40	7.40
Milwaukee.....	127,000	58	43	34.48	24.13	1.72	8.60	—
Providence.....	102,000	40	18	47.50	35.00	—	2.50	—
New Haven.....	60,000	28	13	55.71	28.57	3.57	3.57	—
Charleston.....	37,000	30	13	29.00	13.33	3.03	—	—
Nashville.....	—	30	18	36.66	13.33	9.09	—	—
Lowell.....	54,000	32	21	62.50	59.37	3.12	—	—
Worcester.....	53,000	32	22	65.62	59.37	—	—	—
Cambridge.....	50,400	23	15	56.52	52.17	4.34	4.34	—
Fall River.....	49,000	39	—	58.97	53.84	7.69	—	2.57
Lawrence.....	38,600	27	21	51.85	44.44	—	3.70	—
Lynn.....	34,000	21	14	47.62	33.33	14.29	—	4.76
Springfield.....	31,800	23	16	47.82	26.08	—	8.68	—
New Bedford.....	27,200	16	11	62.50	62.50	6.25	—	—
Salem.....	26,500	12	5	41.66	41.66	8.33	—	—
Somerville.....	23,500	11	8	45.45	45.45	—	—	—
Chelsea.....	21,000	4	—	50.00	—	—	25.00	—
Taunton.....	20,200	10	4	33.33	33.33	—	—	—
Holyoke.....	18,400	15	9	46.66	46.66	—	—	—
Gloucester.....	17,300	7	4	14.28	—	14.28	—	—
Newton.....	17,300	—	—	—	—	—	—	—
Haverhill.....	17,350	10	5	10.00	10.06	—	—	—
Newburyport.....	13,500	8	3	12.50	12.50	—	—	—
Fitchburg.....	12,600	6	3	83.33	83.33	—	—	—
Eighteen Massachusetts towns.....	132,110	56	28	44.64	37.50	—	5.36	—

Deaths reported, 2953; 1611 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 1188, diarrhoeal diseases 898, consumption 318, lung diseases 123, diphtheria and croup 104, typhoid fever 41, scarlet fever 37, whooping-cough 36, malarial fevers 34, cerebro-spinal meningitis 21, measles 12, erysipelas two, typhus fever two, small-pox one. From *scarlet fever*, New York five, Philadelphia five, Baltimore, Cincinnati, Nashville, four each, New Orleans and Providence three each, Brooklyn and Chicago two each, St. Louis, District of Columbia, Buffalo, Pittsburgh, Lowell, Lawrence, one each. From *whooping-cough*, New York eight, Philadelphia five, Chicago three, Brooklyn, St. Louis, Baltimore, Cincinnati, New Orleans, Pittsburgh, Providence, Charleston, Worcester, Lynn, one each. From *malarial fevers*, New York and New Orleans eight each, St. Louis seven, Brooklyn three, Philadelphia, Chicago, Baltimore, District of Columbia, Buffalo, New Haven, Charleston, Nashville, one each. From *cerebro-spinal meningitis*, New York four, St. Louis three, Pittsburgh and Springfield two each, Philadelphia, Chicago, Baltimore, Cincinnati, Milwaukee, Worcester, Fall River, Lynn, Chelsea, Northampton, one each. From *measles*, New York four, Cincinnati three, Pittsburgh two, Chicago, Baltimore, Gloucester, one each. From *erysipelas*, Buffalo and Springfield one each. From *typhus fever*, Philadelphia two. From *small-pox*, Philadelphia one.

Twenty-seven cases of diphtheria, seven of measles, eight of scarlet fever, one of whooping-cough, two of typhoid fever, were reported in Brooklyn; 22 of diphtheria and five of scarlet fever in Boston; 11 of diphtheria, which is increasing, and two of scarlet fever in Milwaukee, where, also, diarrhoeal diseases are prevailing; four of diphtheria, five of measles, two of scarlet fever, two of typhoid fever, 11 of diarrhoeal diseases, in Providence.

Total number of deaths considerably diminished; deaths under five diminished; deaths from diarrhoeal diseases likewise

diminished. Deaths under five diminished in New York, Philadelphia, Brooklyn, Chicago, St. Louis, and Cincinnati; increased in Boston.

In 35 cities and towns of Massachusetts, with an estimated population of 964,860 (population of the State about 1,690,000), the total death-rate for the week was 28.09 against 23.89 and 20.86 for the previous two weeks.

For the week ending July 3d, in 149 German cities and towns, with an estimated population of 7,662,492, the death-rate was 31.1. Deaths reported, 5451; 2782 under five; pulmonary consumption 501, acute diseases of the respiratory organs 290, diphtheria and croup 117, scarlet fever 78, measles 74, whooping-cough 51, typhoid fever 44, puerperal fever 21, typhus fever (Thorn two, Berlin two, Dortmund four), small-pox (Tilsit, Königsbrunn two, Dresden four). The death-rates ranged from 13.8 in Metz to 52 in Berlin; Königsberg 35.9; Breslau 36.4; Munich 38; Dresden 26.4; Leipzig 24.1; Hamburg 21.3; Hanover 18.6; Bremen 19.1; Cologne 35.6; Frankfurt 21.2; Strassburg 29.7.

For the week ending July 10th, in the 20 English cities, with an estimated population of 7,439,468, the death-rate was 19.2. Deaths reported, 2760; acute diseases of the respiratory organs 171, diarrhoea 183, scarlet fever 130, measles 81, whooping-cough 74, fever 37, diphtheria 12, small-pox five. The death-rates ranged from 10 in Hull to 30 in Norwich; London 18.9; Bristol 15; Birmingham 13; Manchester 21. In Edinburgh 19, Glasgow 23, Dublin 31.

In the 20 chief towns in Switzerland for the same week, population 445,790, there were 27 deaths from diarrhoeal diseases, 16 from acute diseases of the respiratory organs, whooping-cough five, typhoid fever four, measles two, scarlet fever one, diphtheria one. Death-rate of Geneva 21.4; of Zurich 19.5; Basle 20.1; Bern 20.9.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	9 P. M.	9 P. M.	Mean.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	Duration.	Amount in inches.
July 18	30.019	72	82	61	69	46	67	61	W	SE	S	5	6	6	C	C	C	—	—
" 19	30.087	73	85	63	71	50	62	61	0	SE	E	6	11	3	C	F	F	—	—
" 20	29.992	69	73	62	89	95	95	93	0	SE	SE	0	18	2	T	R	O	—	1.71
" 21	30.048	72	82	68	95	81	80	85	W	SE	0	3	5	0	O	F	O	—	.87
" 22	30.115	67	76	61	65	58	89	71	0	0	NE.	0	0	5	O	O	R	—	.07
" 23	30.107	67	73	60	94	75	84	84	NW	SW	SW	6	3	5	T	O	O	—	.12
" 24	30.074	72	82	63	95	67	85	82	SW	SW	SW	4	9	6	T	F	C	—	.01
Week.	30.061	70	85	60				77										17.05	2.71

¹ O, cloudy; C, clear; F, fair; G, fog; H, hazy; R, rain; S, smoky; T, threatening.

INTERNATIONAL MEDICAL CONGRESS.

At the meeting of the committee of organization, held on July 13th, the list of sections and officers subjoined was finally decided upon. The congress will meet from the 3d to the 9th of August, 1881, in rooms granted by the University of London and the Royal and other learned societies meeting in Burlington House. Invitations to attend the meetings will be issued to all legally qualified medical practitioners in the United Kingdom, and will be sent to the different countries of Europe, to America, the Colonies, and India. Papers may be read in English, French, or German, and will be published in the volume of Transactions in the language in which they are read. It will be necessary for all who wish to make communications to the congress to intimate their intentions to the secretary before the end of March, 1881. All communications respecting the congress should be addressed to William MacCormac, Esq., honorable secretary-general, 13 Harley Street, London, W.

The following is the list of officers: President, the Congress, Sir James Paget, Bart., LL. D., D. C. L., F. R. S. Section I, Anatomy. President, Professor Flower, F. R. S. Section II, Physiology. President, Professor Michael Foster, F. R. S., Cambridge. Section III, Pathology and Morbid Anatomy. President, Dr. Samuel Wilks, F. R. S. Section IV, Medicine. President, Sir William Gull, Bart., M. D., F. R. S. Section V, Surgery. President, John Eric Erichsen, Esq., F. R. S. Section VI, Obstetric Medicine and Surgery. President, Dr. McClintock, LL. D., Dublin. Section VII, Diseases of Children. President, Dr. West. Section VIII, Mental Diseases. President, Dr. Lockhart Robertson. Section IX, Ophthalmology. President, William Bowman, Esq., F. R. S. Section X, Diseases of the Ear. President, William B. Dalby, Esq., Section XI, Diseases of the Skin. President, Erasmus Wilson, Esq., F. R. S. Section XII, Diseases of the Teeth. President, Edwin Saunders, Esq. Section XIII, State Medicine. President, John Simon, Esq., C. B., F. R. S. Section XIV, Military Surgery and Medicine. President, Surgeon-General Professor Longmore, C. B. Section XV, Materia Medica and Pharmacology. President, Professor T. R. Fraser, M. D., F. R. S., Edinburgh. Museum of Scientific Apparatus and Materia Medica. Museum Committee, Jonathan Hutchinson, Esq., chairman. Reception Committee, Prescott Hewett, Esq., chairman. Executive Committee, Dr. Hison Bennett, LL. D., F. R. S., President Royal College of Physicians, London, Chairman.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JULY 24, 1880, TO JULY 10, 1880.

FRYER, B. F., major and surgeon. Granted leave of absence for twenty days. S. O. 161, Department of the Missouri, July 26, 1880.

WEBSTER, WARREN, major and surgeon. His leave of absence extended one month, provided he furnishes satisfactory medical attendance during his absence. S. O. 124, Department of the East, July 27, 1880.

KING, WILLIAM H., captain and assistant surgeon. Granted leave of absence for one month, with permission to apply for an extension of three months, on surgeon's certificate of disability. S. O. 87, Department of Dakota, July 21, 1880.

COMEGYS, E. T., captain and assistant surgeon. So much of S. O. 135, C. S., from these head-quarters, granting him leave of absence on surgeon's certificate of disability is revoked. S. O. 144, Department of Texas, July 19, 1880.

BENHAM, R. B., first lieutenant and assistant surgeon. Having reported at these head-quarters, is assigned to duty (temporary) at Fort Snelling, Minn. S. O. 87, C. S., Department of Dakota.

GONGAS, W. C., first lieutenant and assistant surgeon. To report to the commanding officer, Fort Clark, Texas, for duty. S. O. 147, Department of Texas, July 23, 1880.

ERRATUM.—In our issue of July 29, 1880, the date of the Mortality Table should have been July 17, 1880, instead of July 23, 1880.

BOOKS AND PAMPHLETS RECEIVED.—The Nature and Treatment of Syphilis and the other So-Called Contagious Diseases. By Charles Robert Drysdale, M. D. Fourth Edition. London: Baillière, Tindall and Cox. 1880.

Library of Standard Medical Authors. Treatise on Therapeutics. Translated by D. F. Lincoln, M. D., from the French of A. Trousseau and H. Ridoux. Ninth Edition, revised and enlarged, with the assistance of Constantine Paul. Vol. II. New York: William Wood & Co. 1880.

Transactions of the American Dermatological Association, with the President's Address at the Third Annual Meeting, August, 1879. New York. 1880.

Fracture of the Patella. A Study of One Hundred and Twenty-Seven Cases. By Frank H. Hamilton, M. D., LL. D. New York: Charles S. Berningham & Co. 1880. Pp. 106.

Optico-Ciliary Neurotomy. By Julian J. Chisolm, M. D. Baltimore. (Transactions of the Medical and Chirurgical Faculty of the State of Maryland. 1880.)

Transactions of the Medical and Chirurgical Faculty of the State of Maryland. Eighty-Second Annual Session, held at Baltimore, Md., April, 1880.

By-Laws of the Middlesex North District Medical Society, adopted April 26, 1880. With a List of Fellows and Code of Ethics. Organized 1844. Lowell, Mass. 1880. George C. Osgood, M. D., Secretary.

The Ship Origin of Yellow Fever, with Comments on the Preliminary Report of the Havana Yellow Fever Commission. By Robert B. S. Hargis, M. D. (Reprint.)

Diagnosis of the Posture of the Child in Utero by Palpation. By James O. Whitney, M. D.

Practical Hints relating to Yellow Fever Prevention. By Robert B. S. Hargis, M. D. (Reprint.)

The North American Review for August. New York: D. Appleton & Co.

Original Articles.

BACTERIA, AND THEIR RELATIONS TO DISEASE.¹

BY WILLIAM F. WHITNEY, M. D., OF BOSTON.

RECURRENT FEVER.

ANOTHER disease with which bacteria are shown to be most intimately connected is recurrent fever, a type not often seen in this part of the world, but common at times in Europe. The symptoms are those of an irregularly intermitting fever, occurring epidemically, and not yielding to quinine.

In 1873 Obermeyer (one of the assistants in the Pathological Institute in Berlin) published an account of a peculiar body which he had constantly found in the blood of persons affected with the disease, and which bore a close resemblance to the spirochete found by Cohn in the tartar of the teeth. Since then its existence has so often been demonstrated by different observers as to be no longer a question of doubt, and it has been called, in honor of its discoverer, *Spirochete Obermeyerii*.

The natural history of this parasite is not as well known as that of the bacillus last described. So far all attempts to reproduce the disease by inoculating animals have failed, and no opportunity has yet occurred for reproducing it upon men in this manner. The threads are found in the blood just before and during the paroxysm, and disappear completely during the apyretic stage. If they are found during this stage, as has been affirmed by some observers, they are few in number, and, according to one of the latest observers, their presence is always accompanied by a rise of temperature of a slight degree.

Cultivated in blood or other breeding fluids outside of the body, the threads go on to a certain degree of development, but never to the formation of recognizable spores, although their existence is rendered probable by the course of the disease. Experiments in regard to their capability of withstanding different degrees of temperature show that if two examples are taken from the same patient at the same time the threads are destroyed sooner by a fever temperature than by the normal temperature of the body; and, further, that specimens taken from the same patient at different periods of the attack had different capability of living when exposed to the same conditions. From this the conclusion is justified that the spirochete are destroyed by the fever which they cause (as they disappear half an hour before the crisis), leaving behind them either spores or a very few threads, which when sufficiently developed give rise to the fever, which again destroys them. They have never been observed in the blood of patients suffering from other diseases.

In the two diseases just described, the bacteria found associated with them had well-marked characteristic forms, easily recognized by ordinary methods. In the diseases now to be described this characteristic is wanting, and peculiar methods of microscopic investigation have to be used in order to demonstrate their existence.

The work of Robert Koch, published in 1878, under the title *Die Wundinfektionskrankheiten* (Diseases caused by Wound Infection), is that in which the best

methods and experiments are recorded, and it will repay a careful abstract, as it must be considered a standard by which to judge work done in this field. He experimented in the production of diseases collected under the heads of septicæmia and pyæmia in local abscess formation and gangrene. Let it be here stated that under septicæmia are comprised all cases of general wound infection in which there are no metastatic changes, and under pyæmia those in which metastatic abscesses occur.

SEPTICÆMIA IN MICE.

The first series of experiments show the dependence of septicæmia in mice upon a very minute form of bacillus.

Injections of putrefying substances, for example, blood, or an infusion of meat made under the skin of a mouse, gave results varying according to the state and quantity of the fluid used. That which had been putrefying a long time was found less virulent. Five drops of a recently putrefied fluid produced symptoms noticeable at once. The mouse runs about less, shows great weakness and uncertainty in all his movements, does not eat, the respirations become finally irregular and slower, and death occurs in from four to eight hours.

In such an animal the greater part of the injected substance is found in the subcutaneous tissue, containing the same number of bacteria of different forms as before injection. There is no reaction in the neighborhood of the seat of puncture, and the internal organs are unchanged, nor are there any bacteria found in them or in the blood. If the blood is taken from the right heart and injected into a second mouse, he is not in the least affected by it.

The first animal has been killed by intoxication due to the poison contained in the putrefying substance, which has been isolated by Panum, Bergmann, and others under the name of *sepsin*. This has a working analogous to morphia, strychnia, or other poisonous alkaloid, and is in no way to be considered infectious. If, however, a less dose, for example, one to two drops, be injected, either the animals recover entirely, or a different train of symptoms will appear, due to an entirely different cause.

The first symptom of the disease consists in an increased secretion of the conjunctiva. The eye appears cloudy, and a white mucus collects, finally gluing the eyes together. At the same time the animal shows signs of weariness; it moves little and slowly; sits for the greater part of the time with its back bent and extremities closely pressed together. It then stops eating, the respiration becomes slower, the weakness increases more and more, and death occurs, almost unnoticed, in from forty to sixty hours after the inoculation. At the autopsy the internal organs are found unchanged, with the exception of the spleen, which is greatly swollen and very soft. A slight oedema of the subcutaneous tissue at the point of injection is often found. If a small quantity of blood from the heart of this mouse, say one tenth of a drop, be injected into a second mouse, this also dies with the same symptoms at the end of the same time. From this a third can be killed, and so on. Koch carried it through a series of fifty. This disease, then, is infectious, and bears so close a resemblance, in its course and anatomical appearances, to that known as septicæmia in men as to justify the name.

¹ Concluded from page 127.

If this process is due to bacteria, they must be present in enormous numbers in the blood and tissues, since such a very minute quantity is able to reproduce the disease.

At first Kock was unable to detect them, but at last by the following method was able to demonstrate their presence: The smallest possible quantity of blood is taken on the point of a scalpel and spread out to the thinnest possible layer on the covering glass of a microscopic slide, and allowed to dry thoroughly, well protected from dust. A few drops of a solution of aniline blue (a concentrated solution of BBBBB methyl violet is made in spirit, and a few drops of this are added to fifteen to twenty grammes of distilled water) are allowed to fall on the cover glass holding the blood, and the glass is tipped about for a few minutes until the bacteria and cells are colored, but the ground substance is left clear. It can then be examined in a solution of acetate of potash (one to ten), or in Canada balsam after thoroughly drying.

By coloring the drop of blood in this manner and examining it with a Zeiss one to twelve oil immersion lens, illuminated by Abbe's condenser, he found in every case large quantities of small bacilli. These bacilli lie scattered among the red blood corpuscles singly or in groups. They have a length of about 0.8 to 1.0 mikrom., and their thickness is estimated at about 0.1 to 0.2 mikrom. Two of these bacilli are seen hanging together in a straight line, or forming an obtuse angle. Chains of four occur, but are seldom. At first appearance these bacilli look very much like acicular crystals, but by breeding they increase and form themselves into thick heaps. Their relation to the white blood corpuscles is also remarkable. They work into the interior and increase there: in some cases only a few are to be seen, and in others the corpuscles with the exception of the nuclei are filled; then again the nucleus of the cell is not to be seen, and finally all that is left is a little clump of bacilli.

The way in which the bacilli penetrate the organism is easily followed. From the point of inoculation they pass through the walls of the vessels by the holes through which the blood corpuscles have passed out. They are not found in the lymph paths, but can be followed for a long distance in the subcutaneous cellular tissue. In the small veins of the diaphragm, for example, they are seen, and, when free, with their long axis always in the direction of the current. In the capillaries the bacilli are crowded together at the points of division, but they do not give rise to complete occlusion of the vessel.

Sections of the various tissues show everywhere vessels with the bacilli lying in them and in the interior of the white corpuscles. They are not particularly accumulated in the spleen.

The entire process has the closest analogy with that of splenic gangrene. In both diseases is the capability of infection dependent upon the presence of the bacilli in the blood, and as soon as these fail the disease is not communicated. Both diseases are also characterized by the development of countless bacilli. There can therefore be but little doubt that the bacilli here described for septicæmia play the same roll as do the bacillus anthracis in gangrene of the spleen.

As gangrene of the spleen is without effect upon certain animals, so it was found that rabbits and field mice (the only other animals used by Kock) were not infected by the blood from infected house mice.

In cases of septicæmia in men, the presence of bacteria in the blood has been seen by only a few observers.

PROGRESSIVE NECROSIS OF TISSUE (GANGRENE) IN MICE.

After inoculating some of the mice with putrefying fluid as described, it was found that an extensive local necrosis of the tissue also occurred, accompanied by a rapidly growing micrococci form, which was not to be found in the blood. As the animals suffered from septicæmia at the same time, it might be urged that the gangrene was dependent upon that disease. In order to eliminate this, a little fluid from the neighborhood of one of these gangrenous spots was injected into a field mouse, which it will be remembered was incapable of infection from septicæmia. On this the gangrenous process alone developed itself, and could thence be reproduced in an ordinary house mouse without the symptoms of septicæmia.

The process can be readily followed, if the ear of a mouse is chosen for inoculation. Thin sections through one of these places show masses of micrococci on the boundary between the living and dead tissues; then comes a mass of nucleated cells, much degenerated on the side nearest to the micrococci, from which they are, however, separated by a clear, narrow zone. This mass of nuclei appears to form a wall against the invading micrococci, which are never found beyond it even in the vessels.

From this Kock concludes that the micrococci vegetate in the tissue, and exude or secrete a soluble substance, which is diffused into the neighborhood, and has such a deleterious influence on the adjoining cells that they are killed and finally go to pieces. Further from the micrococci the working is less intense, and only calls forth a reactive inflammation with production of nuclei forming the wall.

PROGRESSIVE ABSCESS FORMATION IN RABBITS.

As before mentioned, rabbits are incapable of septic infection, but frequently, after the subcutaneous injection of putrefying fluids, a wide-extended abscess developed itself. The changes observed are as follows: At the point of injection a flat lenticular infiltration first appears, which extends in all directions after several days. At the same time the animals become thin and weak, and die in from twelve to fifteen days. The post-mortem examination showed a flat abscess of the subcutaneous connective tissue, having little recesses connecting with each other. The only other change noticed besides the extreme emaciation was an increase in the number of white blood corpuscles, which, however, contained no bacteria, nor were any found in the blood. The contents of the abscess consisted of a molecular detritus not colored by aniline blue. Thin sections of the wall of the abscess, mounted and examined in the way above mentioned, show a narrow zone of the finest micrococci lying on the periphery of the abscess next to the sound tissue. In the connective corpuscles are seen here and there masses of micrococci, apparently acting as advance guards of the process. The cheesy material, from the centre of the abscess, when mixed with water and injected into another rabbit, produced similar results, with death, within the same time. This material probably contained the spores.

PYÆMIA IN RABBITS.

Although putrefying blood did not produce any symptoms of general infection when inoculated into rabbits, it was found that putrefying flesh gave rise to well-marked and characteristic changes. The animal remained apparently unaffected for two days, then began to eat less, and died at the end of one hundred hours, with symptoms of general weakness. At the autopsy there was found a purulent (not cheesy) infiltration in the subcutaneous tissue for a long distance from the point of injection, a general peritonitis, the spleen soft and greatly swollen, and in the lungs and liver gray, wedge-shaped spots. In the other organs there was no noticeable change. The microscope showed everywhere in the body, especially in the places showing pathological changes to the unaided eye, micrococci in great numbers. These were either single or bound together by twos, and had an estimated diameter of 0.25 micron. (that is, midway in size between the chain micrococci of the progressive tissue necrosis and the zoöglæa masses of the cheesy abscess of rabbits). These micrococci also formed colonies on the walls of the vessels, and apparently had the power of entangling the red corpuscles by a glue-like substance, and eventually causing a thrombosis of the vessel. In the metastatic deposits were found extensive micrococci vegetations, not alone confined to the vessels, but infiltrated into the neighboring tissues. Blood from the heart contained micrococci, and was used for inoculation with perfect result. But the number of the bacteria, owing to their localization by thrombosis, by no means equalled the number found free in the blood of septicæmia or gangrene of the spleen, for a dilution of the blood in the proportion of one to one thousand rendered its working uncertain.

In human beings the impossibility of direct experimentation and the difficulty of obtaining autopsies sufficiently early to exclude all possibility of the production of the bacteria of putrefaction will always be a serious obstacle to so perfect and clear a proof, as has been furnished in the above experiments, of the dependence of some certain diseases upon the presence of micro-organisms. Much, however, goes to support this belief.

Rindfleisch was the first, in 1866, to call attention to the occurrence of bacteria in the metastatic abscesses in the muscles of the heart of a patient who had died from pyæmia. Recklinghausen and Waldeyer showed their occurrence in the smallest veins, glomeruli and tubules of the kidney, and in the alveoli of the lungs. In 1872 Vogt reported the occurrence of moving monads in the pus of a metastatic abscess during life. Birch Hirschfeld examined the condition of the wound in relation to the quantity of micrococci in the pus, and found the more numerous they were the worse was the condition of the wound and of the patient. He also found them present in the blood of the pyæmic, and that the quick course of the general affection corresponded to the number present in the blood. The exact method by which the bacteria found their way into the circulation was given by Klebs, who was the first really to attempt to bring the causal relation between bacteria and wound infection into prominence. Klebs called the micrococci and bacteria which he found in the pus of wounds by the name of *microsporon septicum*, and was enabled to follow the growth of the zoöglæa masses on granulations, surfaces of the joints, and serous membranes. The propagation of the

microsporon by the lymph paths could be followed with great certainty, and moreover their entrance into an eroded vein was observed in one case. Further, the elements of the microsporon were seen in the thrombi, formed behind the valves of the veins, and in the metastatic foci in the lungs and liver.

The occurrence of micrococci in the membrane of diphtheria of the throat has been confirmed an endless number of times. Their penetration into the nearest lymph-vessels, their further progress into the blood-vessels, and their occurrence in the liver, kidneys, muscles of the heart, and in other organs in the form of colonies, have been observed and confirmed. There is nothing distinctive in this from what is ordinarily seen in a case of pyæmia, and the experiments which have been made upon rabbits in this regard are by no means conclusive, as similar results could be obtained by inoculating any putrefying substance. Moreover, the membrane found on wounds in cases of so-called hospital gangrene is indistinguishable from that found on the throat. From all these circumstances one is forced to recognize the near relationship of diphtheria and pyæmia, if not their identity, and what is justified in one is justified in the other.

Exactly the same occurrence has been demonstrated in the case of so-called puerperal fever, which the greater part of observers on other grounds regard as pyæmia.

Bacteria have also been found in the blood of persons suffering from erysipelas. Orth found them in the bullæ of that disease, and by cultivation and inoculation reproduced a similar process in rabbits. Recklinghausen and Lukomsky showed that the lymph canals and spaces on the border of erysipelatous affections were filled with bacteria.

Cohn has shown the presence of sphæro-bacteria in the lymph of the vaccine vesicle, and by allowing the same to settle found that its efficacy stood in different proportion to the amount of micrococci it contained. In small-pox Weigert has proved the existence of micrococci in each pustule. Both of these results have been confirmed by other observers.

Since the publication of Kock's book other observers have followed his methods, and within six months investigations have been recorded which show that two other diseases are in all probability due to micro-organisms. One of these is malarial fever, which has been studied by Professors Klebs and Tomassi-Crudeli. They placed portions of the soil from the malarial districts in the neighborhood of Rome under conditions similar to those found during the so-called malarial season, and from these developed a bacillus, which when injected into the blood of rabbits produced a sort of intermittent fever, during the paroxysms of which the bacillus was found largely increased in the blood. The post-mortem examination showed a hyperplasia and often melanosis of the spleen, corresponding to what has been found in man, and totally different from the acute splenic tumor which occurs in septicæmia. Portions of the soil from other localities failed to produce the symptoms when treated in the same way.

The other of these diseases is leprosy. Dr. Hansen, of Bergen, in Norway, has examined the nodes in this disease, and has been able to find a minute bacillus, which is always present in sufficient numbers to account for the symptom. But he has failed as yet to discover the conditions of its life and development.

Such are the principal diseases to which bacteria

are referred as a cause. To these may perhaps be added ulcerative endocarditis, with or without affection of the joints, in which micrococci are found in the vegetations on the valves, and in the emboli produced by them; and cystitis and pyelo-nephritis resulting from the alkaline fermentation of the urine caused by a micrococcus.

In summing up, Kock says that the numerous occurrences of micro-organisms in cases of disease, and the experiments standing in close relation, make the parasitic nature of these diseases probable. Still a complete proof has not been given as yet, and can only be when it is possible to find the parasitic organisms in all cases of the disease, and, further, to show them in such quantity and distribution that all the appearances can be explained, and finally to demonstrate, for each separate disease, a morphologically well-characterized parasite.

In looking back it will be seen that gangrene of the spleen is the only one which as yet fulfills the conditions, although the diseases studied by Kock on animals very nearly do so.

And although in all of these, with one exception, so much remains to be proved, there are some who wish to refer simply analogous processes, as scarlet fever, measles, and the like, in which they have not been found, to the agency of bacteria; forgetting that there may be causes which we can as little recognize as could our forefathers the bacteria, which are everywhere around us.

And even admitting all to be proved as desired, it is not to be forgotten that it is *but the cause* which has been found, and the real changes which lie in the cell and constitute the essence of the disease are as far off as ever.

THE COLLECTION OF DATA AT AUTOPSIES.¹

BY H. F. BOWDITCH, M. D.

The records of autopsies, as ordinarily conducted for the purpose of ascertaining the cause or the seat of a fatal disease, contain as a rule little or no exact information in regard to the size of the different viscera, unless they vary from the normal standard sufficiently to attract attention.

The so-called normal standard of weight has been established for the most important viscera by the researches of Reid, Clendinning, Peacock, and others, but there is still a great lack of precision in our knowledge of the limits of normal variation of the various organs, and of the relation of the size of these organs to the height and weight of the individual.

Imperfect as is our knowledge of the size of the organs in an adult, our information in regard to the viscera of growing children is still more fragmentary. With the exception of the heart and perhaps of the liver, there is scarcely an organ whose rate of growth has been even approximately determined, and yet without this knowledge it is impossible fully to utilize the data obtained at the autopsies of children.

It is, moreover, possible that variations in the size of organs, even within what are usually considered normal limits, may so affect the relations of the different parts of the organism to each other as to produce tendencies and predispositions capable of exercising a pro-

found influence upon the life of the individual. The well-known power possessed by the various organs of the body to adapt themselves to the demands made upon them (for example, the hypertrophy of one kidney after the destruction of its fellow) will of course tend to restore the equilibrium of the organism, but it is by no means proved that the power of adaptation is in all cases so perfect as completely to neutralize the effect of marked anatomical variations.

Led by considerations similar to those above presented, and with a view to determining how far the various diatheses recognized by authors can be explained by anatomical peculiarities of the organism, Professor Beneke, of Warburg, has recently published the results of an investigation into the absolute and relative size of various important organs at different periods of life and in connection with different morbid tendencies.² In researches of this kind conclusions are valuable chiefly in proportion to the number of observations on which they are based, and the data at Professor Beneke's disposal were in many cases so scanty that, as he himself admits, further investigations are needed to confirm his conclusions. At the same time many of the facts which he has brought to light are so interesting and so suggestive that it seems desirable to call the attention of this society to the matter, in the hope that a discussion of the subject may lead to an organized effort on the part of the members to add to the data from which conclusions may be drawn in this most instructive field of study.

Some of the most important of Professor Beneke's results may be briefly stated as follows:—

(1.) Before the period of puberty the aorta is larger than the pulmonary artery; after this period the relation is reversed.

(2.) The aorta and pulmonary artery are smaller in the female than in the male, even at those ages at which the size of the body is greater in the female sex.

(3.) In adult males the volume of the lungs is greater than that of the liver. In adult females the reverse is the case.

(4.) In men the volume of the two kidneys is less than that of the heart; in women it is greater.

(5.) Children have a relatively larger intestinal canal than adults.

(6.) A sudden increase in the size of the heart occurs at the period of puberty.

(7.) The iliac arteries diminish in size during the first three months of life.

(8.) The cancerous diathesis is associated with a large and powerful heart, capacious arteries, but a relatively small pulmonary artery, small lungs, well-developed bones and muscles, and tolerably abundant adipose tissue.

(9.) Pulmonary tuberculosis is often associated with an unusually small heart.

(10.) In rickets the heart is large and well developed.

Some of these results are in accordance with well-established physiological facts; others are somewhat unexpected. Before any discussion of Professor Beneke's conclusions can be profitably undertaken, it is impor-

² Die anatomischen Grundlagen der Constitutionsanomalien des Menschen, Marburg, 1878. Die Altersdisposition, Marburg, 1879. Ueber die Volumen des Herzens, Cassel, 1879. Ueber die Weite der Aorta thoracica und Aorta abdominalis, Cassel, 1879. Ueber die Weite der Hlaca communes, Subclavia und Carotides communes, Cassel, 1879.

¹ Read at the October meeting of the Massachusetts Medico-Legal Society, 1879.

tant that they should be confirmed or modified by a more extended series of observations, and it is in collecting and recording data of this sort that the members of this society have it in their power to contribute very efficiently to the solution of an important class of scientific questions. The measurement of organs need not be very laborious. The size of arteries is determined by opening them on one side, flattening them out, and applying a millimetre scale transversely to their inner surface. The volume of organs is, according to Professor Bencke, a more important point to be determined than the weight, since in many pathological conditions (for example, fatty degeneration) it gives a truer measure of the change produced by the disease. The volume of an organ is readily ascertained by plunging it into a vessel completely filled with water, and measuring the water which overflows in a graduated glass. Where it is possible to do so it is desirable to ascertain both the weight and the volume of the various organs, for from these data the specific gravity may be calculated.

It is of course important to follow definite rules in regard to the separation of organs from the body, the selection of points for measurement, etc. These matters are very fully discussed by Professor Bencke in the above-mentioned essays, and future workers in this field cannot probably do better than adopt his carefully elaborated methods.

The direction in which the work of such a society as this can most profitably be exerted is probably that of securing as large a number as possible of observations on the size of the healthy organs at different ages. Cases of sudden death by violence or accident afford admirable opportunities for the collection of data of this sort, and if each member of the society were to make but one such carefully conducted autopsy in each year there would soon be collected a body of statistics which would form an important contribution to our knowledge of the above-mentioned questions.

DIPHTHERIA, AND THE RESULTING PARALYSIS.¹

BY ANDREW F. REED, M. D., OF HOLYOKE.

WE desire to call attention to the poison of diphtheria, and afterwards to some points relating to the origin and peculiarities of the resulting paralysis, which are lightly touched upon by English authors.

One of the theories of present interest in regard to the subject of diphtheria is that its origin may be in one poison common to several zymotic diseases, as scarlet fever, measles, typhoid and puerperal fevers, and others. Two or three years since there appeared in the *London Practitioner* a paper in which the author endeavored to show that zymotic diseases did not always breed true, but that the supposed various poisons of the different epidemic diseases uniting on one subject might generate a disease partaking in part of the character of each of the original diseases.

As examples of this hybrid action are cited enteric fever modified by malaria, the simultaneous eruption of measles and scarlet fever on the same subject, and the various gradations of simple anginas usually preceding and accompanying diphtheria when epidemic. The general tenor of the paper indicates that the au-

thor's mind was turning in the direction of unity of poison, and prepared the way for others who have since expressed more positive opinions. In June, 1879, Dr. Griffiths published a paper in the *Obstetrical Journal* showing the unity of origin and virus in this class of diseases. This doctrine of identity of poison and differentiation of resulting phenomena is borne out, he says, by therapeutical and clinical facts; for example, the entirely different action of iodide of potassium, ipecac, opium, and mercury in different persons, and different methods of administration. Also in the vegetable kingdom the same analogy exists, and from the same soil poisonous plants develop, side by side, with those most innocuous. Thus there is no outrage against nature or its laws. Frequently, directly after a case of puerperal fever, will appear, in the family or among the attendants, erysipelas, diphtheria, scarlet fever, or sore throat, which is to be explained by exposure to one poison, whereby all are simultaneously affected, which Dr. Griffiths thinks is generated, not auto-genetically in the mother in the first place, but is hetero-genetic in all. We have noticed several instances which go to prove the correctness of this doctrine of unity.

During a complete absence of scarlet fever from the vicinity, after contact with a severe case of erysipelas following an injury, a boy of eight years was attacked with vomiting, headache, high fever, redness and swelling of the fauces, followed by the characteristic eruption of scarlet fever, and after convalescence by complete desquamation including the palms of the hands and the soles of the feet. There was no probability of other exposure, and as far as one case can show anything the connection between the two cases was very closely evident. Hospital sore throat, so frequent among house surgeons exposed to erysipelatous wounds and hospital air, is another instance of the possible unity of poison with a differentiation of symptoms.

For several years in our vicinity diphtheria has been epidemic, and a large number of cases have yearly occurred until the spring of 1879. During this period there has been no epidemic of other contagious diseases, sporadic cases of scarlet fever, measles, whooping-cough, etc., occasionally appearing. For the last twelve months scarlet fever has been epidemic, and during the latter part of the time measles to an unusual degree. The disappearance of diphtheria signaled the appearance of the epidemic of scarlet fever, and during its continuance there has been an almost complete absence of the former. When the scarlet fever began to decline, measles were very prevalent, and on its ceasing to become epidemic cases of diphtheria more frequently appeared. It seems allowable to suppose that the general conditions favoring the presence of diphtheria were the same as for a long period, and, in point of fact, the sanitary condition of the vicinity was more favorable to its continuance, owing to overcrowding of tenement blocks, as also to conclude that the poison simply presented different manifestations or symptoms. The reasons for this view may not be clearly demonstrable as yet, but the clinical evidence renders inquiry in this direction pertinent.

During the epidemic referred to, we saw several cases which bear upon the subject. In three such the eruption of scarlet fever covered the body, while the arms were covered with the blotches of measles, the tendency of which to arrange themselves in the form of a crescent was very noticeable, illustrating unity of

¹ Read at the annual meeting of the Massachusetts Medical Society, June 8, 1880, and recommended for publication by the society.

poison and the existence of the two diseases simultaneously, — which is admitted to be possible, — or the hybrid nature of the disease. We claim that there is as much reason for believing the result to be due to one poison as that the two coexisted.

In March of the present year, we saw two children of the same family, one two and one four years old, who were never out of each other's sight, and who were exposed to the same conditions in every respect. The younger was attacked with the usual symptoms of diphtheria, with extensive diphtheritic exudation, covering both tonsils and the posterior wall of the pharynx, which came off in shreds after four days. There was no redness of the skin at any time. The elder followed in a few hours with scarlet fever, the eruption appearing on the second day. There were redness of the fauces and swelling, but no exudation. In another instance, in a block exposed to the effluvia of an overflowing vault, typhoid fever and diphtheria appeared in close conjunction. Mention is made in the *British Medical Journal* of cases showing the same unity, and with more than ordinary proof of their illustrative force, as they occurred in an isolated place. Previous to the outbreak no cases of typhoid fever or diphtheria had occurred for a long time; suddenly, within a week ten cases of typhoid fever and six cases of diphtheria appeared. This took place in a small mining village, and in the houses built on the lowest ground. The ground was covered with a few inches of snow for weeks, during which time sewage of all kinds was thrown out-of-doors, to be covered by the snow. After a sudden thaw, exposing this filth, the outbreak occurred.

Cases like these have been noticed in sufficient numbers to warrant the assumption that the origin is in one virus. During an outbreak of diphtheria every variety and degree of severity of sore throat usually accompanies it, often covering a large territory in a very short time, precluding the possibility of personal infection in all cases, which indicates that diphtheria may originate from filth or other causes, without a virus which will produce only a single specific disease.

While in any particular instance it may be hard to prove the failure of contact with a specific poison, the cases mentioned, the number of which might be increased from various sources, show collectively the possibility of an interchange of symptoms with one septic poison. If the origin of these various diseases may be in one poison, the practical value of such elimination of causes shows itself in the adoption of less variety of treatment in the diseases as now classified, and lack of confusion as to what should be accomplished by the aid of medicine. Again, the disappearance of diphtheria endemic for years, and the substitution of scarlet fever, in a compact city where contact with a specific poison must be of daily occurrence, is a weighty argument in favor of such unity, and overbalances the objection brought forward in individual cases of possible exposure to a specific virus. Thus we regard it as by no means settled that such special germs are necessary to produce each so-called specific disease.

PARALYSIS.

Although paralysis as a sequel of diphtheria was noticed in the last century, no accurate representations of its course and frequency were attempted until 1864 by Maingault.

The observations of the various pathologists and

clinicians who have written on the subject of the origin of diphtheritic paralysis at the outset are of interest, inasmuch as little has been given in English, and also as clinical facts may lead to their modification. It was first thought to be due to changes in the functions of the muscular fibres in the region of the pharynx, caused by the previous inflammation there. This does not explain how the paralysis extends to parts not primarily affected. This extension in such case would be due to a sympathetic connection with the throat. Von Graefe thinks diphtheritic paralysis arises not from the diphtheritic processes as such, but proceeds from the localization in the throat and the extension of the irritation to the sympathetic, this irritation of the sensitive nerve fibres being induced by an abnormal activity of the vessels in the neighborhood of the affected parts. The objection to locating the origin of the paralysis in the primary disease of the throat is that while in mild cases of angina the paralysis appears there first, in other severe cases it may be wanting, and attacks the muscles in other parts of the body.

An instance of this is mentioned by Dr. J. J. Putnam, in a paper to which I am permitted to refer, and we have seen one among the cases we have collected. The occurrence of paralysis after infection from an abrasion of the finger, as happened in one case, is also opposed to this view. Seitz mentions a similar case from inoculation of the arm during an epidemic: in six weeks there was paralysis of the palate and extremities, resulting fatally in fourteen days. There was no throat disease. Brétonneau considered the primary local paralysis due to the localization of the diphtheria in the pharynx, and the general paralysis to chronic blood poisoning. It has also been supposed that the tendency to the formation of emboli in the arteries is due to the altered conditions of the blood, and that the nerves in the vicinity, thereby deprived of their proper nourishment, become paralyzed. Post-mortem examinations, however, have not shown obstruction of vessels to be as regularly found as the frequency of paralysis would indicate to be necessary to prove such origin of the disease.

The anemia which follows diphtheria is common to many other diseases not followed by paralysis, which militates against the views of Brétonneau and Trouseau, that blood poisoning is the cause of the paralysis. The nervous system presents a more promising field for the explanation desired. Some look to the central, others to the peripheral, nervous system; for example, the paralysis was supposed to be due to an exudation in certain parts of the nervous system. Gubler attributed it to peripheral changes independent of the nerve centres. This view is commonly accepted by German and English writers. Weber accepts the theory that the localization of the diphtheria in the throat arises from an affection of the nerves in the part seized, extending through the nerves to the cord, as in traumatic tetanus. This change was a degenerative process extending to the cord, according to Senator. Charcot and Vulpian found the structure of the nerves changed, a granular degeneration in the medullary cylinder of the same; also fatty granular cells were scattered between the sheath and the nerve fibres. Oertel saw a similar lesion in two cases of septic diphtheria.

Extended hemorrhages have been observed in the meninges of the brain, also in the medullary substance, in the medulla oblongata and spinal cord; and it has been further observed that hemorrhages at the point

of union of the anterior and posterior roots of the spinal nerves had caused increased volume of the nerve substance, with discoloration and softening. Microscopic examination at the point of union showed similar changes to those in the nerve sheaths of the other parts of the body, as the throat and respiratory organs. Oertel also saw in the gray substance of the cord a large thrombus and many microscopic hemorrhages, particularly in the anterior horns. On the ciliary epithelium of the central canal he found a collection of cells which quite filled the passage and extended through its whole extent. Beneath the epithelium lay an infiltration which had broken through the neighboring tissues. Seitz states, in his treatise on diphtheria, that through the changes found in the nerve centres and their membranes it is possible to explain the disturbance of the nervous system and the widespread paralysis; also that the varying extent and degree of the paralysis undoubtedly proceeds from the original local manifestation of the disease in the throat, extending to the nerve centres; the proofs being the primary appearance of the disease in the muscles of the palate and pharynx, and subsequent progress to other parts, also the preponderance of the motor paralysis about the surface of the diphtheritic exudation. The great frequency of paralysis in the throat when there was no general paralysis is commonly noticed, and would seem to bear strongly in favor of this view. The extension of the paralysis may be explained in the same way as the extension of an inflammatory affection of the nerves in their substance. According to Quain, the nerves of the soft palate and epiglottis for the most part belong to the pharyngeal plexus, which is composed of three or four branches of the glosso-pharyngeal, with branches from the pneumogastric and sympathetic. Along these nerves and the connective tissue which surrounds them the lesion can progress above to the carotid plexus and ciliary ganglion, and below to the cardiac, and along the vagus to the spinal accessory, thence to the spinal ganglia and cord. The intense hyperaesthesia observed in several cases of diphtheritic paralysis by Greenhow, and the prominence of painful spots in the course of the nerves, lead him to look for the cause in an inflammatory process in the nerves, and he cites a case where he could observe a neuritis of the optic nerve. Dr. J. J. Putnam thinks that, as is the case with the metallic poisons, the nerve centres react differently towards the various morbid conditions of the blood induced by disease.

The question arises what the relation is between the diphtheria and the paralysis; whether it is specific in its nature, or similar to that which exists after other diseases which impoverish the blood.

After the publication of cases of diphtheritic paralysis, paralysees were also observed after simple angina, typhoid fever, and other diseases. Within a year we have observed a case of paralysis after measles in a strumous child of nine years, who had previously been attended for scarlet fever. Diphtheria with paralysis of the throat lasting for six weeks was followed in May, 1879, by measles with paralysis of the larynx, dimness of vision, and dysphagia, lasting five weeks. If, as we believe, there is a unity of poison, the arguments in favor of a specific relation to that poison would have more force, although altered nutrition might be the cause in all of them.

The proportion of cases of paralysis probably varies

with different epidemics, and the statistics are undoubtedly varied by the class of patients from which they are drawn. In private practice the percentage is larger, owing to the greater mental development of the better class of patients, and the greater strain to which their nervous systems are subjected. In 1871, M. Mansard collected reports of 1017 cases of diphtheria in which the results were noticed. Paralysis occurred in 111 cases, or ten per cent. In our vicinity, during a long period in which the disease was endemic, and with several hundreds of cases, very few were followed by paralysis, the whole number being not more than five per cent. One physician in another city, with an average of thirty cases yearly for several years, has not seen a single case. From six to ten per cent. is probably a fair average.

Other disturbances of the sensitive and motor nerves sometimes occur, and may be noticed in this connection. Convulsive movements of the head, which is turned from side to side, although the mind is clear, are mentioned by Seitz; also spasm of the respiratory muscles, in one case of which respiration seemed to stop. In one boy with paralysis of the larynx, a spasmodic coryza occurred every morning, lasting ten minutes, with constant sneezing and flow of mucus. Mental disease is rare. In one case, in a girl of fourteen, with paralysis of the face, the brain was disturbed, and temporary idiocy resulted.

Dr. Earle mentions a case in a woman of mental exaltation, with disturbance of ideas and want of coördination, which ended unfavorably. In another, with general progressive paralysis, there was permanent mental disturbance and imbecility. Seitz noticed mental disease three weeks after paralysis of the throat in a boy of fifteen. This case was relieved by ice and nourishment.

Disease of the vagus may accompany these paralysees, with vomiting, and irregularity, weakness, and slowness of the heart's action. Six times out of thirty-nine cases reported by Weber, the pulse fell to sixteen a minute, with fainting, etc. Paralysis appears much oftener after diphtheria than after other acute diseases. In 1860, See published one hundred and fifty cases, while Gubler found only thirty-three cases after all other acute diseases. Seitz found but three after a large number of cases of typhoid, and then only after long and severe attacks.

Fortunately the large majority of cases recover, and that too without much aid from medical science. In thirty cases of Seitz's, twenty-eight recovered, of which seventeen were children, three youth, and ten adults. Age seemed to have no influence on the duration, and little as regards recovery. In seven, paresis of accommodation remained. In three cases of a low grade it lasted longer than when the paralysis was more complete. In ninety cases of Maingault's twelve died, and nine out of seventy-seven mentioned by Reynolds. In some of these fatty degeneration of the heart, liver, and kidneys was found.

Oertel gives the per cent. of mortality as from eight to ten. Of the twelve cases which we have collected, one died from inanition, the power of swallowing being gone, and no effort having been made to nourish the patient by a stomach tube or by rectal alimentation. According to Stetzel, death is usually due to some intercurrent disease, as bronchitis or pneumonia, or the effects of foreign bodies in the bronchial tubes, owing to accidents in efforts of swallowing.

We have collected twelve cases of diphtheritic paralysis, two of which we saw, and which represented about six per cent. of the whole number of cases. Five were in children, the remainder adults. Of the adult cases, five were persons of sedentary habits, whose occupation was mental. Three were teachers, one a manufacturer, and one a professional man. In the latter there was some tendency towards paralysis, his father having had incomplete paralysis after typhoid, at the age of fifty-one, which was permanent. In this case, with general paralysis of the limbs, etc., the duration was three months. In one case of a child of three years, permanent paralysis of the internal rectus of one eye resulted, and in one adult paresis of accommodation to some extent. In one case there was no affection of the fauces after the paralysis appeared in the extremities. In the adult male cases, it was noticed that the sexual organs were the last to be affected, and the first to recover their functions. The digestive organs in these cases performed their functions in a generally satisfactory manner, and a good amount of nourishment was taken and digested, which in the main constituted the treatment.

Recovery in these cases took place in from three weeks in one child, to nine months in a woman of forty. The fatal case has been referred to. Death took place in twelve weeks from the invasion of the paralysis. It is unfortunate that no effort was made to administer nourishment through a stomach tube, which has been successfully done in several instances. In two cases, after recovery severe lancinating pains in the joints and feet persisted for two or three months, and have been troublesome at intervals since. We were impressed with the probability that those whose nervous powers were most heavily taxed were more liable to this sequel than the laboring class. Our cases seem to show this as far as they go, and it is also likely that in some a predisposition to paralytic disease renders the patients more susceptible. Recovery was apparently aided by the administration of strychnine, and the faradic current applied after no new sets of muscles were invaded.

THE FORAMINA OF MONRO: SOME QUESTIONS OF ANATOMICAL HISTORY.

BY BURT G. WILDER, M. D.

THE foramina of Monro may be provisionally defined as a pair of lateral orifices which form the sole channels of communication between the lativentriculi and the cephalic division of the mediventricles.

This definition is provisional in respect to terms rather than facts. It may be easily demonstrated, upon an uninjured brain, that the only exit from either lativentricle — other than into the corresponding olfactory ventricle — is by an opening through its mesial wall into the cephalic (anterior) part of the mediventricle (third ventricle); but there is room for a difference of opinion as to, first, the desirability of distinguishing, by the name *aula*¹ or otherwise, this prethalamie space from the interthalamie part, or third ventricle proper; and, second, as to whether the name foramen of Monro shall be applied to the whole extent of the passage between the two lativentricles, including the vertical pas-

sage sometimes called "vulva cerebri," or be restricted to the lateral orifices of this space.

The former question must be decided mainly by reference to the facts of embryology and comparative anatomy. In considering the latter it would be well for us to know, first, what was described by Monro; second, what was intended by the anatomist who first used the term; third, what is sanctioned by modern usage.

Taking the points in the reverse order, it must be admitted that upon the third the evidence is conflicting. In some cases the author's meaning is not made clear, but, so far as I have been able to learn, two foramina are specified by Durling and Ranney² (444), Duglison (431, 1095), Foster and Laughey (224), Gray (468), Hirschfeld (50), Huguenin (4, 67, 73), Hyrtl (441), Mihalkovics (118), Milne-Edwards (xi, 304), Morrell (174), Reichert (15, 26, 52), Robin et Littré (1633), and Vicq D'Azyr (9, 17). It is distinctly mentioned as a single passage with two lateral orifices, and sometimes a median ventral orifice, by Charles Bell (ii, 428), Cuvier (111, 369), Chauveau (730), Mivart (120), Todd (676), Quain and Wilson (iii, plate 7), and Quain, Sharpey, Thomson, and Schäfer (ii, 541).

As to the second point, I have been unable to ascertain by whom the phrase "foramen of Monro" was first employed, and hope to learn through some one more familiar with the works of the older anatomists.

The original descriptions which gave rise to the name are undoubtedly contained in a work by Alexander Monro, published in 1783, and entitled *Observations on the Structure and Functions of the Nervous System*.³ The evidence for this view is both internal and external.

In the chapter Of the Communication of the Ventricles of the Encephalon with each other, as described by other Authors, numerous citations and quotations are given to show the imperfection of previous descriptions. The author claims (page 16, note) to have "read to the Philosophical Society of Edinburgh, in 1764, December 13th, a paper On the Communication of the Ventricles of the Brain with each other," etc. He also claims to have been in the habit of demonstrating the communication since 1753, and quotes part of a letter from one of his students, a Dr. Morgan, "now physician and professor of physie in Philadelphia," written to Sir John Pringle in London in 1762, and describing the demonstration as seen by him in the lecture-room. Longest seems to have been displeased at the use of the name in connection with the foramina, but Vicq D'Azyr compliments Monro for his description in an *Eloge*, and in his own great *Traité*, published in 1786, apparently before the phrase "foramen of Monro" was introduced, uses the following language: "M. Monro, savant professeur d'anatomie à Edinbourg, a donné, etc. . . . et l'on voit dans ses planches III. et IV. de son *Nervous System* les ouvertures qui établissent une communication entre le troisième ventricule et les deux ventricules latéraux." Meckel (ii, 462) also refers to Monro on the Brain, although, probably by a misprint, the date of its publication is given as 1793. Finally, in no other work is it claimed that the description is original.

² The numbers refer to the list of works at the end of this paper. The authors are placed alphabetically, and the Arabic figures denote the pages, the Roman the volumes.

³ Two copies of this work are in the library of Harvard University.

¹ The Latin word signifying a hall or passage; suggested in reference to the relations of this space to the lateral ventricles.

The work above mentioned contains the following passages: "After laying open one of the lateral ventricles . . . an oval hole. From this hole a probe can be readily passed into the other lateral ventricle, showing in the first place that the two lateral ventricles communicate with each other. . . . The middle part of this passage is over a passage downwards, named the *iter ad infundibulum*, or *culica*, which should rather be called *iter ad tertium ventriculum*." (Page 114.) "A natural passage by which the lateral ventricles communicate with each other and with the third ventricle. This passage is bounded on the fore part by the anterior crura of the fornix; above, by the fore part of the body of the fornix, where it is about to form its anterior crura; behind, by the meeting of the choroid plexuses of the two ventricles; below, by the thalami. . . . The communication between the lateral ventricles laid open by cutting the fore part of the body of the fornix. By such a section the hole or passage appears by which the lateral ventricles communicate with the third ventricle." (Explanation of Plate 3.)

These passages certainly entitle the author of the work to the credit of demonstrating the existence of interventricular communications, which, as he states (pages 9 and 10), had been ignored or denied by most prior anatomists; but they also indicate a serious misconception of the true relations of the ventricles. Monro seems to have regarded the commissure as an important morphological landmark, and as separating the passages above described from the mediventricle. We know now that this commissure exists only in mammals, and is formed late with them, while in birds, reptiles, and batrachians the mediventricle is undivided.

If this statement of Monro's views is correct, it seems to me that full justice will be done to his memory if we retain his name in connection with a part of the passage which he described, and that considerations of development, comparative anatomy, abundant precedent, and real convenience should decide us to restrict the application of the term *foramen* of Monro to each of the *two lateral orifices* of the prethalamic part of the mediventricle. The question of naming this *aula* need not be discussed upon the present occasion.

Naturally connected with the historical part of the subject are the identification of the author of the Observations and the spelling of his name.

In Huxley's Vertebrates and in Huxley and Martin's Elementary Biology the name is always spelled *Mauro*; while in Darling and Ranney it is as constantly *Monroe*. The name is undoubtedly to be spelled *Monro*.

The last of our historical inquiries is, Which of the Monros was the author of the Observations? The title page bears simply Alexander Monro. But there were three Alexander Monros, father, son, and grandson; and all were professors of anatomy in the medical school of Edinburgh, and all wrote anatomical works. Duglison and the Edinburgh Encyclopædia state that the *foramen* was described by Monro *secundus*, while Todd and Littre et Robin ascribe the description to Monro *primus*.

After a careful examination of the Observations, and a comparison of dates from nine different sources, I am prepared to state positively that the work was written by Alexander Monro *secundus*, and that the *foramen* was named in his honor.

Concisely stated, the evidence is as follows: Monro *primus* died in 1767, while the work claiming to contain the first full description was not published until 1783, sixteen years later. A letter from a student published therein speaks of the author as *filio*; and the author refers to "the radial nerve of Winslow" as "the nerve called spiral muscular by my father," and as the "muscular spiral nerve of Monro." (Pages 134 and 136.)

The author of the Observations, then, must have been either the son or the grandson of the first Monro. But Monro *tertius* was born in either 1773 or 1774, and at the time of the publication of the work was only nine or ten years old. Moreover, in his own work, The Elements of Anatomy, I am informed that Monro *tertius* describes the discovery of the *foramen* by his father.

Recapitulation of conclusions and inquiries:—

(1.) It will be better to consider that there are *two foramina* of Monro, one for each lativentricle.

(2.) The cephalic end of the mediventricle, forming what was originally regarded as the middle part of the passage called *foramen* of Monro, should probably be recognized as a distinct ventricular integer, and might be named *aula*.

(3.) The work claiming to contain the first sufficient description of the interventricular communication was written by Alexander Monro *secundus*, and the name was given in his honor.

(4.) Who first employed the name I have not been able to learn, and what was first implied by it can only be inferred until the first use of the term is known.

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RECENT PROGRESS IN THE TREATMENT OF DISEASES OF THE THROAT.¹

BY F. I. KNIGHT, M. D.

SOME OF THE COMMONER AFFECTIONS OF THE TONSILS FROM A DIAGNOSTIC AND THERAPEUTIC STAND-POINT.

UNDER this caption Dr. G. M. Lefkerts² read a very interesting and valuable paper before the New York Academy of Medicine. He deprecates the old method of examining the throat with a teaspoon instead of a proper tongue depressor, and urges the use of reflected light. He calls attention to the loose nomenclature of acute affections of the tonsils, all of them being called "quinsy and ulcerated sore throat." As a matter of fact, the inflammatory conditions to be named, both in their causation, seat, symptomatology, and treatment, are as widely different as in like conditions elsewhere. Inflammation may attack either the parenchymatous tissue, or the secreting tissue of the tonsil, or the tissues about it. In the former case, if acute, it will proceed to the formation of true tonsillar abscess, or so-called quinsy, a comparatively rare condition. What is commonly reported as abscess of the tonsil is oftener an inflammation and suppuration of the tissues at the base or in front of the gland. Verneuil has shown us that the tonsil does not adhere very firmly to the groove, if it may be so termed, which lies behind it; and that when tumefied by inflammation it bulges out between the anterior and posterior pillars of the soft palate, and moves backward and forward with every movement of deglutition. This mobility, he asserts, is one of the principal causes of the formation of abscess. The gland being continually displaced, a serous bag forms in the connective tissue, which stretches between both pillars of the fauces and occupies the bottom of the groove in which the tonsil lies. In this serous bag the purulent gathering is formed. Such an abscess is always deep seated (and this is the one commonly met with in practice), and cannot, therefore, be easily reached with the knife. To incise such an abscess it is necessary to cut through the anterior pillar of the fauces; for this pillar—enlarged, oedematous, and protruding—forms the anterior wall of the abscess. The reason of failure at times to find pus on incision of a fluctuating spot in this region is explained in this manner. The swelling of the tissues puts upon the stretch the thyro-palatine and the pharyngo-palatine muscles; between the two is thus left a small triangular soft spot, palpation of which conveys to the finger a decided sense of fluctuation.

Dr. Lefkerts dwells upon the frequency of follicular tonsillitis being caused by ulceration of the tonsil, the disease being in reality an inflammation of the mem-

brane lining the crypts of the tonsil, which are blocked up by a cheesy secretion. To prevent recurrence of the attacks of true tonsillitis Dr. Lefkerts recommends excision of the glands and constitutional treatment, which he thinks always indicated. For acute tonsillitis and peritonitis he recommends steam inhalations and warm applications outside. Scarification of an inflamed tonsil often gives great relief, even if no abscess is reached. The nitrate of silver locally and guaiac internally he thinks of doubtful value.

Dr. Lefkerts dwells upon the great importance of excision of enlarged tonsils in children, that is, when the tonsil is much enlarged and indurated. He dwells upon the serious affections of the general health dependent upon such condition, which necessitates the breathing of a diminished supply of air which has also become vitiated by the foul secretions of the tonsils.

LUXATION OF THE LEFT CORNU OF THE HYOID BONE.

Dr. W. H. Daly³ reports the case of a physician who applied to him for relief from this condition, which had occurred half an hour before while laughing. Dr. Daly, on laryngoscopic examination, found no lesion to account for the patient's symptom of marked dysphagia. His head was bent a little forward and to the left, and straightening it up caused a dull pricking pain over the left cornu of the hyoid bone. Speech was clear, but exercised cautiously. The patient stated that he had suffered repeatedly from this luxation. Dr. Daly grasped the throat firmly below the os hyoides with the thumb and index finger of his right hand, steadying his head with his left, and directed the patient to swallow vigorously, at the same moment compressing and retracting the parts between his fingers, and then quickly releasing them. After the third effort the patient suddenly declared that he was all right again.

THE IMPORTANCE OF ANÆSTHESIA OF THE LARYNGO-PHARYNX AS A SYMPTOM OF HYSTERIA.

During the course of an epidemic of hysteria which occurred at a young ladies' boarding-school at Bordeaux, M. Armaingaud⁴ observed that in some cases irritation of the pharynx, epiglottis, the opening of the larynx and the ary-epiglottic folds by means of the finger-tip or a stiff feather was followed neither by the slightest sensation nor by reflex action. He concludes, therefore, that this anæsthesia is not simulated, agreeing with the views of M. Chapiro. He does not, however, believe with the latter that this symptom is pathognomonic of hysteria, because it is also found in a certain proportion of cases of epileptic, saturnine, and simple neuropathic convulsions. Nevertheless, with other symptoms of hysteria, anæsthesia of the pharynx and larynx may assist us to decide whether the attack be simulated or real.

ON POLYPUS AND OTHER MORBID GROWTHS IN THE NOSE; THEIR RADICAL TREATMENT BY THE ELECTRO-CAUSTIC METHOD AND THEIR CONNECTION WITH ASTHMA.

Dr. J. L. W. Thudichum⁵ says that he abandoned the use of the forceps in removing nasal polypi sixteen

¹ Concluded from page 133.

² New York Medical Record, December 27, 1879.

³ Archives of Laryngology, vol. i. No. 2.

⁴ Gazette des Hôpitaux, No. 39, 1880; Archives of Laryngology, vol. i. No. 2.

⁵ London Lancet, April 17, 1880.

years ago, and adopted the electro-caustic platinum-wire noose. The immediate objections to the use of the forceps are that it causes great pain, and the view is immediately closed. It frequently injures the parts seriously, and is ineffectual. The permanent results are more serious, consisting of fractures and dislocations of turbinated bones, and adhesions between them and the septum. Thudichum claims to have been the first to use electro-cautery for the removal of nasal polypi. The advantage of it is that it is thorough and painless, and that, the instruments being small, one can see the point operated on all the time.

Operations by electro-cautery for the ablation of excrecences in the nose other than polypi, namely, fibrous, adenoid, osseous, or osteo-cartilaginous growths, are very successful. Atresia or closed nostril is opened by proceeding with the electro-caustic wire from without inward. After the cavity has been opened the projecting parts are further excised until sufficient space is produced to cause contraction in healing.

Ablation of the turbinated bone, an important operation, is effected in two stages: one act is the cutting away of the cavernous tissue with the white-hot wire; the other, the cutting away of the bone with nippers, or chisel and hammer. In most cases the removal of a short piece, of an inch, at most an inch and a half, in length, suffices to establish a good canal. Polypi frequently have bony excrecences in their substance which have to be similarly removed, and to be carefully manipulated to prevent wounding the nose by their sharp edges.

Thudichum states that among the complications of nose diseases, particularly polypus, none is more common than asthma. About every fifth case of chronic nose disease has, or has had, asthma (?). Frequently this asthma disappears after the removal of polypi, even when they are very small. Some patients were so very sensitive in the nose that they were seized with an attack of asthma when the cavity of the nose was touched by instruments. The asthma is sometimes relieved by the careful use of ammoniac chloride and potassic iodide. "But the iodide must not be used where there is bronchitic complication." Here the most useful remedy is the inhalation of the pyrolytic vapors of extract of opium, belladonna, Indian hemp, hemlock, hyoscyamus, and stramonium.

CONGENITAL SYPHILIS OF THE LARYNX.

Dr. Barlow,¹ at a recent meeting of the Pathological Society, showed a larynx removed from a child eleven months old, the subject of congenital syphilis. When five months old the voice was noticed to be rather weak and hoarse, especially when she cried; there was also a hoarse cough, but no sign of laryngeal dyspnoea. The child eventually died suddenly after three or four days' illness, apparently connected with the larynx. At the post-mortem examination there was found to be some oedema of the ary-epiglottic folds, very slight erosion of the mucous membrane above and below the vocal cords and in the ventricles, and some very scanty, thin, and closely-adherent laminae of false membrane. The cause of death appeared to be the supervention of membranous inflammation upon a chronic laryngitis. Dr. Barlow said that he was induced to bring the case forward because Dr. Simon had recently stated that disease of the larynx in congenital syphilis was very rare. Dr. Simon said

that he had been misunderstood by Dr. Barlow, for he had only stated that in congenital syphilis deeper lesions were rare; superficial catarrh was, no doubt, common enough. Not only were the records of the deep lesions very few, but it was a noteworthy fact that in cases of congenital syphilis, with signs of destruction of the nose or palate, only very few examples of destructive disease of the larynx had been found; he himself had never seen any. Dr. Lees was able to confirm Dr. Barlow's statement as to the frequency of affections of the larynx in congenital syphilis. He remembered three cases in which the affection was evidently severe: in one he had been able to see that the epiglottis was thickened and ulcerated; another case had been admitted to the hospital three or four times with urgent dyspnoea, for which it was feared tracheotomy would be required, but the symptoms were relieved each time by mercurials; any catarrh brought them back. Dr. Barlow mentioned that Dr. Bumstead had observed six cases of very deep ulceration. On the invitation of the president, Dr. John Mackenzie (America), who had specially studied the question, stated that in all he had collected seventy-eight or eighty cases of marked congenital syphilitic disease of the larynx, which he hoped shortly to publish. He thought the affection was as common in congenital as in acquired syphilis; twenty years ago examples of the latter were looked upon as pathological curiosities, as those of the former are now. Many cases were overlooked from neglecting to use the laryngoscope, and because they fell under the notice of the general practitioner rather than the throat specialist.

LARYNGEAL SYPHILIS.

In the course of quite a long article on the study of this disease, Dr. E. C. Morgan² says that the diagnosis of the milder forms of laryngeal syphilis is occasionally a matter of great difficulty, though we may have the entire history of the patient. The anatomical and laryngoscopic appearances in syphilitic laryngeal erythema (superficial syphilitic laryngitis) are, in most respects, identical with those observed in catarrhal laryngitis. In both affections the congestion of the vocal cords may be partial, complete, unilateral, or bilateral. In the latter stages erosions, mucous patches, ulcerations, oedemata, hyperplasia, gummatous, chondritis, and perichondritis may occur, necessitating a differentiation between syphilis, phthisis, and cancer.

Dr. Morgan places himself among those observers who find great difficulty in distinguishing, from local manifestations alone, between syphilis, cancer, and phthisis. In regard to the treatment of laryngeal syphilis, Dr. Morgan says that it is attended with encouraging results in the great majority of cases. A larynx which has undergone the most extensive destructive processes, and is apparently beyond repair, may so far improve under local and constitutional treatment as hardly to show any lesions. He has seen even cicatrices become almost imperceptible. In addition to appropriate constitutional treatment the following local treatment is recommended. In superficial syphilitic laryngitis, accompanied by erosions, mucous patches, and light ulceration, inhalations of bichloride of mercury are very useful. Mercury bichloride gr. iiss., alcohol ℥ij., water ℥viij.; from four to six drachms of this solution to be inhaled from the steam atomizer once or twice daily. It is sometimes necessary to make

¹ London Lancet, April 10, 1880.

² Virginia Medical Monthly, October, 1879.

applications of fused nitrate of silver in addition. In more extensive ulcerations of the epiglottis and larynx he applies iodo-glycerine after the following formula: iodine grs. viij., potassium iodide ℥i., glycerine ℥i., to be applied by the brush. Astringent solutions are to be applied by means of the laryngeal brush every second or third day: chloride of zinc (one to fifty), acid nitrate of mercury (one to one hundred), nitrate of silver (one to twenty), chromic acid (one to five), sulphate of copper (one to twenty). Frictions of mercurial ointment over the larynx and iodide of potassium internally are recommended by Schnitzler in perichondritis of the larynx. When the pain is severe we may resort to a tea-spoonful of the following solution of Fäurel, inhaled from a steam atomizer or used as a gargle with water: morphie muratis gr. xv., potassii bromidi ℥iiss., orange-flower water ℥ij., water ℥vi. Local applications of sulphate of morphia, one part to fifteen each of glycerine and water, or the insufflation of one fourth of a grain of morphia with sugar of milk or gum arabic, will often prove efficacious. Gargles of salicylate of sodium. Absolute rest of voice and abstinence from alcohol and tobacco should be insisted upon. The application of mercurial ointment to the larynx externally, the use of croton-oil liniment on the chest, or two blisters placed on either side of the larynx in such a manner as to leave space to perform tracheotomy if required, generally relieves acute oedema. These means failing, Dr. Morgan quotes the advice of Isambert to apply a strong solution of chromic acid (one to two or four) directly to the parts, which often succeeds immediately in reducing the swelling. Scarification of the oedematous parts is effective in preventing suffocation, and should be made freely and often, if necessary. Dr. Morgan has seen good results in chronic oedema from insufflation of iodoform in powder in combination with powdered gum arabic and sugar of milk, or iodoform in glycerine (thirty grains to one ounce). Tracheotomy should not be delayed too long, and the canula should be removed as soon as possible.

Hospital Practice and Clinical Memoranda.

MASSACHUSETTS GENERAL HOSPITAL.

REPORTED BY DUDLEY P. ALLEN, M. D.

SURGICAL CASES OF DRs. CABOT AND WARREN.

ACUTE SPONTANEOUS GANGRENE OF SPECIFIC ORIGIN.

J. F., the subject of this affection, twenty-five years of age, was born in Spain. Is a cigar maker by trade. Four weeks before entrance to hospital, patient was seized with pains in both lower extremities, which afterward became limited to the right. Some time later the lower extremity became gangrenous. On entrance to hospital the lower two thirds of the right leg were entirely gangrenous, and there was also a gangrenous spot three to four inches in diameter on the inner side of the thigh.

No cause whatever for the disease could be discovered. The leg was poulticed, and the patient stimulated and nourished as highly as possible. Temperature did not rise above 100° F. until one day before operation.

Nine days after entrance, as the line of demarcation

was fully formed, all the gangrenous parts were removed, almost no fresh tissue being cut. The amputation was at the upper third of the tibia, and on removal of the island of sloughing tissue, on the inner side of the thigh, the femur was exposed for about three inches. The slough in the thigh ran upward three to four inches under healthy tissues. A Lister dressing was applied to the leg, and renewed from time to time for seven days. After that time simple dressings were applied. After operation patient's temperature fluctuated considerably, and he had a poor appetite. The discharge of pus was copious. Twenty days after operation patient's urine contained a large trace of albumen, with numerous hyaline and granular casts.

Shortly after this patient improved somewhat, eating better and feeling stronger, but on the thirty-first day after operation he had a chill, which was repeated in twelve hours; several chills followed; his temperature fluctuated more widely, reaching 101.4° F. He gradually grew weaker, breathed more rapidly, and on the thirty-first day after operation, and about the tenth week after first attack, patient died.

Autopsy showed thrombosis and complete closure of the right external iliac artery. There were metastatic abscesses of kidneys, spleen, liver, and lungs. Gummous deposits were found in the kidneys. It was supposed that the gangrene resulted from thrombosis dependent upon syphilitic endarteritis.

LACERATED WOUND FOLLOWED BY DIFFUSE GANGRENOUS CELLULITIS.

N. A. C., fifty-seven years of age, came to the Massachusetts General Hospital with two splinters in the back of his right hand, extending from the distal extremity of the third metacarpal bone to the extremity of the radius. No bones were broken, and the injury appeared slight. The splinters were removed, and a moist dressing was applied. Two days later the hand and arm were painful and inflamed. A poultice was substituted. On the following morning the back of the hand and whole lower part of the fore-arm were much inflamed and swollen, and there was a crackling sensation, as from the presence of gas in the tissues. Three longitudinal incisions were made in the back of the hand, and two long incisions were made on the front of the fore-arm, evacuating a large amount of very offensive pus. Cellulitis continued actively for about ten days, although the arm was freely opened and drained. After this for three days the patient's condition improved, the discharge became less offensive, and the slough gradually separated. At this time a profuse hemorrhage occurred, as was supposed, from the radial recurrent artery; shortly after, hemorrhage leaving the patient cold (temperature 96.2° F.), almost pulseless, and unconscious, he was nourished and stimulated by enemata of beef tea, ammonia, and milk and brandy. The enemata were continued for eleven hours. After this the patient's general condition gradually improved. Profuse suppuration of the arm and hand continued, all the soft parts sloughing away except the integument on the anterior surface of the arm, which was sufficient to preserve the fingers alive, although all the bones of the carpus and metacarpus were removed one by one. The lower two thirds of the radius and ulna were exposed and necrosed. Five weeks after the patient was first injured the fore-arm was amputated about four inches below the elbow, the wound healing kindly.

PERINEAL SECTION FOLLOWED BY URINARY INFILTRATION AND SLOUGHING OF THE SCROTUM.

On September 9th C. B. was admitted to the Massachusetts General Hospital with stricture of three years' standing, following gonorrhoea.

The urethra being impervious to all instruments, perineal section was performed, and a No. 12 gum-elastic English catheter was left in the urethra.

The opening in the perineum was about three inches long, and closed rapidly over the instrument. On the fourth day after operation the scrotum was found to have been largely infiltrated with urine, and at the most dependent portion it was gangrenous. The catheter was removed, and the parts were freely divided along the septum by a cut from the base of the penis backward to the original incision, and flaxseed and charcoal poultices applied. The patient's temperature ran very high, and his general condition was poor. The parts were thoroughly cleansed twice daily, and the sloughing tissue was cut away as rapidly as possible.

One week after the original operation all the slough had separated. The testicles and cords were fully exposed and covered with granulations. All that remained of the scrotum was a shrunken border about one inch wide on either side of the folds of the groin. From this time the case progressed favorably.

All the urine passed by the perineal opening for nearly three weeks, after which time, by holding the legs together and pressing upward on the perineum, the patient could pass a portion of it by the penis. The opening in the perineum decreased, and the amount of urine passed by the penis increased until time of patient's discharge, two months after entrance, at which time the opening in the perineum was only large enough to admit a probe, and almost the entire amount of urine was passed by the penis.

The testicles, which were wholly exposed, became gradually covered by the integument, which was drawn up over them by means of bands of silk gauze, attached to the flaps on either side by collodion, and when the patient was discharged only a small surface on the end of one testicle remained uncovered, and he could introduce a No. 14 English steel sound. At time of discharge from the hospital he was in excellent general condition.

HIGH TEMPERATURE FROM CONSTIPATION.

A patient with mammary abscess had for eight days been treated by poultice, and the abscess had discharged freely, and was rapidly healing. The temperature had not risen at any time above 99° F. For four days patient had had no movement from the bowels, when one morning the temperature rose to 101.5° F. An enema of soap-suds was given, and in less than an hour after this had operated the temperature fell to 100° F., and continued normal afterward.

Patient made no complaint, nor was there any phenomenon of any sort to account for the high temperature unless the constipation would do so. No remedy was used except the enema.

Reports of Societies.

BOSTON MEDICO-PSYCHOLOGICAL SOCIETY.

WALTER CHANNING, M. D., SECRETARY.

SINCE the first meeting of this society, which was duly reported in the JOURNAL, there have been four regular meetings. The papers read have all been on interesting subjects, and, followed as they have been by long and full discussions, the meetings have been of decided profit to the members. The total membership of the society is now seventeen, two of these being honorary members. The number of journals taken is eight; these comprise the best English and German journals on psychology, and together with a number of others, contributed by members of the society, furnish reading matter which could not be obtained in any other manner.

At the February meeting Dr. C. F. FOLSON read a paper on Fanaticism and Insanity, already published in the JOURNAL. — Dr. WHITEMORE asked if there were any indications pointing to *petit mal* or nocturnal epilepsy. — Dr. FOLSON replied that there were not. — Dr. FISHER regarded the kind of insanity affecting Freeman and his followers as largely emotional in origin, but resulting in religious delusion, and communicated from one to another, — a sort of mental contagion. He gave the details of several cases in his own practice. In one of these a woman first became insane, her delusion centring on an old woman whom she regarded as a witch. Shortly after her husband became possessed of the same delusion, and finally her whole family stoned the house where the witch had been seen. Dr. Fisher had collated 36,983 cases of insanity, and found of these 5.79 per cent. were due to religious excitement. — Dr. FOLSON thought that Dr. Fisher was rather mistaken in his theory as to Freeman's case, for he had been insane before joining the Adventists, and religious excitement was a result rather than a cause of his insanity.

Dr. N. FOLSON thought that confusion sometimes arose from the use of obscure terms; for instance, mental contagion. He did not believe in a so-called *border-line*; insanity and fanaticism were no more closely allied than pneumonia and fanaticism.

Dr. C. F. FOLSON expressed the opinion that sanity and insanity were sometimes very near together. He stated that Mrs. Freeman was now insane. This insanity would have been temporary, like that of the other Adventists, had not her health broken down in jail.

MARCH MEETING. Dr. FISHER read the paper of the evening, called The State of Rhode Island *v.* George H. Brown. Brown was tried in the court of common pleas, Providence, R. I., June 16, 1879, for the murder of John A. Jenks, at Pawtucket, the preceding December. The particulars of the murder and the events just previous and subsequent to the murder are as follows: November 24th Brown asked the chief of police to go to his house and hear a confession. He went, and there heard from Mrs. Brown that she had been seduced by Jenks several years before, and he had visited her frequently since. On Christmas morning, Brown, who, in consequence of his wife's infidelity, had suffered mental agony for nearly two months, passing sleepless nights and often being at the point of sui-

— Professor Hofrath Dr. Karl Ritter von Sigmond-Hanor, the professor of syphilis in the Vienna University, having reached his seventieth year, now retires upon a pension, declining the offer of the minister of public instruction to continue his post for another year.

cide, started for town, with a pistol in his pocket, to get some medicine for his head. Apparently by accident he met Jenks in the street, and spoke to him pleasantly, and also spoke quietly to a friend with Jenks. He then, having passed them five or six feet, drew his pistol and fired at Jenks twice. The friend of Jenks seizing him, he threatened to kill him also. After this he went quietly to the police-station with an officer, and there talked, seemingly without knowing what he said. He seemed confused and indifferent to the crime he had committed. Toward morning of the next day he attempted suicide by cutting his throat, and lost much blood; shortly after he had a convulsion, or fainting fit.

The government testimony was conflicting as to Brown's insanity. They tried to show premeditation, but there was nothing in the evidence to support this view. The defense set up the plea of insanity in the form of irresistible impulse.

The testimony showed that there was insanity in Brown's family. He complained frequently of pain in his head; was sleepless at night, much depressed; to his family physician was unnatural and excited in behavior; he lost appetite; walked about the house crying, and would strike his breast, dash his head against the wall with sufficient violence to cause bruises, and put his revolver to his head. Dr. J. W. Sawyer, of the Butler Hospital, did not regard Brown as fully responsible at the time of the homicide; he thought the fact of his not seeking out Jenks important. Drs. Whitney and Perry saw no indications of insanity. Dr. Fisher thought the preponderance of the testimony favored insanity, the act being the result of impulse. A state of extreme mental depression with suicidal impulse had existed for some time, and though without obvious delusion amounted to insanity.

The jury did not agree on a verdict, and Brown has since been released on bail.

Dr. Fisher stated, after reading this paper, that the case bore a general resemblance to the Sickles, Coles, and McFarland cases, in that the homicide had a similar motive and the defense was *insane impulse*. The paper of Dr. Jarvis on Mania Transitoria [Boston Medical and Surgical Journal, June 10 and 17, 1869] gives the bibliography of the subject up to that date. Dr. Kraft-Ebing published a treatise on the subject in 1868. Balfour Browne and Dr. Ray agree with other good authorities as to the occurrence of irresistible impulse to acts of violence, during which time only the underlying mental weakness becomes visible. That there is an underlying mental weakness is generally held by the best authorities, in opposition to the general opinion that a man may be sane the moment before and the moment after the impulsive act. The states most commonly giving rise to these sudden outbreaks are the epileptic, the melancholic, somnambulistic, delusion based on false hearing, and mania from drink.

The difficulty in Brown's case in deciding on the insanity lies in the overpowering moral cause for committing the homicide. It would not affect most men to the extent it did Brown, who, with unusual hereditary tendencies, was liable to become insane under a great mental strain. The attack was cumulative in character. If Brown had killed himself no one would have questioned his insanity. — Dr. WEBBER asked if the absence of remorse was not an indication pointing to insanity. — Dr. CHANNING said that he had found but little remorse among either sane or insane criminals.

He quoted J. Bruce Thompson, of the General Prison, Perth, Scotland, who says of four to five hundred murderers he had only known three who showed remorse.

APRIL MEETING. DR. J. H. DENNY read a paper on the Medico-Legal Study of Hallucination. The paper was particularly a study of the case of Kemmler, the homicide. Great stress was laid on the physical manifestations of disease, and certain resemblances were traced between the cases of Kemmler and Freeman. In each case there were sensitive fontanelles, precordial anxiety, a pulse of 38 to 40, etc. — In discussing the paper Dr. C. F. FOLSON said that he did not believe so fully in physical changes as Dr. Denny. Coffee would produce more marked changes in the brain than a case of insanity. — Dr. DENNY laid no special stress on any one symptom, but all together. He decided the case to be one of chronic mania, with Bright's disease. — Dr. WEBBER, in speaking of eye examinations, thought they were of little value in mental disease, and Dr. C. F. FOLSON stated that they were now little relied on in German asylums. — Dr. J. B. AYER asked if hallucinations of hearing were not more often than others dependent on serious brain trouble.

Dr. FISHER remarked that the subject was of great importance, because delusion is so often based on hallucination or illusion. The significance of visceral illusion should not be overlooked. The snake-in-the-stomach and other delusions of hypochondria, false tumors and supposed pregnancy of women past the turn of life, the charges of ravishing in sleep or under chloroform by hysterical women, the beliefs of melancholias that they cannot swallow or that their bowels are gone, with hosts of other delusions, all arise from obscure morbid visceral sensations. In his experience "false hearing," or hallucination of hearing, occurs with very great frequency, especially in chronic insanity from drink; the delusions of conspiracy and persecution often being based solely on the imaginary voices which haunt the patient by night and day. This torment makes life a burden, by compelling constant and painful attention, and the patient may seek relief in suicide. More frequently this hallucination results in sudden acts of violence towards persons who are supposed to have insulted or injured them. The existence of false hearing may be, and often is, overlooked by physicians even, and punishment may very unjustly follow such acts of violence.

Dr. Fisher spoke of a patient who recognized the voices as subjective, and characterized this symptom as "think talk." Others complain of being talked to by telephone when going about the streets. Some think that God speaks to them in the voices, or that certain persons can hear them think or draw their thoughts from them by mysterious agencies, and then echo them back or answer them. This phenomenon is so real and startling to the patient, that it is not strange that persons of weak or disordered minds, and ignorant patients particularly, should be deluded about the matter. It is important to separate cases where there is real subjective hearing from others in which the delusion is primary, the reported conversation being a part of the delusion, as the diagnosis is more favorable in the latter instance. Illusions of hearing easily arise in a city which is full of street cries and unaccountable sounds, and should, also be distinguished from hallucinations.

Dr. Fisher suspected that prisons were breeders of false hearing in the sense of illusion, from the echoes of voices and sounds conveyed through ventilating flues and holes, no opportunity being afforded of correcting false impressions.

Hallucinations of other senses are much less common, but deserve careful study. In the case of Kemmler, reported by Dr. Denny, Bright's disease and injury to the head may have both been partly causative, both being now well-recognized causes of cerebral disturbance and insanity. The speaker had seen cases of delusion of the most systematic and thoroughly organized character, resembling, in a humble way, the famous historical case of Joan of Arc. When delusion runs in the channel of religious enthusiasm, the most astonishing results may follow.

MAY MEETING. DR. JELLY read a paper on Cases of General Paralysis. He alluded to the discovery of the disease, and then briefly described the symptoms, causes, duration, diagnosis, etc. His paper was founded on the treatment of twenty-five cases, and about half of these were detailed. Two of the number were women. — DR. FISHER spoke of the importance of the subject. The average age is thirty-eight. At the beginning the patient's sexual power is increased, but later lost, though the patient has an exaggerated belief in its existence. The remarkable cures reported from the use of blisters and iodide of potassium might have been in syphilitic cases. Dr. Fisher mentioned a case of general paralysis occurring in the wife of a parietic; it might have been due to excessive venery. Having made many autopsies in general paralysis, he had come to the conclusion that, while the gross morbid appearances are quite constant and uniform in kind and location, they do not differ essentially from those found in some other forms of chronic insanity. He had recently seen the brain of a dipsomaniac who died of phthisis after six months in a hospital for the insane, where the thickening of the membranes, the serous effusion and atrophy of the convolutions, were as great as in a marked case of general paralysis. There were no delusions or dementia in this case. He had also examined a number of brains after hardening in nitric-acid solution, to determine the presence of the adhesions described by Crichton Browne as pathognomonic of this disease. He had found them less prominent and fewer in number than stated. The gross appearances seldom encroach on the occipital lobes. He doubted if from the gross or microscopical appearances alone it would be safe to infer general paralysis. — DR. BANCROFT had seen two cases due to mental shock, and two cases where mental symptoms had for a long time disappeared. — DR. J. B. AYER stated that the record of pulse and temperature were generally so imperfect as to have little practical value. — DR. CHANNING spoke of the importance of the spinal changes in general paralysis, and regretted that the cord was not oftener examined, as only in that way could we hope to make great progress in the pathology of the disease. Formerly atrophy of the optic discs was regarded as pathognomonic of general paralysis, but Gowers had recently stated that he had found nothing characteristic in the eye in this disease. Dr. Channing referred to the peculiar sphygmographic tracings observed in the pulse of parietics. He thought many cases were incorrectly diagnosed. He stated that out of one hundred and seventy-five insane criminals he had seen

only two clearly marked cases of general paralysis.¹ — DR. JELLY said, in reply to a question, that he had always found the mental symptoms first. — DR. PAGE said that asylum physicians seldom had an opportunity of observing cases early, and hence generally found mental symptoms well developed. — DR. DENNY thought the mental phenomena occurred the earlier. Fifteen years ago it had been supposed that general paralysis did not occur in women; now it was not rare among them. He regarded excessive venery and drinking as symptoms rather than causes. In this disease several observers had found the cerebral temperature the same in both parietal regions, instead of higher on the left, as in the healthy subject. — DR. WHITTEMORE regarded excessive venery due to loss of will power. In 1872 he had visited the Hanwell Asylum, where, out of a total of eighteen or nineteen hundred patients, only two women were parietics. — DR. DENNY stated that Dr. Klein had found in fifty-eight per cent. of cases examined by him a *trübung* or cloudiness of the optic discs.

Recent Literature.

Clinical Lectures on the Diseases of Women. By J. MATTHEWS DUNCAN, M. D., LL.D., F. R. S. E., etc. Philadelphia: Henry C. Lea. 1880.

These lectures, originally published in the *Medical Times and Gazette* and in the *Medical Examiner*, are here presented in the form of a book which is dedicated to Dr. Forlyce Barker. They are nineteen in number, and treat of various gynecological subjects, without any attempt whatever to cover the ground of this department of medicine. The author has certainly shown originality in making names whereby to call many of them; for example, Painful Sitting, Aching Kidney, etc. Whether this be an advantage or not may well be questioned. To us it seems better that the student should have the straightforward, well-recognized, and accepted names of diseases, based upon conditions referable to the anatomy or pathology of the parts, than that he should be confused by vague terms expressing symptomatic pains.

The matters of which the writer treats seem to lack proper analysis in his mind preparatory to delivery or publication. This is well illustrated by the first lecture, styled Missed Abortion, where, instead of anything like a systematic division into, or description of, the causes, symptoms, diagnosis, or treatment of missed abortion, one half the space allotted to the subject is devoted to an account of what missed abortion is not, with the relation of a case of missed miscarriage, etc. The author then encourages us by saying, "I now come to the subject proper of my lecture, Missed Abortion;" but here we are again disappointed, for he at once goes off into the subject of protracted pregnancies, the details of a case of missed labor, etc. Having finished the lecture, we are led to wonder where the subject proper is considered; for, except the details of a case on the last page but one, we fail to find much about it.

Comparatively little is said in regard to the treatment of the several diseases discussed; but, judging from the majority of the cases reported in illustration of the different subjects, we are forced to believe

¹ A statement recently corroborated by Dr. Knecht, of the Waldheim prison, in Germany.

that the best results were often lost from want of direct surgical interference, and that the let-alone treatment was too generally carried out. The book may be of value to those students who desire to retain in printed form the lectures to which they have listened, or to those who wish for a volume containing the special views of the author. As compared with other gynaecological works which have recently been published, it is far below the average.

Homœopathy: What is It? A Statement and Review of its Doctrines and Practice. By A. B. PALMER, M. D., Professor of Pathology and Practice of Medicine in the University of Michigan. Detroit: George S. Davis. 1880.

A certain additional interest is attached to this statement and review of the doctrines and practice of homœopathy from the author's being a professor in the medical department of the University of Michigan, and from the book's having its origin in a course of lectures delivered to the students.

The author deprecates hostile denunciation and ridicule as affording favorable opportunities, which the homœopathic fraternity has not been slow to profit by, for appealing to public sympathy by the cry of persecution for opinion's sake. His object in the present book is to furnish conscientious and intelligent persons the means of learning what the system of homœopathy with which they are dealing, or which is appealing to them for support, really is. The book is a careful and candid examination of the essential doctrines of homœopathy as taught by its founder and more authoritative expounders, and presents a condensed statement of those doctrines. The style is moderate and dignified, and the statements careful and candid. We have been unable to discover exaggerations or misrepresentations, although stimulated thereto by a generous offer on the part of the author.

Modern Medical Therapeutics. A Compendium of Recent Formula and Specific Therapeutical Directions from the Practice of Eminent Physicians, American and Foreign. By GEORGE H. NAPIEYS, M. D. Seventh Edition, enlarged and revised. Philadelphia: D. G. Brinton. 1880.

The fact that this book has in a short time reached a seventh edition is evidence of the continued demand which exists for it. The present edition has been enlarged, improved, and revised, whilst the volume has been kept within its previous limits by using a smaller type for the *résumé* of remedies.

Emmet's Principles and Practice of Gynaecology. By THOMAS ADDIS EMMET, M. D. Philadelphia: Henry C. Lea. 1880.

It must be exceedingly gratifying to the author that the profession so thoroughly appreciate the great labor expended upon his work and the important principles laid down therein, as evidenced by so early a demand for a second edition. It has apparently undergone a most careful revision. Many typographical errors have been corrected, and some subjects in which ad-

vances have been made within the year have received the author's attention. Our only criticism is that for a book so rich in original investigation, carefully prepared tables, details of cases, and practical illustrations, the pathology of the subjects discussed has unfortunately had too little consideration. It would be a work of supererogation to rehearse its many excellences, as they have so recently been set forth in this journal. It is sufficient to say that its value to every student of gynaecology is inestimable.

— Says the *Medical Times and Gazette*, "The French medical journals express great admiration of a speech which Baron Larrey has just delivered before the Chambers on the debate on army organization. During more than two hours he succeeded in engaging the attention of his auditors so as to be able to place his whole case before them. That case was the emancipation of the medical service from the tutelage and domination of the intendants or commissariat department, whereby all original and independent action on the part of the medical body is entirely prevented in matters of their own immediate concern, and the welfare of the troops is sacrificed to routine and incompetence. Having been the chief medical officer in several campaigns, Baron Larrey spoke with an intimate knowledge of the facts, and showed by many examples how systematically the advice and wishes of the medical body in all sanitary matters is ignored by the intendants, and what mischievous effects have resulted from their being deprived of the power of originating and carrying out sanitary regulations. Those who wish for detailed information of the lamentable results which have attended this subservency to the intendants have only to consult the works of the late Dr. Chenn. The present Baron Larrey, by his personal influence with the late emperor, was able to counteract some of the great mischief this state of things caused, but others less fortunately situated are powerless in all that relates to preventive medicine."

— Dr. Halsey, of the Wangaretta Hospital, in a communication to the *Australian Medical Journal* for April, strongly recommends (having found it very serviceable) a new mode of employing pressure in orchitis when the acute stage, by the use of depressants, leeching, etc., has passed into the chronic stage. The ordinary modes of compression are often difficult of application and very uncertain in their operation. The patient having now an enlarged testis, with more or less tenderness, is directed to keep the recumbent posture, and to grasp the affected testis in the hand, employing pressure short of pain, the hand being assisted by the thighs being pressed upon it. This pressure is to be kept up almost continuously, which is readily done, the patient sometimes continuing to make the compression even when asleep. An important adjunct is bathing the scrotum and surrounding parts, two, three, or more times a day in cold water. In mild cases, and when the patient cannot conveniently lay up, he should wear a suspensory bandage during business hours, and resort to the hand-pressure whenever possible.

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TIME REQUIREMENT AS AN ELEMENT IN MEDICAL EDUCATION.

A RECENT editorial article in the *Philadelphia Medical Times* calls attention to the move lately made by the American Medical College Association, namely, that attendance on three annual courses of lectures should be required before granting a diploma. The colleges voting for this change, which our contemporary styles "the successful crisis of a revolution in medical education upon this continent," were chiefly the Southern and Western schools. Many prominent Eastern schools were not represented in the association.

The same article calls attention to the report of Professors Gross and Davis to the association, in which the statement is made that Harvard graduates men upon one year's attendance on medical lectures. In proof of which the following statement is made:—

"The language of their catalogue for 1879-80 touching this point is under the head of Division of Studies, as follows: 'Students may be admitted to advanced standing in the regular course, but all who apply for admission into the second or third class must pass an examination at the beginning of the year in the branches already pursued by the class to which they seek admission, and furnish a satisfactory certificate of time spent in medical studies.' Again, under the head of Requirements for a Degree, we are told that 'every candidate must be twenty-one years of age, and of good moral character; must give evidence of having studied medicine three full years; have spent at least one continuous year at this school; have presented a satisfactory thesis; and have passed the required examinations.'

"In turning to the examinations required in each year, we find those of the first year to be anatomy, physiology, and general chemistry; those for the second year, medical chemistry, materia medica, and pathological anatomy. Now, it strikes us that he must be a rather dull young man who cannot take the necessary books, get some regular practitioner to lend the use of his name as preceptor, and in two years make himself sufficiently familiar with the language of his text-books as to pass a fair examination, either oral or written, in anatomy, physiology, and general chemistry, in connection with at least two out of the following three: medical chemistry, materia medica, and pathological anatomy. And if he can do this he can step directly into the third or graduating class, and complete his course by attending our col-

lege year, without ever having set foot inside of any other medical school."

We are not surprised that those teachers who are accustomed to the standard of examinations of the old-time system should fall into an error such as that which has been committed by the two distinguished professors. A more careful study of the catalogue would have shown these gentlemen that the examinations alluded to were prepared to bring out knowledge which could have been acquired in the lecture-room and laboratory alone. For particulars concerning the length of time spent at the school by students we would refer them to the report of the president and treasurer of Harvard University for 1878-79. In 1879 there was one graduate who spent but one year at the school. He was a physician taking the graduate's course. In 1877 there were three, two of whom had already received their degrees, and one had spent eighteen months at another school. We find among the few cases mentioned one who had attended a course at no other school, but he had studied three years with a physician, and immediately after graduation he entered the army after a brilliant examination.

That it is desirable for a student to spend at least three years in school study we presume few will now deny, but that "time requirement" will effect this so thoroughly as severity in examinations we think extremely doubtful. The element of time, then, may be disregarded, provided a school can be trusted to maintain a sufficiently high standard of examinations. Until the members of the association have taken a long step in advance in this direction it will be safer for them to adhere to the "three-years term" of study.

A much higher ideal is that which, like the system in vogue in the academic departments of our greater universities, relies exclusively upon a carefully devised system of examinations to compel the student to follow the course of study which has been laid out for him.

We would not be misunderstood as not applauding the best work which the association has yet accomplished. It is an official recognition of the utter worthlessness of the old system, which, we trust, no faculty will hereafter have the face to announce in its annual catalogue.

THE BENEFITS AND PERILS OF DRINKING WATER.

A VERY timely and sensible article from the pen of Dr. S. G. Webber, on Water as a Prophylactic and a Remedy, makes its appearance in the last number of the *New York Archives of Medicine*. The subject is in several ways a suggestive one and will bear discussion. Formerly one of the chief characteristics of the typical American, in common with the habits of talking through the nose, cocking up the feet on top of the mantel-piece, whistling, and living in hotels, undoubtedly prominent in the minds of many and especially of those traveling amongst us, was the universal inhibition of enormous quantities of ice-water. In so

far as this practice really obtained it was the result of the promptings of a natural instinct created by the peculiarities of our climate, the gratification of which was eminently wise and wholesome. The practice probably was carried to an extreme, as most things in our energetic communities are apt to be, and that more particularly in the amount of ice used, and in the gulping down of large quantities of water at a low temperature immediately after or during violent exercise. Of such indiscretions dyspepsia, gastritis, and enteritis are, it must be admitted, frequent sequences. But attention having been directed to these excesses, an exaggerated reaction set in and has been carried the farthest by those who have the most leisure to ponder upon their personal physiological processes, until at present we believe it to be a fact, as stated by Dr. Webber, that many people have a notion that it is injurious to drink water at meals; and we may add that, to our knowledge, many children among the well-to-do and educated classes are deprived in summer of the amount of cool pure water demanded by their systems, and this deprivation is the act, not of a cruel jailer, but of careful, anxious mothers. In our summer weather the dangers of digestive derangements from an excess of cool (not frigid) pure water are small compared to that of such derangements and general malaise as result from a deficiency of this necessary solvent for the waste products of the system.

Dr. Webber justly says: "If too little water is ingested the perspiration will be slight, the elimination of urine will be diminished, and the excretion of waste material will be lessened. The blood will be continuously saturated with the results of disassimilation or nearly so, the removal of the waste of tissue-changes is not accomplished with sufficient regularity, and the tissues become clogged with used-up material, and nutrition is interfered with. The balance each day against health is very slight, but finally there is such an accumulation that unpleasant symptoms are developed. If the person continues to eat heartily, either the surplus food passes off by the intestines, or is deposited in the shape of fat, the nitrogenized portions assisting to load the urine with urea and urates. Let a person drink a larger amount, and, the blood having a sufficient supply of water, more urine is excreted; the loss is made good to the blood by absorption, and a larger amount of waste products is taken up to be eliminated; more urea, phosphoric and sulphuric acids pass off by the urine, which is increased in amount; there is more disintegration of the tissues. This loss is made up by new material, so nutrition is increased.

"Water taken with the food favors digestion; when taken into the stomach a part is absorbed by the gastric vessels, carrying with it the soluble constituents of the food. So much as is not immediately absorbed assists in softening and breaking up the larger particles of food, and thus aids in the gastric digestion by facilitating the action of the gastric fluids. A portion of the water is carried into the intestines with the semi-digested food and acts favorably in the same way; also, the blood being well supplied with water, the faeces are not so hard and dry as would other-

wise be the case, and it is easier to keep the bowels regular.

It is certainly no matter of surprise that there should be malaise and distress, when the system is loaded with worn-out material, unfit for the functions of life, which the blood cannot remove for lack of menstruum; it is not surprising that the nervous system, which most requires regular nutrition, should suffer most; that muscles badly nourished should ache on motion; that kidneys called upon to secrete an abnormally concentrated urine should become diseased; that the highly acid urine should irritate the bladder.

"This view may explain why herb teas, thoroughwort, chamomile, sage, etc., were so popular in our grandmothers' days, indeed are now popular. The bitter herb is a slight gastric tonic, but the water is a better solvent. Formerly the good housewife supplied the deficiency in drink by regular doses of herb tea; now the physician supplies it by draughts of spring water."

It is useless to attempt to fix the quantity of water required by any individual. The temptations to over-indulgence are not so great but that most people may be left to discover it for themselves, and this they are the most apt to do when thinking the least about it. Fifty-two ounces, or about three and one third pints, is the daily quantity of drink which physiology considers necessary for the average healthy adult, and it is perhaps worth while to learn this, as one learns the distance of the sun or the circumference of the earth, as a standard of comparison.

Here the reader might suppose that our remarks should cease, that all had been said which needs saying on so simple a subject as water. Not so, however. The real difficulties of the problem have yet to be faced. The desiccated dyspeptic who has been persuaded to overcome his dread of becoming an aqueous dyspeptic and has consented to drink and be whole, and perhaps make the result sure by a trip to the country or abroad, presently returns with a number of the *Leisure Hour*, for example, in one hand, and of the *British Medical Journal*, we will say, in the other. From the former he selects for our consideration "some useful hints to tourists with respect to drinking-water," and reads aloud a graphic description of a case of typhoid terminating fatally at Dinan in Normandy last year, the victim being a tourist who was seduced into drinking freely of a hotel water which seemed bright, clear, and delicious. Our patient already knows all about nitrates and nitrites and albuminoid ammonia, and he informs us that it cannot be too urgently impressed upon those intending to go to the country, or to the sea-shore, or to remain in town even with their Cochituate, that only the exercise of unceasing vigilance will suffice to protect them from the snares besetting them round about in the shape of impure water and ill-ventilated rooms. If it is the *British Medical Journal* which he hands us, the Apollinaris Company, Limited, having, it may be, thoughtfully caused the number to reach him, our eye lights upon the following:—

WARNING TO TRAVELERS.

"A communication which we have received from a traveler describes a severe outbreak of typhoid fever in Switzerland, to be traced, it is stated, as most of such outbreaks are traced, to impure drinking-water. This frequent cause of disease to travelers will, in the end, scare away travelers to a considerable extent from continental travels, unless the local authorities of the principal towns of summer resort on the Continent manifest a more earnest determination to purify the air, soil, and water, and especially to provide a perfectly pure and undeniable source of drinking-water, which is rarely to be found at present in any continental town or village. Sir Henry Thompson, adverting to this abundant source of danger to travelers, recently recommended that every traveler should carry with him a filter and a teapot, by way of practically abolishing by personal care some of the danger of impure water by securing that it should be very thoroughly boiled before being used. Dr. Hermann Weber, whose experience of foreign resorts is perhaps greater than that of any other English authority, has published a similar warning to travelers, and has recommended them to use Apollinaris water whenever it is to be obtained, as an undeniably pure drinking-water, which would secure them from these dangers; and he has stated that he has known, in more than one instance, when members of the same traveling party have been careful to adopt this precaution, while others have neglected it, that those who adopted such precautions have been saved from typhoid fever, which attacked other members of the party. . . . Recent analyses by chemical authorities, of which some of the results are before us, have shown that the water contained in the siphons which are introduced at foreign restaurants is not more reliable than the ordinary water supply; indeed, a table before us, to which, perhaps, we shall subsequently have to refer, indicates that, in one great foreign city at least, the water in the siphons is very much more impure than even the ordinary city drinking-water, being in some cases little better than diluted sewage water. It appears that the manufacturers of these aerated waters in foreign siphons are by no means very careful from what kind of surface wells they draw their supply, or how they purify their water; and on the whole, the danger of drinking the aerated water of siphons is, unless the quality be definitely ascertained, greater even than that of drinking the ordinary impure water. . . . It is well, until they have become more enlightened, that travelers should regard drinking-water with precaution, and should be satisfied in some way or other that the table water they drink is of absolute purity, and such assurance is best obtained by confining themselves when traveling to the use of a natural mineral water, suitable for table purposes and of undoubted pure origin."

After a perusal of these remarks we involuntarily exclaim, 'Water! water! everywhere, but not a drop to drink! Death even lurks in our old friend the siphon! We presently begin to feel sorry, first for the British tourist, then for the native Swiss, thirdly for

our patient, who is evidently predestined to ill health on one side or the other, unless happily relieved by early death, and finally for ourselves that we should have ventured to advise in so intricate and desperate a question. After a period of hesitation, however, we recover our equilibrium in remembering with Dr. Weber that "human nature is such that if the doctor tells his patient to drink two or three pints of Cochlinate or Croton water a day, in addition to his tea or coffee, he will rebel and think it a queer prescription; but if he is told to take that amount of Poland or Alaudale or some similar water, he forthwith has his keg of mineral water on tap, and drinks in faith that it will in some mysterious way relieve his gout, rheumatism, dyspepsia, or kidney disease, or will be good for his headaches and tired brain."

With this comforting reflection the only doubt remaining in our minds is whether we shall invest in a mineral spring ourselves, or merely recommend the patient to, or both. Then in any case there would be an end to uncertainty, and we should know what to do and what to say.

MEDICAL NOTES.

—A review of Charles H. Blackley's book on Hay Fever in the *Medical Times and Gazette* contains the following: "The author has minutely detailed the results of his experiments, and a perusal of his observations will well repay any who are interested in careful work, though they do not seem to have added to our knowledge. It may be stated that the general outcome of the experiments is to prove that the pollen of certain grasses is the source of the disease, and this is nothing new. In Chapter VII. the author carries his investigations still further, and thus arrives at conclusions as to the amount of pollen which suffices to produce and keep up the disease. This amount is so infinitesimally small that in the hands of a less careful observer we might almost be excused a doubt. It is stated that 'rather less than the $\frac{1}{3427}$ of a grain of pollen inhaled in each twenty-four hours will keep up hay fever in its severest form.'

"We can only just glance at the methods of treatment which are recommended. Drugs do not seem to have been very successful. The author knows of no specific, though many drugs are capable of mitigating the symptoms, and here again Dr. Blackley's researches leave us very closely where we were before. It appears that carbolic acid is the most effectual, acting probably in this disease much as it does in the so-called antiseptic dressings."

—From the *Lancet* we learn that at the adjourned meeting of the Court of Governors, held at Guy's Hospital on Wednesday, the 30th ult., the matters in dispute between the medical staff and the treasurer were referred for investigation and report to a special committee, consisting of the following gentlemen: Sir Thomas Acland, Sir Trevor Lawrence, Messrs. C. Barelay, R. Harvey, Samuel Hoare, and Shaw Stewart. We understand that the committee has at once commenced its sittings.

—The same journal says that the proposal to establish a university college at Liverpool appears to be receiving considerable favor. Already the sum of £60,000 has been collected in aid of the project, the amount required being £75,000, or an annual income of £3000.

—Under the head of Consultations Dr. H. C. Wood, of the *Philadelphia Medical Times*, writes: There is probably no city in the civilized world in which medical consultations are proportionately so infrequent as in Philadelphia. There is certainly a wide-spread feeling against calling them among the profession. This feeling is based not so much upon a question as to their value to patients as upon a fear that they will injure the physician who calls the consultant. Very many doctors evidently have the feeling that asking that Dr. Secundus be called in is equivalent to saying that Dr. Secundus knows more or is more skillful than they. It is true that a consultation may be asked for in such a way as to give rise to this impression, but this is the result of the awkwardness of the physician. A little tact on his part will leave behind the conversation with the friends of the sick the feeling that he is a very careful doctor, one who wants in every way to do the best possible thing for his patient, and will thereby strengthen rather than loosen his hold upon the family.

Talking, a few weeks since, upon this point with a neighboring practitioner, he said, "I never call any consultations. Some weeks ago Mr. — was ill, did not improve, and finally asked that I would call in Dr. Jones. I did so. The patient got well, and the family was transferred to the list of Dr. Jones." The family here was lost, not, as was thought, because the doctor was willing for a consultation, but because he was unwilling. If he had been quicker, and had suggested the consultation before the patient demanded it, Dr. —, having been called in at his request, would not have attended the family afterwards. For here come in the ethics of the matter. If Dr. Secundus is called in by the family in spite of the attending physician, he, to our thinking, is not justified in refusing afterwards to attend the family. On the other hand, if he is introduced or called in by the family doctor, he is bound by every tie of equity, and also of self-interest, to refuse to attend that family subsequently, even if pressed so to do.

The words that have just been written apply to a much wider district than our city limits. Some few weeks since, whilst upon a professional visit some distance from the city, we heard a doctor of the neighborhood roundly denounced for allowing a patient to die. On attempting a defense we were met with the statement, "What we blame Dr. — for is not the death of the patient, but that he did not give him the best possible chance by calling a doctor from the city. Money was no object to the family, and why didn't he tell them how ill the patient was, and suggest bringing some one from Philadelphia? Then if death had come, everybody would have been satisfied that all that could be done had been done."

The *raison d'être* of the consultation is not only

the physical benefit of the patient, but the satisfaction of the family.

—Spencer Wells is just now receiving well-deserved adulation in English medical journals. We copy this editorial from the *Medical Times and Gazette*: "Our readers will feel much interest in learning that last week Mr. Spencer Wells completed his thousandth ovariectomy, and will be gratified to know that the patient is going on well. The results of Mr. Wells's operations, completed or uncompleted, successful or not, have from time to time been, with exemplary loyalty and faithfulness, placed before the profession, and the grand statistical outcome of all the thousand ovariectomies he has now performed will, in due course, be brought before the Medical and Chirurgical Society. The record will constitute a singularly great and lasting proof — *monumentum ære perennius* — of Mr. Wells's distinguished and peculiar position among the great surgeons of the nineteenth century. It must have rarely happened, we imagine, that a surgeon has performed any one great operation a thousand times, and certainly, when we remember the opinions held some twenty-five or thirty years ago, by the most eminent surgeons of the day, regarding ovariectomy, the fact that one surgeon has now performed that operation on a thousand patients is one of the most remarkable and striking events in the history of surgeons. The continually increasing success that has attended Mr. Wells's performance of ovariectomy is pretty well known, but the full record of his cases will be expected with great interest."

ST. LOUIS.

—The season thus far has been a mild one, but the time is approaching when the hot weather will be upon us, and sunstrokes will occupy the attention of the medical staff. The St. Louis Medical Society has adjourned till the third Saturday in September, and surgical operations which will permit it are being postponed till fall; the present therefore offers a favorable opportunity to look back over the past year.

The uncertainty in regard to the number of the population of St. Louis makes us fear that we shall have to give up our claim to being the healthiest large city in the Union. We do not know what our population is, but we feel quite certain that it will fall very much short of our estimates.

The past year has had an unusually high percentage of recoveries in ovariectomies for St. Louis. During the year Dr. J. T. Hodgen has operated five times. Two of his cases died in two or three days after the operation, probably of septicæmia; a third progressed very favorably for eight days, when tetanus set in, and death resulted on the twelfth day. Until the tetanus began there was no fever. Upon post mortem the peritonæum was found to be healthy, showing no signs of inflammation. In the two other fatal cases there were extensive adhesions, the tumors were very large, and in order to cut the adhesions and to stop subsequent hæmorrhage it was necessary to keep the abdominal cavity open between one and two hours. The other two cases resulted favorably.

Dr. E. H. Gregory, with the assistance of Dr. N. B. Carson, has operated five times during this period,

with four recoveries. The first operation was performed December 29, 1879. The patient was fifty-five years old; the tumor was multilocular, weighing eighty pounds; there were adhesions to the intestines and omentum, the pedicle was thrown back into the abdominal cavity, and the case resulted favorably.

The second operation was performed April 15, 1880. The patient was fifty years old; the tumor was a single cyst and weighed thirty pounds; there were adhesions to the omentum and to the abdominal wall; three ligatures were used to secure the pedicle, which was returned to the abdominal cavity. The case resulted in recovery, the pulse only once rising above 100.

The third operation was performed May 20, 1880. The patient was twenty-two years old; the tumor was multilocular and weighed eighteen and a half pounds; a great deal of the tumor was solid; there were no adhesions; three ligatures were used; the pedicle was short, and was secured in the abdominal suture; the tumor also was closely crowded into the pelvic and abdominal cavities. The patient complained of dragging on the pedicle, and forty-two hours after the operation died, probably of diffuse peritonitis. No post mortem was permitted.

The fourth operation was performed May 26, 1880. The patient was thirty-six years old; the tumor weighed twenty-four and a half pounds (two and a half pounds were solid), and was multilocular; there were no adhesions; the pedicle was tied with three ligatures, and was thrown back into the peritoneal cavity. The result was recovery, the temperature never going above 101.75° F.

The fifth operation was performed July 15th, and on account of the heat was begun at six A. M. The patient was thirty-one years old; the tumor was monocular and weighed twenty-six pounds; there were extensive adhesions to the abdominal walls and to the omentum; the pedicle was short, was secured by two ligatures, and was thrown back into the abdominal cavity. The woman recovered, the temperature thirty-six hours after the operation rising to 100.75° F.

In all these cases every antiseptic precaution was used, and to that their success is chiefly attributed.

Dr. George J. Engelmann, who resumed practice December, 1879, after his illness, has removed a prolapsed ovary, a full account of which has been given in the JOURNAL of May 13, 1880. The patient made a rapid recovery, the wound healing by first intention. He also has performed a double ovariectomy, in which there were adhesions anteriorly to the bladder and omentum, and there were in addition some six or seven cysts adherent to the liver and diaphragm, which it was necessary to remove. In this case also the wound healed by first intention, and the patient recovered without a single unfavorable symptom.

Dr. P. V. Schenck, physician in charge of the St. Louis Female Hospital, performed quite a difficult ovariectomy. The patient was insane, forty-seven years old, and had been tapped a number of times. The operation was begun at eleven A. M. April 26th, and lasted three hours. The incision began at the

umbilicus and extended down to the symphysis; the anterior abdominal walls were extensively adherent to the tumor, and the uterus was enveloped in the cyst; there was no pedicle, and to apply the clamp a pedicle had to be made of the peritoneal covering of the cyst. The clamp was found to embrace the internal os uteri, so that it was a case of extirpation of the uterus as well as of the ovaries. The contents weighed about seventy pounds; the cyst was multilocular. The latter portion of the operation was hurried, as it was feared that the patient would die upon the table; the patient has had a favorable recovery. The operation was performed in the hospital, and under the spray.

Dr. Gust. Osann has operated once this year; heretofore he has been quite successful, but in this case the patient died during the operation, perhaps from chloroform.

Dr. F. J. Lutz has during the year removed successfully a cyst of the lateral broad ligament, which he reported at the Missouri State Medical Society.

Dr. A. C. Bernays has operated successfully three times, and has lost one case. Two of these successful cases occurred prior to the period which we are considering, and do not properly belong in this review. In the summer of 1879 he operated on one case, which died. June 14, 1880, he operated successfully upon his fourth case.

On the 19th of June Dr. William Barret performed a successful ovariectomy. The patient was a young woman, the tumor was good sized, but unfortunately was not weighed; the pedicle was returned to the abdomen.

This gives us a total of sixteen cases, with eleven recoveries, excluding Dr. Engelmann's removal of a prolapsed ovary, which is very good indeed, considering the past fatality of the operation in this region.

Miscellany.

TANNER'S TEST.

IN the following editorial remarks on Dr. Tanner's Fast, published the last day of the exhibition, the *New York Medical Record* says all that need be said about it. We may merely add that we are probably only less glad than the faster himself that the performance is concluded, and that we can read our daily paper in peace without being reminded of a hospital record book. It is just as impossible to state that Dr. Tanner's fast was not honestly conducted as to persuade ourselves that it was. The vigor of his subsequent digestion is to us more surprising than the preceding abstinence.

"The exhibition at Clarendon Hall will come to a close to-day, if it has not done so sooner, and the attenuated experimenter, doubtless with much satisfaction to himself, returns to his normal diet. The principal items regarding his performance, that possess any scientific interest, have been published in the *Record*, and do not need repeating here. There has been, however, so much public comment from all sources upon the matter, that we are excusable in discussing the subject briefly now.

"It is undoubtedly the popular opinion that Dr. Tanner is honest, and that he ate nothing during the time of his fast. We are not disposed to deny the justice of this judgment. There is nothing in the character of the faster which would lay him under any particular suspicion. His past history has been that of a man of respectable character and of strong self-will, who has endeavored to lift himself out of an unsuccessful medical career by fanatically advocating various theories on the subject of electricity and fasting. In his present experiment he has been watched quite constantly by three sets of men, whose honesty or intelligence it is not fair to impugn. We do not think it strange, therefore, that he is generally believed to have kept the fast as he claims to have done.

"There are, however, certain other elements in the matter which rob his experiment, whether genuine or not, of nearly all its value. In the first place, it cannot be positively denied that he did not take any food. One set of his watchers was confessedly in sympathy with him, and wished strongly for his success. The regular physicians were not continuous in their attendance at first, and he was not always under their eye. Dr. Tanner was taken out to drive, went to the photographer's and the barber's, and took occasional strolls about the neighboring square. Finally, his physical condition was considerably different from that which all past experience has shown to follow abstinence from food. His surprising vigor, his occasional gain in weight, his comparative freedom from suffering of any kind, are phenomena which are not easily explained under accepted physiological laws. If to this is added the manner in which the experiment was conducted, — a manner which had the mixed character of a variety show and a patent-hammock advertisement, — we feel sure that the profession will agree that little practical or scientific value can be given to the alleged fast.

"Apart from this view of the matter, there were several unpleasant features connected with the exhibition. There was, for instance, an attempt all along to create the impression that the regular physicians were inimical to Dr. Tanner; that they believed the feat of fasting forty days a physical impossibility, and that his success in performing such a feat would be a blow to scientific medicine. This absurdity was fostered by a few indiscreet individuals who felt it their duty to appear in the daily newspapers. There has been, however, no physician, so far as we know, who has denied the possibility of accomplishing the fast. All that has been desired was that the experiment should be carefully conducted, so that some benefit might accrue to science in its performance.

"In denying any practical value to Dr. Tanner's performance, we might make one slight exception. The widely advertised announcement of the fact that a person had comfortably passed many days without food will lead many other persons to try the same thing, to a greater or less extent. If this is done under the guidance of good physicians, it may secure some definite knowledge of the therapeutic effect of fasting. There is no reason why it should not be of occasional value in cases of digestive trouble, obesity, etc. With the comfort of having given an impulse to this somewhat doubtful branch of therapeutics, and of having gained the ephemeral notoriety which he craved, we recommend Dr. Tanner to return to the simpler joys of his electrical baths and a normal diet."

MONUMENT TO CLAUDE BERNARD.

THE project referred to in the following communication is certainly worthy of the cordial support and encouragement of the medical profession in this country. Science, like humanity, overleaps all artificial boundaries. Medicine owes much to Claude Bernard, and we need not hesitate to aid in erecting a monument to the light of modern research among a people who have been so lately anxious to erect a monument to the light of freedom among ourselves. — Ed.

MR. EDITOR, — Having been selected by the Paris committee (Messrs. Ranvier and Dumontpallier) having charge of the subscription for a monument or memorial to the late Professor Claude Bernard, to represent them in the United States, I beg leave to be allowed to use your columns for the purpose of appealing to the members of the medical profession and all others interested to subscribe to this worthy project. I need hardly remind your readers of the great debt which every practicing physician owes to the labors of the illustrious physiologist whose memory we are asked to honor in this way. All inquiries and subscriptions, in the shape of bank checks or postal money orders, should be addressed to me.

Yours, very respectfully, E. C. SEGUN, M. D.

PLATED WIRE.

MR. EDITOR, — I see by the JOURNAL of July 22d, that Thomas F. Quimby, M. D., of Minneapolis, Minn., makes inquiry in regard to nickel plating of iron wire, as a substitute for silver. I would suggest to the doctor, through the JOURNAL, that if he will take the trouble to use *lead wire* instead of silver or any other metallic wire for sutures, where metal is preferred, he will not, I think, have reason to regret it. For the last twenty-five years or more I have been in the habit of using only lead wire in all operations, especially where mucous membranes were involved. It has never failed to remain, without the slightest ulceration, any length of time required to effect a cure. Any size wire may be used, ranging from about forty-five to fifty-six (Stubbs gauge). A very easy way of introducing the wire is to shave off about half the thickness at one end, and bend it over a short loop of thread passed under the eye of a needle. In confining the stitch the ends may be twisted or bent and hooked together; either is safe. Lead wire is very pliable, easily put into any shape desired, and amply strong for any purpose in surgical operations. It will give perfect satisfaction if used in closing up laceration of the perineum, recto-vaginal fissure, etc.

H. H. HILL, M. D.

AUGUSTA, ME., August 3, 1880.

POISONING BY AQUA AMMONIA.

MR. EDITOR, — Owing to its pungent odor, poisoning by preparations of ammonia is of such rare occurrence that I forward for publication a brief report of the following typical case. On July 9, 1880, T. J., aged forty-seven, who for three weeks had been stupefied with alcohol to the almost entire exclusion of ordinary food, was given, by mistake, four tablespoonfuls from a bottle of aqua ammonia which was in the house for laundry use. After sniffing the draught and remark-

ing in a wandering way that it smelled pretty strong, he drank it rapidly, not, however, quite draining the cup. He immediately rejected some of the liquid from the mouth, and soon afterwards vomited, probably discharging a portion from the stomach. A terrible burning sensation of the mouth and fauces at once ensued; not until two hours afterwards did he complain of soreness any lower down, and at no time did that become a marked symptom. No antidote was administered until about three quarters of an hour after the accident, when a neighbor gave him nearly half a tumbler of vinegar, diluted. Prior to my arrival, which was fully an hour and a half from the time that the poison was taken, he had vomited twice, the last matter ejected being about four ounces of liquid, colored a bright red by blood.

At that time the mouth and throat were red and burning, the pulse 96, the skin cold and covered with moisture. More vinegar was given, which was succeeded by a slight eructation of gas. Half an hour afterwards he again vomited bloody liquid. Demulcent drinks and anodynes were ordered for the night.

July 10th, A. M. Pulse 144. The temperature was normal, reaction having set in a few hours after the accident occurred. He had slept none, had had one

normal movement of the bowels, and had just begun to manifest a marked hoarseness. Five P. M. Pulse 124; temperature 100.6° F.; tongue dry; deglutition difficult. The hoarseness had increased, and respiration was accompanied by a tracheal or faucial rale. The abdomen had become tense and tympanitic. He had taken some nutritious drinks and several glasses of beer; had had one large bloody dejection.

July 11th. Pulse 144; temperature 102.5° F. The patient took nutriment well, requiring little anodyne, slept fairly, and raised but little sputa.

July 12th and 13th. The fever was nearly gone, but the pulse continued equally rapid. The mouth was dry and dark colored, the expectoration slight. An occasional dark dejection occurred; no vomiting. At four o'clock, P. M., he repeated more emphatically than ever his expectation of a fatal issue. From that hour he kept his bed, although previously he had frequently been up and walking about. During the night of the 13th he vomited repeatedly, but otherwise appeared to suffer little. Early in the morning of the 14th, four days and a quarter from the time of taking the poison, the case ended fatally.

LUCIUS F. C. GARVIN, M. D.

LONSDALE, R. I.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 31, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal Zymotic Diseases.	Diarrhoeal Diseases.	Lung Diseases.	Diphtheria and Croup.	Typhoid Fever.
New York.....	1,085,000	625	286	38.56	27.84	5.44	5.28	.96
Philadelphia.....	501,380	378	166	26.72	20.63	4.76	1.32	2.38
Brooklyn.....	564,400	301	163	35.54	28.93	5.31	2.65	1.32
Chicago.....	—	227	149	41.84	31.27	4.40	7.05	.88
St. Louis.....	—	135	64	31.11	20.00	4.44	.74	.74
Baltimore.....	393,756	162	79	33.95	14.19	1.24	3.72	1.24
Boston.....	365,000	242	131	54.54	46.28	2.89	5.37	.41
Cincinnati.....	280,000	88	51	26.13	15.91	4.54	2.27	2.27
New Orleans.....	210,000	76	24	19.73	7.89	6.58	1.31	2.62
District of Columbia.....	170,000	69	34	—	—	10.15	2.89	4.53
Buffalo.....	—	49	23	38.77	30.61	2.04	2.04	—
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	—	63	38	46.03	27.00	6.35	4.77	3.18
Milwaukee.....	127,000	83	65	32.53	27.71	6.02	2.40	1.20
Providence.....	102,000	47	23	48.93	34.04	6.38	2.12	6.38
New Haven.....	60,000	27	16	44.44	40.74	11.11	—	3.70
Charleston.....	57,000	35	12	14.28	8.57	2.85	—	5.70
Nashville.....	37,000	27	12	40.74	11.11	11.11	—	11.11
Lowell.....	54,000	31	14	41.93	41.93	9.68	—	—
Worcester.....	53,000	35	22	57.14	54.28	—	—	—
Cambridge.....	56,400	31	18	48.39	41.93	9.68	—	—
Fall River.....	49,000	—	—	—	—	—	—	—
Lawrence.....	38,600	21	16	47.62	38.10	9.52	—	4.76
Lynn.....	34,000	27	11	55.55	40.74	3.70	3.70	7.40
Springfield.....	31,800	16	12	56.25	56.25	—	—	—
New Bedford.....	27,200	17	7	58.82	52.94	—	5.88	—
Salem.....	26,500	14	7	50.00	35.71	—	7.14	7.14
Somerville.....	23,500	16	10	62.50	62.50	6.25	—	—
Chelsea.....	21,000	11	3	45.45	27.27	—	18.18	—
Taunton.....	20,200	8	—	12.50	—	—	—	—
Holyoke.....	18,400	11	4	27.27	27.27	27.27	—	—
Gloucester.....	17,300	18	16	72.72	61.11	—	—	—
Newton.....	17,300	—	—	—	—	—	—	—
Haverhill.....	15,350	13	6	23.07	7.69	—	—	—
Newburyport.....	13,500	8	3	12.50	12.50	—	—	—
Fitchburg.....	12,600	5	2	40.00	26.00	40.00	20.00	—
Twenty Massachusetts towns.....	145,610	67	22	32.83	26.86	1.49	2.98	—

Deaths reported, 2983; 1509 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 1126, diarrhoeal diseases 825, consumption 379, lung diseases 145, diphtheria and croup 104, typhoid fever 46, scarlet fever 37, whooping-cough 36, malarial fevers 30, cerebro-spinal meningitis 20, measles 16, erysipelas seven, small-pox four, typhus fever one. From *scarlet fever*, Chicago and Baltimore nine each, Pittsburgh four, New York, St. Louis, New Orleans, Buffalo, Providence two each, Brooklyn, District of Columbia, Lawrence, Gloucester, Northampton one each. From *whooping-cough*, Boston eight, New York six, Nashville five, Philadelphia four, St. Louis three, Brooklyn, Chicago, Boston, District of Columbia two each, Cincinnati, Pittsburgh one each. From *malarial fevers*, New York eight, St. Louis seven, Brooklyn five, Philadelphia, New Orleans three each, Chicago two, Baltimore, District of Columbia one each. From *cerebro-spinal meningitis*, New York five, Baltimore three, Chicago two, St. Louis, Boston, District of Columbia, Pittsburgh, Milwaukee, Cambridge, Lynn, Taunton, Haverhill, Northampton one each. From *measles*, Cincinnati four, New York, Boston two each, Chicago, Baltimore, New Orleans, Pittsburgh, Providence, Cambridge, Gloucester, Haverhill one each. From *erysipelas*, New York three, Baltimore two, Boston, Worcester one each. From *small-pox*, New York, Philadelphia two each. From *typhus fever*, Buffalo one.

Twenty cases of diphtheria and croup, 15 of scarlet fever, three of whooping-cough, four of typhoid fever, were reported in Brooklyn; 14 of diphtheria, two of cerebro-spinal meningitis in Boston; eight of diphtheria in Milwaukee, where deaths under five years were very numerous (65 out of 83), owing to severe heat; three of diphtheria, two of measles, 11 of scarlet fever, three of typhoid fever, nine of diarrhoeal diseases, in Providence; one of diphtheria in New Bedford.

Total deaths about the same; deaths under five diminished;

deaths from diarrhoeal diseases likewise diminished. Deaths under five diminished in New York, Philadelphia, Chicago, and St. Louis; increased in Brooklyn, Boston, and Cincinnati.

In 35 cities and towns of Massachusetts, with an estimated population of 957,610 (population of the State about 1,690,000), the total death-rate for the week was 31.82 against 28.09 and 23.89 for the previous two weeks.

For the week ending July 10th, in 149 German cities and towns, with an estimated population of 7,651,474, the death-rate was 30. Deaths reported, 5431; 2689 under five: pulmonary consumption 440, acute diseases of the respiratory organs 255, diphtheria and croup 112, scarlet fever 78, typhoid fever 69, measles 62, whooping-cough 59, puerperal fever 22, small-pox (Dresden two, Wiesbaden) three. The death-rates ranged from 17.1 in Augsburg to 48 in Königsberg; Breslau 37.9; Munich 39.7; Dresden 28.1; Berlin 46.5; Leipzig 17.9; Hamburg 23.5; Hanover 23.5; Bremen 22.9; Cologne 42.6; Frankfurt 18; Strassburg 29.7.

For the week ending July 17th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 20.1. Deaths reported, 2892; acute diseases of the respiratory organs 176, diarrhoea 258, scarlet fever 117, whooping-cough 86, measles 53, fever 31, diphtheria 19, small-pox three. The death-rates ranged from 16 in Portsmouth, Leicester, and Bristol to 27 in Norwich; London 20.5; Birmingham 17; Manchester 21. In Edinburgh 17, Glasgow 19, Dublin 30.

In the 20 chief towns in Switzerland for the same week, population 445,790, there were 36 deaths from diarrhoeal diseases, 20 from acute diseases of the respiratory organs, scarlet fever five, whooping-cough four, diphtheria and croup three, typhoid fever two, measles one. Death-rate of Geneva 25.8; of Zurich 29.2; Basle 25.5; Bern 33.2.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.		Thermom-eter.		Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
July 25	30.035	71	85	63	94	59	76	76	W	E	SW	5	6	9	F	F	F	—	—
" 26	29.937	79	85	69	75	56	76	69	S	SW	SW	10	11	6	T	C	F	—	—
" 27	29.965	74	89	67	80	47	70	65	W	SW	NW	5	4	4	O	F	O	—	.10
" 28	29.973	67	75	60	43	36	89	56	W	NW	W	11	13	2	C	F	C	—	—
" 29	29.903	62	75	55	65	37	65	55	NW	NW	W	12	11	11	C	F	C	—	—
" 30	29.985	66	78	52	69	37	64	56	W	W	W	9	12	7	C	F	C	—	—
" 31	30.070	75	87	60	63	36	60	53	W	SW	SW	10	11	10	H	F	C	—	—
Week.	29.981	71	89	52				62										1 30	.10

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JULY 31, 1880, TO AUGUST 6, 1880.

STRONG, NORTON, first lieutenant and assistant surgeon. Assigned to temporary duty at Fort Douglas, Utah, S. O. No. 70, Headquarters, Department of the Platte, July 31, 1880.

BOOKS AND PAMPHLETS RECEIVED.—Braithwaite's *Retrospect of Practical Medicine and Surgery*. Part LXXXI. New York: W. A. Townsend, 1880. (From A. Williams & Co.)

By-Laws of the Middlesex North District Medical Society. Adopted April 28, 1880.

Questions submitted to the Graduating Classes of the Medical College of Ohio from 1871-72 to the present Time. Cincinnati.

Register of Obstetric Cases. Published by Doane & Greenough, Boston. (From A. Williams & Co.)
Lunacy Reform. IV. The Right of the Insane to Liberty. By E. C. Seguin, M. D. (Reprint.)

On Occipital Headache as a Symptom of Uræmia. By E. C. Seguin, M. D. (Reprint.)

Trustees, Faculty, and Graduates of Detroit Medical College. List of their Names from 1869 to 1881, with Addresses of Graduates. Detroit, 1880.

Official Register of Physicians and Midwives to whom Certificates have been issued by the Illinois State Board of Health. Springfield, 1880.

Lectures.

TREATMENT OF DISEASES OF THE LARYNX.

BY E. FLETCHER INGALLS, M. D.,

Lecturer on Diseases of the Chest and Physical Diagnosis, and on Laryngology in the Post-Graduate Course, Tufts Medical College.

GENTLEMEN:—Having pointed out in my recent lectures the symptoms and signs which will enable you to diagnosticate diseases in the larynx, I wish this morning to call your attention to the methods of treatment for the most common diseases, which may be best employed by the general practitioner.

IN ACUTE LARYNGITIS.

If the patient is brought to us sufficiently early, our first effort should be to abort the attack; for this purpose it is customary to give at bedtime ten grains of Dover's powder, or from six to ten grains of quinine, or a hot "sling," either one of which will frequently enable the patient to rise in the morning comparatively well; or, instead of these, acetone may be given, or the fluid extract of jaborandi; either will answer much the same purpose as the Dover's powder. Theoretically, jaborandi should be a very valuable remedy in such cases, but generally I have failed to get a good article when I have prescribed it. In a few cases it has acted very satisfactorily, but in others the discomfort which attends its physiological action has been very great on account of the salivation, and often nausea and vomiting.

A gentleman of my acquaintance once took half a drachm of the fluid extract, and went immediately to bed, hoping to fall asleep before the diaphoresis began. He describes the effects as follows: "In about twenty minutes I felt my mouth fill with saliva, and on rising to expectorate it perspiration started from every pore; my mouth was scarcely emptied before expectoration was again necessary, and this continued until the act became so tiresome that I was obliged to hang my head over the edge of the bed and allow the saliva to run in a steady stream; the sweat poured from every part of my body almost in streams, and saturated the bed clothing; this continued for about three hours, the monotony varied only by occasional vomiting, and at about the end of two hours a cessation in the flow of saliva, which, however, promptly returned when I moved to arrange myself for sleep."

This remedy might doubtless be taken in the daytime without proving so uncomfortable as at night, when the patient wants to sleep.

Failing to abort the attack, you will next resort to remedies which diminish the fever and lessen the inflammation or favor its speedy resolution. With this in view the bowels should be gently acted on by saline cathartics, and you may administer opiates internally in small and repeated doses, giving about one thirtieth of a grain of morphia or its equivalent every half-hour, or less frequently, or you may give grain doses of compound ipecac powder, or small doses of other narcotics. Acetone might be given with good results in doses of half a drop every fifteen minutes for a couple of hours, subsequently diminishing the frequency and increasing the size of the dose to one or two drops every two hours. In view of the danger from oedema, some are in favor of administering early a free purge of calomel, and subsequently using the mercurial in small and frequent doses. The inhalation of steam, or

steam impregnated with volatile anodynes, is usually beneficial. The atmosphere of the room should be kept moist, and at a temperature of about 70° F. or 75° F.

With children, the steam from a kettle may be kept playing near their mouth, and older persons may inhale from the spout of a teapot filled with warm water, or from an ordinary steam atomizer. When the patient inhales the vapor from warm water, the addition of some anodyne is desirable, such as one ounce of compound tincture of benzoin, or the same with two to five drops of chloroform, or eight grains of the extract of conium, or an ounce of lupulin rubbed up with half a drachm of carbonate of sodium and a little water, and added to the pint of water at 150° F., as, for instance, two or three grains of carbolic acid to half an ounce each of glycerine and water, or mild astringent solutions with or without small quantities of opium or belladonna. For these you may employ a couple of grains of sulphate of zinc to an ounce of water, or tannin in about the same proportion, or acetate of lead.

If there is much pain in the throat, or the person is restless, the amount of opium given internally may be increased, or you may add some of the watery extract of opium or belladonna to the solution which is used for atomization; in many cases the euphorated tincture of opium, or the compound tincture of benzoin, acts very pleasantly, whether used as a vapor in the warm water or as a spray by the steam atomizer.

Strong topical applications cannot be made by the general practitioner, and are of doubtful efficacy, even when properly applied. Strong solutions of the mineral astringents, especially from sixty to one hundred and twenty grains of nitrate of silver, are highly extolled by some physicians, but in the majority of instances patients seem to get along better without them.

If oedema of the larynx supervenes, the case tends to a fatal issue unless promptly checked or relieved. The best method of treatment is scarification of the mucous membrane so as to allow escape of the serum which has collected in the submucous tissues. Scarification of the epiglottis and occasionally the superior portions of the larynx can usually be performed by the general practitioner by the aid of a long bistoury, around which has been wrapped, to within a quarter of an inch of its point, a piece of adhesive plaster for the purpose of avoiding injury to the tongue.

By the aid of the laryngoscope we are enabled to scarify the deeper portions of the larynx more carefully and effectually. This is the best treatment, but where it cannot be practiced the administration of emetics is sometimes followed by good results, due to the act of vomiting, which occasionally causes rupture of the mucous membrane.

The fluid extract of jaborandi might be given in some of these cases with benefit. In one instance in which I employed it the oedema was greatly relieved. If efforts to relieve the oedema fail, and the obstruction to respiration increases, tracheotomy will become necessary.

Frequently a subacute form of inflammation follows acute laryngitis, and may continue for a long time. This will require the application of stronger remedies. The general physician may apply them by means of an atomizer with a long tube properly bent to throw a spray into the throat, the patient being directed to respire deeply, or to sound a prolonged, high-pitched note during the application. For this purpose almost any of the mineral astringents may be used in moder-

¹ Phonographically reported for the JOURNAL.

ately strong solutions, or various powders may be thrown into the larynx, but these latter are not so desirable as topical applications of the stronger astringents by means of a brush. For application with a brush or sponge we may use sulphate or chloride of zinc, twenty or thirty grains to the ounce of water, or water and glycerine, or twenty grains of the perchloride or persulphate of iron; one hundred and twenty grains of sulphate of iron, ten grains of sulphate of copper, or twenty to thirty grains of alum to the ounce of fluid, may be used in a similar manner. Some physicians prefer nitrate of silver in solutions varying in strength from twenty to even one hundred and twenty grains, but the other astringents seem to act equally as well, and are less likely to be painful. Counter irritation at the upper part of the sternum or upon the back of the neck will sometimes be found useful.

ACUTE LARYNGITIS IN YOUNG CHILDREN

requires more vigorous treatment than in adults, because of the small size of the larynx, and the greater liability to spasm of the glottis. In treating these cases the warm bath should be used at first to relieve the engorgement of the mucous membrane and tendency to spasm. The atmosphere of the room should be kept moist by steam, and the temperature kept up to 80° F. or 85° F., and when possible the little patient should be induced to inhale steam from the atomizer. Frequently young children become very much alarmed by the atomizer, when brought close to their faces, but they will get some benefit from it though it is placed three or four feet away. A great deal of benefit will frequently be derived from warm fomentations, care being taken to keep the parts constantly warm and moist. For this purpose poultices of flaxseed are as good as anything, or you may use cloths wrung out of hot water, or spongopilin with warm water, which is an elegant application; whichever of these is employed it must be kept constantly hot, for if allowed to cool it will do more harm than good. If these cannot be kept warm it is much better to apply dry cloths. Turpentine stupes to the neck have also been found beneficial. If there is much tendency to spasm, the compound syrup of squills may be given, or small doses of belladonna, which not only relieve the spasmodic tendency, but possibly have some specific curative effect on the mucous membrane of the throat.

If oedema comes on, you should make an effort to scarify the part, but generally this cannot be effected in young children; failing in this, by passing the finger over the base of the tongue, you will sometimes be able to tear the mucous membrane with the nail, and thus allow the serum to escape. If you cannot relieve the oedema, and the dyspnoea continues to increase, do not hesitate to resort to tracheotomy, which holds out very good chances for recovery.

In a few rare instances of acute laryngitis in young children, the dyspnoea seems to be due to inflammation of the posterior crico-arytenoid muscles, which are the abductors of the vocal cords. The glottis during respiration in health is a triangular cleft, but with paralysis of these muscles the cords are drawn together during inspiration, so as to greatly interfere with the ingress of air. In one case of this sort, reported by Dr. J. Solis Cohen, it was found that the application of ice bags to the neck every minute for about eight hours succeeded in inducing reflex respiratory movements, which carried the child over the critical period,

IN SUB-ACUTE LARYNGITIS,

which is the form of affection found in ordinary colds, the treatment is generally attended to by the patient himself: if consulted, you should manage the case as one of mild laryngitis, taking care to prevent exposure to cold, keeping the patient in his room, and applying the milder remedies recommended for the acute affection.

PHLEGMONOUS LARYNGITIS

is a very grave affection, and therefore calls for more vigorous treatment. Early in the disease, the application of leeches along the edge of the sternum, or in the inter-clavicular notch, has been recommended, and you should at once have recourse to fomentations and the inhalation of steam, more or less impregnated with opium or belladonna according to the amount of distress. Subsequently, the case should be treated upon the supporting and stimulating basis, consisting of nourishing diet, alcoholics, and quinine and iron. The diet should be fluid, and, as the patient will ordinarily be unable to swallow, it must generally be given by enema. Quinine may be given hypodermically if the patient cannot swallow, or by enema. In this disease, scarification is of very little benefit. Tracheotomy is indicated when the patient suffers much dyspnoea, but is usually fruitless.

IN ERYSIPELATOUS LARYNGITIS

the inhalation of steam is beneficial, and when impregnated with anodynes it will add much to the patient's comfort. Frequently emetics are useful in young children, for the sake of clearing the throat. The most desirable emetic in such cases is alum or the sulphate of copper; alum would usually be the best, but neither causes subsequent prostration. Benefit has also been obtained in these instances, by causing the patient to hold small bits of ice in his mouth.

Some specialists have found benefit from the topical use of very strong solutions of nitrate of silver.

Tracheotomy is indicated if dyspnoea becomes urgent, but usually it will not save the patient.

TRAUMATIC LARYNGITIS

is an affection which any of you are likely to be called upon to treat, especially that form resulting from the inhalation of steam by young children. The most satisfactory treatment consists of the inhalation of steam more or less impregnated with substances which relieve the smarting, and anodynes used internally or hypodermically, to relieve the pain and restlessness. At the same time the patient should be well nourished, and stimulation may be found necessary very soon. The constant application of bags of ice to the neck, and sucking bits of ice, are also beneficial. Considerable relief from the smarting in the mouth and throat is obtained by the inhalation of atomized solutions of the acetate of lead, or carbonate of soda; mucilaginous drinks, as, for instance, flaxseed tea, or barley water, will also be found beneficial. These drinks are frequently very distasteful to the patient, but if acidulated with a little lemon juice, they become quite palatable.

Calomel is recommended in doses of two or three grains once an hour, until relief is obtained. I dislike to give it, but it has the sanction of high authority.

(Oedema comes on very soon, and if it should cause much obstruction to respiration, tracheotomy must not be delayed, for if it is, the chance of success will be much less, or the patient may suddenly die from suffocation.)

focation. The œdema seldom extends below the glottis, therefore the operation is generally successful if performed sufficiently early, but if the blood is allowed to become surcharged with carbonic acid, the relief afforded does not come soon enough to prevent the cerebral or pulmonary complications which are likely to result from the congestion.

ABSCESSSES OF THE LARYNX

are likely to cause death by asthénia or apnoea. The treatment should be supporting from the first, and if possible to reach the abscess, it should be opened; but if this cannot be done tracheotomy should be performed as soon as the dyspnoea becomes urgent.

ŒDEMA OF THE LARYNX.

In this affaction ice bags applied to the neck or ice held in the mouth will give considerable relief, and applied in spray, powder, or by the brush, it will be found beneficial, but scarification is the most rational treatment, and it has the advantage of giving immediate and usually permanent relief. Chronic œdema is not much improved by scarification, because it usually depends upon a fibrinous exudation, instead of serum, but the application of strong mineral astringents is likely to give some relief.

IN SUB-GLOTTIC ŒDEMA,

occurring just beneath the vocal cords, the various topical applications are almost useless. Usually the œdema is due to a fibrinous exudation, so that even if scarification could be practiced, it would be without result. In these cases dyspnoea can only be relieved by tracheotomy, and subsequently the tube must be constantly worn in the majority of cases.

CROUP

may be beneficially treated in much the same manner as acute laryngitis. The patient should be kept in a room with moist atmosphere, at a temperature of about 85°. Hot fomentations may be applied to the neck; emetics are valuable to clear the throat of mucus, and occasionally they aid in detaching false membrane, but only those should be used which have no depressing effects, such as alum, sulphate of copper, or turpeth mineral; and iron and quinine may be needed. Chlorate of potassium seems to have a good effect in some instances, and in others, small doses of the permanganate of potassium have given very satisfactory results. The insufflation or internal use of sulphur has been greatly lauded by the laity recently, and has been tried very generally by the profession, apparently with some success. Inhalations of the vapor from slacking lime, or atomized lime water, are often very useful in promoting the disintegration and detachment of the false membrane.

The patient should take these inhalations very frequently, every twenty minutes or half-hour. Vapor from slacking lime may be obtained by dropping bits of lime into a basin of hot water and holding over it a piece of paper rolled into the form of a funnel, which will collect the vapor and direct it into the patient's mouth, or the basin may be placed near the patient's head, and both be covered with an apron or sheet.

Lime water may be used with the hand atomizer, or better still with the ordinary steam atomizer. If this treatment does not answer the purpose, you should try a solution of one grain of bromine and five to sixty

grains of bromide of potassium to the ounce of water, used in the same manner as the lime water; or the two may be used alternately.

The tendency to spasm which nearly always exists in true croup should be met by the administration of opium or belladonna, which will render the disease a little less dangerous. Considerable benefit seems to have been derived in some cases from the application of bags of ice to the neck.

In croup, the results of tracheotomy are not nearly so satisfactory as in acute laryngitis, or œdema following injury to the throat; however, the operation should be resorted to in case dyspnoea becomes urgent. The chances of success will be greatly increased by an early operation; therefore as soon as there is lividity of the lips and falling in of the soft parts of the chest during inspiration, tracheotomy should be performed, for unless relief is obtained, death is certain. Be sure of the diagnosis, and then operate early, and you may hope to save from twenty to fifty per cent. of your patients. Late operations are not nearly as successful, and without tracheotomy, well marked cases of croup are fatal to the extent of about ninety-five per cent.

During convalescence from croup, the patient should be confined to the house for several weeks, and great care be taken that the body is not chilled by changes in the temperature or clothing. If the patient is allowed to go out, a recurrence of the attack is quite probable.

I lately saw, in consultation, a little child who was, at the time, almost comatose from obstruction to the respiration by croupy exudation. The remedies which were being employed, aided by the inhalation of vapors of lime water, had such a beneficial effect that on the following morning the child seemed almost well. The next day the people allowed it to play in the street, and the next day it was buried.

After convalescence from croup, frequently the voice remains hoarse for a number of weeks or months; this is due to subacute inflammation, paresis of the vocal cords, or perhaps to the formation of morbid growths within the larynx. Time usually effects a cure.

LARYNGISMUS STRIDULUS: SPASMODIC OR CEREBRAL CROUP.

During the paroxysm, an attempt should be made to relax the spasm by slapping the back, buttock, etc., dashing cold water in the face, cold sponging, or by the warm bath. After the paroxysm, you must attempt to remove the cause of the spasm; this, you will recollect, may be found in the alimentary canal, præputæ, spinal cord, or brain. If you find swollen gums, lance them; if an overloaded stomach, give emetics; if you find the bowels irritated by indigested food, give a dose of castor oil; if there is phimosi and irritation of the glans, circumcise; or if the cause seems seated in the brain or spinal cord, give bromide of potassium.

The affection in children is usually associated with slight catarrhal laryngitis, and the spasm is perhaps most frequently excited by an overloaded condition of the stomach. In such cases, turpeth mineral in doses of one fourth to one half grain, or the compound syrup of squills in doses of fifteen to thirty drops every fifteen minutes until vomiting is produced, and subsequently moderate doses of bromide of potassium or oxide of zinc and extract of hyoscyamus, is a prompt and efficient course of treatment. Following the attack, iron or small doses of belladonna will be useful.

Cod liver oil, etc., are indicated to improve the general condition.

This disease, especially in adults, is occasionally due to paralysis of the posterior crico-arytenoid muscles, which allow the vocal cords to fall together during inspiration and thus obstruct the entrance of air. In cases of this sort, if they are at all persistent, tracheotomy should be performed to remove the immediate danger, and allow the patient time to recover from the cause of the paralysis. After tracheotomy, the application of electricity, internally or externally, to the larynx, would seem to be indicated, but it has not proven very successful. The administration of tonics, including strychnia, is usually followed by good results.

CHRONIC LARYNGITIS

is usually a difficult disease to manage, because the treatment must be prolonged and the patient is very likely to become discouraged. In mild cases, by attending to the general health, placing your patient under as good hygienic conditions as possible, and administering such simple tonics or laxatives as may seem indicated, you will be very likely to get a good result without topical applications. A cure may often be hastened by causing the patient to inhale the spray, two or three times a day, of a mild solution of some vegetable or mineral astringent. Tannin is the most common remedy for this purpose, but sulphate of zinc is a little more pleasant. It should be used in the proportion of about two grains to the ounce of water; or we may employ in the same manner sulphate of copper, one or two grains; or acetate of lead, two to five grains to the ounce. These remedies are to be used when the amount of secretion is considerable. When the mucous membrane is dry and the secretion scant, we shall find good results from a similar application of iodide of potassium, five grains; chloride of ammonium, five or ten grains; or the tincture of pyrethrum, ten minims to the ounce; or the nascent chloride of ammonium may be employed by any one of the numerous inhalers devised for the purpose. Water is generally used as the menstruum, though we may use a mixture of glycerine and water.

When chronic laryngitis is attended by pain, the camphorated tincture of opium, or the compound tincture of benzoin, or the watery extract of opium or belladonna, may be beneficially added to the astringent spray. Patients who are being treated by inhalations of warm vapors or steam sprays must not go out of doors for half or three quarters of an hour after the inhalation.

In case the disease does not yield to this form of treatment, sulphate of zinc, chloride of zinc, or the sulphate of copper, ten to thirty grains to the ounce; sulphate of iron, from sixty to one hundred and twenty grains; or nitrate of silver, thirty to one hundred and twenty grains to the ounce, or some other astringents or caustics, should be applied directly to the inflamed parts with the aid of the laryngoscope and laryngeal brush or sponge. Ordinarily, these strong applications should be made at first every day, for one or two weeks, then every second day, and afterwards less frequently. In the mean time the patient should use at home some of the milder astringent sprays of which I have just spoken. When the patient is obliged to breathe cold air, or air containing irritating dust, the use of a respirator to modify the temperature or filter the air will be found very beneficial.

In some instances, the best treatment which can be applied will be found inefficient; then you will have to be content with palliative measures and maintaining the general health in good condition. Such patients are frequently benefited by change of climate.

When ulceration occurs in simple chronic laryngitis or in the syphilitic or tuberculous forms, the treatment must be more vigorous. All these cases must receive proper constitutional treatment besides the local applications. Syphilitic ulcers should be treated by topical applications of the solid nitrate of silver, or very strong solutions; or the acid nitrate of mercury, forty to one hundred and twenty grains to the ounce; or when the ulceration is on the epiglottis, so that it can be reached, the galvanocautery may prove more efficient. The applications will not need to be repeated oftener than once in two or three days. In the ulcerations due to a simple chronic laryngitis, the same topical applications are indicated as in chronic inflammation without ulceration, but the solution should be stronger and should be applied carefully to the ulcerated surface. In tuberculous laryngitis with ulceration, and dysphagia due to pain, very great benefit may be derived from local applications. For the general practitioner, the simplest local remedies are cod liver oil or sweet oil. When swallowed they bathe the parts more or less completely, and thus aid in preventing the severe pain which would otherwise prevent the ingestion of food. The same remedies may be applied with the brush or probang. The insufflation of certain powders will be found beneficial, and this may usually be easily accomplished by the general practitioner. The insufflators which I have found most satisfactory consist of a rubber bulb attached to a flexible tube about eighteen inches in length, and a glass tube about eight inches in length and three sixteenths of an inch in diameter, bent within an inch of its extremity nearly to a right angle and made somewhat flaring at the orifice of this bent end. The insufflators found at the instrument stores consist of a metal or gutta-percha tube, bent at one extremity and having a rubber bulb attached to the other. The objection to these is that as the bulb is squeezed, the end of the instrument is unavoidably moved from its position and the powder is thrown somewhere else than where intended. This objection does not apply to the insufflator which I show you. In using it, the glass tube, having been charged with the powder and introduced into the end of the flexible rubber tube, is held between the thumb and first finger of the right hand, and the rubber bulb is held in the palm of the same hand by the remaining fingers, so that it may be readily compressed without affecting the position of the glass tube. In charging the insufflator the end which is to be inserted into the rubber tube should be passed into the powder, and moved round and round until sufficiently filled; it is then connected with the rubber tube. To make the application, if you cannot use the laryngoscope, hold the insufflator with your right hand and with the other hold the patient's tongue far out of the mouth, then direct the patient to take a deep inspiration, and during the act pass the tube as far back, and low down into the throat, as you can, compress the bulb, and the powder will nearly always be blown directly into the larynx. The powder which will be most beneficial in cases of tuberculous ulceration consists of one grain of morphia to about forty grains of bismuth and ten grains of pulverized acacia; or if there is much secretion, you may substi-

tute a portion of the bismuth by tannin or iodoform or both. When the pain in deglutition is severe, you can give your patient the greatest relief by the application to the ulcer, by means of the laryngeal brush, of a solution of tannin and carbolic acid in glycerine; I use four grains of morphia, thirty of tannin, and twenty of carbolic acid to the ounce of glycerine. The relief which I have been able to procure some of these cases by this application has given me more satisfaction than anything else during my professional life. In illustration, I will cite only a couple of cases: A gentleman called on me some time ago, in a most piteous condition, who, on account of the pain, had found it impossible to swallow for a week. Upon laryngoscopic examination, I found a large and deep ulcer on the lingual surface of the epiglottis. I brushed this solution well over the surface of the ulcer, and he returned to me the next day, having eaten his supper and breakfast without the slightest difficulty. I made another application, and then saw nothing more of the patient for about two months. On his return, he told that me he had not suffered in the least since the last application, until the last few days. I made another application, and the patient has not again returned.

In another case, there was a large ulcer on the ventricular band of the left side, and extending to the inter-arytenoid fold; the pain being so great on attempts to swallow, that the patient was unable to take either fluids or solids. I made an application which relieved the pain entirely, and made the patient comfortable for nearly two days. Subsequently the applications were made nearly every second day, for several weeks, each time giving the patient almost complete immunity from pain, for from forty to forty-eight hours, with the result of allowing the ingestion of food and drink, and prolonging life for a couple of months, until the patient succumbed to the constitutional disease.

Original Articles.

THE USE OF MECHANICAL RESTRAINT IN INSANE HOSPITALS.¹

BY WALTER CHANNING, M. D.

THIS brief paper does not pretend to be an exhaustive one, but was written for the purpose of bringing the subject of which it treats especially to the attention of that portion of the profession not engaged in the treatment of the insane. Every one knows that certain forms of restraint are used in hospitals, but what they are, how applied, and why is not generally known. It is to just this lack of a mutual understanding between insane hospital authorities and the public that we owe the continued prejudice and want of confidence still felt to a certain extent in insane hospitals. There is and can be no disgrace in the principle of mechanical restraint, and no public sentiment should prevent the frank avowal of this fact.

Up to the beginning of the present century, though in some countries the treatment of insanity showed indications of improvement, it was still largely barbarous and unchristianlike. Insanity being a development of the brutal side of human nature, it was natural in the dark ages to resort to harsh and brutal measures in dealing with it. Hence were created re-

lations between the sane and insane similar to those between man and beast. As civilization progressed, but little additional knowledge was gained of the disease of insanity. If any changes were made in its treatment they resulted in little more than better concealing it from the public gaze. There is always a natural tendency to cover up the weaknesses of mankind. We strive after the high and pure and virtuous in life, but detest and shun weakness and vice. So insanity was regarded as a sort of punishment for past sins. The lunatic was prematurely cast into hell, consigned by a just fate, and no helping hand was extended to save him. To this public sentiment is due the fact that the insane suffered in dungeons and chains so many years. It was not any enlightened public view which finally effected some amelioration in the condition of the insane, but a strong and determined stand taken by a few of the physicians engaged in their treatment.

Up to the advent of Pinel in France in 1792 every form of torture was used to subjugate unfortunate lunatics. Besides chains, shackles, handcuffs, and other means to confine the limbs, they were reduced to abject terror by revolving chairs, swings, shower-baths, traps in the floor, etc. Pinel was one of those geniuses or reformers who, as Maudsley says, can only be born once in a century. He, seeing far beyond any of the men of that day, recognized the fact that insanity was a disease, and the brutality of its past treatment could only develop and intensify its manifestations. Accordingly, on his entrance into the Bicêtre he removed the chains of over sixty of the patients and gave the first impetus to the use of non-restraint. Many years later Gardiner Hill and Charlesworth carried the work still further, entirely abolishing mechanical restraint. It remained, however, for Connolly to definitely systematize the work and gain an immortal reputation by his efforts. He went to the Hanwell asylum in 1838, and there began his remarkable career, which was to affect the question of restraint the world over, creating its (apparent) entire disuse in English asylums. Connolly was carried away by his theory, and has said and written much that to-day seems almost incredible. The cases illustrating the new system and the results obtained show that Connolly was possessed of the enthusiasm and extravagance characteristic of reformers in other fields. Viewed in the sober light of to-day we see that many of his ideas were impracticable. He imagined a state of affairs impossible anywhere except in the lunatic asylum of paradise. His theory, as you know, was to abolish mechanical restraints *in toto*. In the place of these restraints, however, he proposed to use the arms and hands of attendants; or, in other words, to replace mechanical or dispassionate by brute or passionate force. Lord Shaftesbury has said that "there is nothing on the face of the earth half so provoking as a madman when he chooses to be so." Insane patients will destroy glass, crockery, furniture, clothing; attack other patients, or attendants, and sometimes even injure themselves, and often with an apparent clear understanding of the nature of such acts, more frequently, of course, acting under the impulse of delusions. These acts may have been repeated twenty times, creating the most dire confusion among the other patients. All arguments, reasoning, or persuasion are absolutely useless. Now if the attendants who have charge of these patients were angels in disguise, we might well leave the patients to be for-

¹ Read before the Norfolk District Medical Society, October 1, 1879.

cibly controlled by them. The reality is, however, of necessity different. In New England we have attendants who are drawn from a good class of farmers' sons and daughters, and are above the average in both English and American asylums. Those of them gifted with amiable, equable dispositions may treat the insane with the necessary forbearance and tenderness, but the human temperament is fickle, under provocation passionate, and often irritable, and as far as my experience goes attendants become wonted and in many cases hardened to sights of suffering and outbreaks of violence which they constantly witness. It requires, in the first place, a very high order of intelligence to appreciate the complex nature of such a disease as insanity, and in the second place such virtues as patience, firmness, kindness of heart, tact, and perseverance to personally manage with success its subjects. Connolly pictures a state of affairs where the patients are so quiet and lamblike that they can be subdued by a few words; but in this country such cases are the exception and not the rule. Hand restraint means with us the use of force. To allow the ordinary attendant to use personal force to restrain the patient in an outburst of excitement and violence seems to me in most cases highly undesirable. One attendant cannot control the patient; it must take two or three, and a scuffle must frequently ensue, sometimes to be continued until the patient is exhausted, and often to be again renewed. Such hand-to-hand fights are demoralizing, both to patients and attendants. Connolly dwells on the fact that sufficient help should always be near at hand, thereby frightening the patient by superior force; but it must be remembered that many attacks of violence are paroxysmal, and may occur when help is not at hand.

As another means of non-restraint its advocates use seclusion. Seclusion means shutting a patient up in a room. Sometimes it will be his own room; in other cases a dark, gloomy room, devoid of furniture, and but little better than a prison-cell. Padded rooms are sometimes used for patients who are very violent and would be liable to injure themselves. The latter rooms are in certain cases useful, no doubt; but as the strongest padding I have heard of can be torn to pieces, and is also liable to become soiled and unfit for use, they cannot be generally of great utility. Seclusion may work well for short periods, but when it is to take the place of mechanical restraint it must often cut patients off from association with others, thereby defeating one of the main objects of treatment. Seclusion leaves a patient more liable to neglect, and affords him an opportunity to indulge his vicious propensities, as well as to brood over past misfortunes and present ill treatment. It is so much easier to keep a violent and dangerous patient under lock and key that attendants easily, almost imperceptibly, get into the habit of secluding them. Seclusion seems to me, in a word, the first step backward to the solitary confinement of past ages.

For years the ultra ideas of Connolly held sway in England, but the reaction has now set in, and restraint is again being used, though only in a limited number of cases. Dr. Lander Lindsay says, in a recent article on Mechanical Restraint, that "we have the lunacy commissioners themselves, as impregnated as they have been with Connollyism for the last twenty-five years at least, proving officially that various forms of mechanical restraint are employed at the present day in those

English asylums that bear the highest reputation, as by those physicians who are by habit and repulse distinguished for their humane as well as successful management." Dr. Lindsay further says that in the last Blue Book, or thirty-second report of the English Commissioners in Lunacy, which bears the date of August, 1878, and which therefore records the incidents in English asylums in 1877, he "finds no less than one hundred and twenty-three cases of mechanical restraint reported as having occurred in a single year in a limited number of private asylums, under circumstances, that is, in which such restraint was least likely to be used." Dr. Lindsay's paper on *The Theory and Practice of Non-Restraint* is one of the ablest papers on the subject that I have seen. In this he shows the various make-shifts resorted to to take the place of restraint, such as dry and wet packing, tight wrapping in a sheet, etc. He says in another place that "in the course of five and twenty years I have heard only of three out-and-out supporters of Connollyism, two of whom are Connolly's sons-in-law. 'Dr. Bodington, superintendent of an excellent private asylum in England, and author of a recent able article on restraint, writes me that 'the non-restraint system, though a misnomer and a sham, so far as the name goes, has done much mischief in this country. I hope it will not be successfully set up in America. It is a system of pseudo-philanthropy, not true philanthropy.'"

American physicians visiting English asylums generally come home with the idea that English superintendents favor the use of restraint. Two of them have recently written as follows: Dr. Stearns, superintendent of the Hartford Retreat, says, in his last Annual Report, "In reference to . . . non-restraint (so-called) I presume no one would admit any change of opinion during the last five years; but I noticed a great readiness on the part of every superintendent to say that he would use mechanical restraint in certain cases. And the opinion was advanced that Dr. Bucknill, in his recent letters on the subject, had been extreme in his view, at least so far as relates to Scotch asylums; that all or nearly all superintendents would not hesitate to use mechanical restraint in extreme cases; that the principal difference between the practice, in this respect, of Scotch and American superintendents is as to frequency of use. Americans use it in many cases where the Scotch would avoid it." Dr. Shew, superintendent of the Connecticut State Insane Hospital, said in his Annual Report for 1878, "In my recent brief visit to European institutions I saw in use the same mechanical appliances that are found in American hospitals, namely, canvasole waists, leather wristbands, 'protection beds,' and in one asylum the shower-bath — a form of 'mechanical medication' which I have not found in any American asylum — was in daily use with good results, according to the testimony of the assistant physician. With one exception, the medical officers in charge of British asylums conversed with me freely respecting the moderate use of mechanical protection in preference to personal seclusion, or manual restraint by attendants. The impression gained by these interviews and personal inspection of institutions confirmed the statement already made, namely, that during the past few years a strong and general reaction in favor of the moderate use of mechanical protection in the treatment of the insane had taken place."

The abolishment of restraint in English asylums has produced a decided change of opinion as to its use in

other countries. No doubt it is much less frequently employed. Neither America, France, nor Germany, however, believes in its total discontinuance. Dr. Pliny Earle, one of the foremost thinkers and writers on insanity in America, very vividly defined the position of asylum superintendents in this country as many as thirty years ago in the following words:¹ "The authorities of this hospital (Bloomington) have gradually abandoned the most exceptional forms of restraint. They have never, however, become proselytized to the doctrine of the absolute, entire disuse of all restraining apparatus. There are exceptions to all rules, which are not governed by the invariable laws of mathematics or of moral right, and no argument . . . can overthrow our belief, founded upon the observation of several years, that there are cases in which the welfare of the patient and the dictates of true humanity require a resort to some restraining means . . . yet those who in their recession from left hand defections have in our judgment fallen into right hand errors, assert that, in the cases alluded to, whatever restraint is applied should be the hands of attendants. To this subterfuge we cannot resort, knowing, as we do, the greater irritation produced in a patient by being held by the hands of attendants than by having his limbs confined by mechanical contrivances. In the former mind struggles with mind; in the latter with matter alone."

To elicit definite information as to the amount of restraint at present employed in our American hospitals, I addressed a few inquiries to the superintendents of Massachusetts state hospitals. The answer of Dr. Earle, for many years superintendent of the Northampton hospital, I propose to give nearly in full, as being a very clear and frank statement as to the amount of restraint actually used. Writing under date of March 28, 1879, he says: "You ask first for the percentage of mechanical restraint used in this hospital. Preliminary to an answer to this question, it is but just to the institution and its officers to state that, from its origin to the time of the opening of the new Worcester Hospital, in the autumn of 1877, the Northampton Hospital was the receptacle for the overflow of the other two State hospitals for the insane. The consequence was, that we came to have an abnormally large proportion of excitable, refractory, destructive patients. The proportion of such patients now is from two to three times as large as it was when I took charge of the hospital in 1861. This is emphatically true as applied to our wards for females." He says that he cannot give the exact percentage, but, omitting one patient who wears it from choice, "the percentage of mechanical restraint in our men's department is not over one. In the female department the proportion is about six per cent., and in the two departments, as a whole, about three and four fifths per cent."

"Of the forms of restraint we use the camisole much more than any other. Next, the leathern wristbands and wristlets. Occasionally, but rarely, the leathern muff is used in combination with these. For strong, dangerous men, I have found the common iron handcuff not only the most effective, but in my opinion the most humane form, as not causing those abrasions of the skin which are a not infrequent product of the leathern wristlet."

"I think the crib, or covered bed, employed with proper discrimination and judgment, a great blessing to

the insane. Our total use of it for one season probably does not exceed two hundred and fifty nights for one person in the course of a year. Within the last two years we have had two patients, both of them bright, intelligent young women, for whom it was used during the active stage of their disease, who became so attached to it that after convalescence they desired to continue to sleep in it so long as they remained in the hospital."

"You ask my opinion of the use of restraint in the treatment of insanity. My opinion of it is expressed in my practice. I have always believed that the so-called non-restraint method of the English was not a product of the highest wisdom, or the most genuine humanity; and consequently have always believed, as I still believe, that it is destined to lose its adherents and become, by and by, a thing of the past. Nevertheless, while so believing, I have always endeavored, since my first connection with an institution for the insane, to reduce the employment of mechanical restraint to the minimum of what I believed to be true humanity. In my history of the Bloomington Asylum, published more than thirty years ago, I stated in regard to that institution that during the last three years (1845—1848) the muffs have not been used in more than two or three cases annually, and in those for but a day or two, or at most but a few days each. There was one period of thirteen months, during which restraint was resorted to in but two cases in the men's department."

May 17th, Dr. Earle added a postscript to this letter, in which he said: "I have kept this letter ever since March 28th for the purpose of verifying, to some extent, my estimate of our use of restraint. I now think the estimate fully large enough, but it probably does not differ much from the truth."

Dr. J. B. Brown, superintendent of the Taunton Lunatic Hospital, wrote me on March 7th that at that time the amount of restraint in use was five per cent., a considerably higher rate than Dr. Earle's. Why so much was used Dr. Brown did not state, but he said that it had been lower and might have been higher. In choosing between restraint and seclusion he much preferred the former when it would prevent the latter. He uses wristlets, belt, and mittens made of leather or strong cloth, and the camisole also. The protection bed he has had no experience with. He closes his letter by saying: "With a sufficient number of attendants, I think restraint can be reduced almost to a minimum, but am not convinced of the assumed benefits of non-restraint, so-called."

Dr. Parks, of the Worcester Lunatic Hospital, used camisoles, muffs, wristers, and the protection bed in one case. He regards mechanical restraint as not only a necessary, but a humane appliance in the treatment of some cases of insanity.

Opinions and the practice of numerous other superintendents could be given, but as they all advocate very nearly the views given above it is unnecessary. The best and most humane men in the specialty, for instance such men as Dr. Kirkbride, superintendent of the Pennsylvania Hospital for the Insane, are unanimous in their opinion that restraint under certain circumstances is desirable. Such views have not, however, prevented its discontinuance, and many of our hospitals have for long periods gone without it. Dr. Kirkbride uses almost none, and both at Hartford and Middletown Drs. Stearns and Shew have gone without it for more than a year at a time. Of the Asylum for

¹ Part Second in the History, Description, and Statistics of Bloomington Hospital, 1848.

Insane Criminals at Auburn, N. Y., where in old times restraint was largely used, and in its most objectionable forms, Dr. C. F. MacDonald, who has recently resigned to take charge of another institution, writes me as follows: "The amount of restraint has been gradually reduced until none has been used for nearly a year, but this 'non-restraint' has been reached through an accidental state of affairs, namely, the absence of cases of violent mania and others requiring restraint. I am a believer in restraint, and would use it in certain cases. In fact, I think it a neglect of duty to omit its employment in certain cases to be found in general asylums. I think that we should endeavor to maintain the *principle* of restraint, but at the same time to demonstrate the fact that American superintendents are equally desirous with those of other countries to reduce its use to a minimum." That Dr. MacDonald should have been able to do away with restraint for so long a period in an asylum containing over one hundred persons of the worst character is a good illustration of what can be done.

No one can doubt, I think, who has visited and examined into the management of our lunatic hospitals, that our superintendents are many of them making earnest and persistent efforts to do away with restraint in any and all cases if possible. They have the immense advantage, however, over England of not having instituted the reform. This leaves them in a position to profit by the mistakes made by their English brethren, thereby avoiding extremes, separating the wheat from the chaff, and adopting principles that must be finally settled on by all.

In large general asylums there must almost always be cases requiring mechanical restraint, but very much depends on the hospital management. Patients who are well fed and clothed, provided with suitable work and recreation, and kindly treated; who are made to feel that their comfort and happiness are the chief end of the asylum officials, are infinitely less irritable and difficult to manage than where the opposite state of affairs prevails. The more we strive, therefore, to improve the surroundings of the insane the greater will be the diminution in the restraining apparatus required.

I shall bring this paper to a close with a reference to the forms of mechanical restraint used. The following kinds have been mentioned in the letters quoted above, namely: wristlets, with waistband, both of leather; muff added to these; camisoles; mittens; gloves; protection or covered beds, or cribs. The wristlets which I show here are made of leather, soft and well padded, and possess the advantages of being easily applied, of being soft and light, and therefore comparatively comfortable to wear; and also of allowing quite free motion of the arms and use of the hands. The muff is a leathern covering added to the wristlets, and used to cover the hands where a patient is inclined to be destructive with them. It is hot and uncomfortable, and should be very rarely employed. The camisole is generally made of stout canvas. It is a modification of the strait-jacket, though so much modified as to lose the objectionable features of this barbarous apparatus. It is a tight fitting waist, laced behind, and with long sleeves, to the ends of which are attached long fastenings. The arms are crossed over the lower part of the chest and the fastenings carried to the back. By drawing these fastenings very tight or winding them about the elbows a greater amount of confinement for the arms can be secured. Patients soon become accus-

tomed to the camisole, and have often told me that they did not mind it. It has the advantage of keeping the clothes on, but at the same time, whenever these are to be changed, must be removed and reapplied, all of which may make considerable trouble. For women it is a natural kind of garment, and therefore better adapted to them than to men. The strait-jacket of olden times was a long, sleeveless jacket, extending from the neck to the ankles. It laced behind and fitted close to the body, drawing in tight at the waist. In such an apparatus it was possible to make only the most limited motion of any portion of the body. The arms, being bound down to the side, suffered excruciatingly from the confinement. Patients with this apparatus on were formerly attached to a stake by a short rope, and kept thus tethered for hours daily. This instrument of torture has gone quite out of fashion, but has been replaced by a similar garment going only to the lower third of the thigh, but still possessing many of the bad features of the old-fashioned jacket. It is at best a brutal form of restraint and should be entirely abolished.

The "crib," as it is called by its enemies, or the covered or protection-bed, as its friends call it, is like a child's crib, with a cover similar to the sides, which shuts down and locks. The sides are from three to four feet in height, and it is wide enough to allow of free movements of the body. Opinions among superintendents are divided as to its use; for instance, out of eleven consulted seven were in favor of it. I think most of those who have tried it favor it, while those who have not shrunk from its use on moral grounds. In such a case as this the experience of Dr. Earle must have great weight, and he, as we have seen, "regards it as a great blessing to the insane" when properly used.

Various other easy forms of restraint are used, which, however, are not usually dignified with the name and need not necessarily be mentioned here.

My own opinion of restraint is that under some circumstances we cannot dispense with its use. This opinion I have only arrived at after living month in and month out with the insane. In large hospitals there will always be a certain proportion of very violent and dangerous patients who must be restrained. The question to study is, How best to apply such restraint? In the first place, hospital attendants should themselves be taught that restraint is no more to be prescribed by them than medicine, and they should feel that the less they use it the better their standing. The apparatus used should be kept in the physician's charge and dealt out like medicine. Records should be kept of the forms of restraint used, why applied, for what length of time, etc.; the object of such records being to limit the use of the restraint, as well as to make open and public the exact amount of its use.

It is better to err on the side of too little restraint than too much. Especially is this true as applied to personal freedom. The greatest possible freedom of personal action should be allowed to hospital patients. While they will permit the occasional use of mechanical protection when excited and violent, they are keenly alive to the injustice of locking them in wards like wild animals and debarring them from the independence of daily life.

In arguing for or against restraint we are apt to forget that any kind of confinement is restraint, and the employment of a certain form of apparatus for

confining the hands of violent and dangerous patients is only one of the smaller points appertaining to it. That many if not most insane persons must be restrained in hospitals is undoubted; a much more vital question than the abolishment of *mechanical restraint* is, How can we make the necessary *hospital restraint* bearable? A gratifying instance of the result which the consideration of this subject has produced is shown by the following quotation from the last report of the Government Hospital for the Insane at Washington. The new building was in January last "occupied by about fifty men, carefully selected from among those patients who had been employed in the various departments of work about the hospital. A liberal diet was furnished them, and since these patients were trusted every day about their work, it did not seem necessary to bolt and bar their rooms at night. Accordingly all window guards were omitted from the window and the key turned only in the outer door at night. The result has justified our expectations; the door being wide open there is no need to jump out of the window; there being every facility to run away nobody wants to go; they are content with and rather proud of their new home. Of course this arrangement will not apply to all classes of patients, but the experiment will bear extension. Congress thought so, making \$30,000 immediately available for the present relief of our overcrowded wards. . . . We hope the buildings when occupied will help to demonstrate some things in relation to the care and cure of the insane that have, in this country at least, been either but imperfectly apprehended or wholly overlooked."

The Government Hospital is following the example set us by our English brethren, and by and by we may be as successful as they are at Cuper-Fife and Lenzie in Scotland. At the latter hospital there are five hundred patients, but no locked wards, and the officers carry no keys.

DEATH BY LIGHTNING.¹

BY MEDICAL EXAMINER JOHN L. SELIGMAN, M. D.

THE following pages are, in the strictest sense, a compilation. The writer's acquaintance with the subject being imperfect and theoretical only, the production of an original paper was not attempted. In pursuing the task assigned to him by the society's president he has striven simply to collect and arrange in a convenient form for reference such matters relating to death by lightning as were thought to possess medico-legal value, and to be sustained by good authority. Although "marks of quotation" seldom appear, as a rule the language employed by the writers drawn upon has been retained *liberum et verbatim*.

In lightning shock what are the effects caused, and what, if any, are the distinguishing marks of death by lightning?

The effects caused by the passage of lightning or a fatal current of electricity through the animal body differ in different cases. The following examples of some of the so-called vagaries of lightning, taken from sources believed to be trustworthy, may be cited in illustration.

Lightning may heal as well as harm; it may abolish sight, hearing, and the power of voluntary motion, or it may restore the lost senses and cure paralysis. It may strip the body naked, and consume the clothing, while the wearer escapes unhurt, or it may consume the individual and leave his garments untouched; one person who is fatally struck may be hurled violently to a distance, while another is left in the precise attitude and spot in which death surprised him. One case shall present extensive anatomical changes, such as amputation of limbs, rupture of the heart, comminution of the bones, while in another case no injury whatever will be detected. One autopsy may reveal softening of osseous structures, collapse of the lungs, fluidity of the blood, and in another exactly opposite pathological conditions will obtain, to wit, engorgement of the lungs, coagulation of the blood, and rigidity of the muscular system. One thunder-stricken corpse shall undergo rapid putrefaction, while another shall remain for days unchanged, as if in defiance of the laws of decomposition. There may be sudden incineration of the body, or it may be consumed slowly as if by spontaneous combustion, and only gradually be reduced to ashes, or we shall not perceive the man dead until we touch him, and then see him fall to dust; one subject will present all the signs of death by freezing, another those of instantaneous petrification. Lastly, the immediate disappearance of the thunder-stricken person may occur, without leaving a trace of his body or any of its parts, thus summarily relieving the medical examiner of responsibility in the case.

It has been proved by experiments, the details of which would be out of place here, that these diversities in the phenomena of lightning shock are due to differences in the *quality* and *intensity* of the electrical discharges concerned in their production. The natural electrical discharges included under the general term lightning are not all one and the same thing; in short, there are several kinds of lightning, and each kind deals, so to speak, with the living organism in its own way. Sheet lightning, zigzag lightning, ball lightning are terms used in scientific as well as popular language to designate as many distinct orders of lightning. These differ from each other in several respects, notably in the appearance of the flash as perceived by the eye, in the quality of the shock or blow given, and in the effects produced.

Sheet and zigzag lightning have each a counterpart on a small scale in discharges obtained from a powerful induction coil. One of these discharges is made without the other discharge with the vibrating or mechanical break attached. The former is the analogue of sheet, and the latter discharge that of zigzag lightning.

Sheet lightning is either a simple flaming flash or a compound flash made up of two distinct flashes, a thin, tense flash combined with a flaming flash. The tense flash is destructive to life. The flame flash causes general muscular contraction, singes, scorches, perhaps blinds, or it may induce a state of insensibility or anaesthesia which may last a considerable time, but it does not necessarily destroy life. In lightning shocks we may see in the effects caused the evidence of one or the other of these discharges, or of both in one and the same subject. Thus, two persons standing together are simultaneously struck; one will be dead instantly, and his body will be singed and burnt, the other will be much shaken, scorched, and burnt, but

¹ Read at the February meeting of the Massachusetts Medical-Legal Society, 1880.

will escape with his life. One will have received in his body the tense discharge combined with the flame flash, the other has been struck by the flame flash only.

Zigzag or forked lightning, like sheet lightning, causes muscular contraction, and with this difference, the contraction is persistent, or nearly so, and as the muscles concerned in respiration may be contracted without efficient relaxation, death may result from apnea.

Ball lightning is described as an electrical or meteoric globe, which is sent from the cloud to the earth in a curved line like a bomb. Ball lightning is violently explosive, readily sets fire to the building on which it alights, and inflicts such injuries on the animal body as might be caused by the bursting of a shell. As far as I can learn, the phenomena of ball lightning have not been initiated in the laboratory. From the ordinary Leyden battery of jars and from the jars in cascade we obtain two forms of artificial lightning, characterized by intensity of shock, each of which has its counterpart in the grander phenomena of nature. The discharge from the ordinary Leyden battery acts like a mechanical blow. An animal struck by this discharge will be killed with convulsive movements, and left distorted, rigid in parts, or bruised. According to the intensity of the shock it produces two kinds of states: a state of insensibility, in which the body is prostrate and dead to all sense of pain, but quite capable of recovery; and a state from which there is no recovery. A painless surgical operation may be performed on an animal while in the former state. The difference in the effect of shock admits of this explanation: when death does not follow the discharge, the shock has affected those nervous centres only which govern voluntary muscular motion and sustain nervous sensibility; when the shock kills, the effects extend to the centres which govern the involuntary muscular acts, first the respiratory, second the circulatory.

The discharge obtained from the jars in cascade presents to us the most fatal form of lightning shock. It is not flaming, not burning, as it falls on the animal body; it does not glide harmlessly over the surface of the body, as sheet and zigzag lightning are known to do; it penetrates and always kills, with little or no movement of the body and without disfiguration.

Death is sometimes caused by the phenomenon known as return shock (*choc-en-retour*), which occurs thus: During a lightning storm objects at a distance from the place of discharge may have been previously charged with electricity by the induction of the clouds; the distant discharge suddenly sets free this electricity so that it passes through the object to the ground. The bodies of persons killed by this form of lightning electricity may be left torn and mutilated, as if by gun-shot, or may exhibit no external mark of injury.

An analysis of all the cases recorded shows that there are various modes of death by lightning. It may kill (1) like any other shock, producing syncope, concussion of the brain, spinal cord, etc.

(2.) Like burns, by an intense and fierce heat, setting fire to the hair, skin, and clothing of bodies, and sometimes consuming the bodies themselves.

(3.) By explosion like gunpowder, or dynamite, showing ragged wounds and fractures of bones, effects like those of a mechanical blow.

(4.) By acting like a drill, or cutting instrument, it stabs and pierces the flesh, perforates and destroys the viscera.

(5.) By acting chemically on the blood, producing peculiar modifications of that fluid incompatible with life.

Many theories have been advanced to account for the cause of death from lightning shock, especially in cases in which there is an apparent absence of any structural lesion.

John Hunter's theory is that death is instantaneously produced in the muscles, "which, therefore, cannot be affected by any stimulus, nor consequently by the stimulus of death." Other authors have supposed that in all cases death is due to mechanical injury. A third class have attributed the fatal result to spasm of the heart and of the muscles of respiration. Dr. Richardson believes that the immediate cause of death is of a more simple nature, namely: that in all cases where death is instantaneous, it is due to the sudden expansion of the gaseous part, or atmosphere, of the blood, combined, in extreme degree of shock, with sudden conversion of animal fluid from the fluid to the gaseous condition. In support of this theory he adduces experiments which show that in proportion to the power of the shock there is expansion within the organism, expansion of the blood, distention of vessel, and, according to the degree and place of the expansion, the infliction of serious injury. Dr. Richardson's views are corroborated by many of the more frequent post-mortem appearances.

Under all forms of electrical discharge the best conductor in the animal body is the metallic chain of the blood, and the last organ to be brought into a condition of rest is the heart. When all other parts fail, the heart retains, and often for a long time, its action. At the same time the blood has no undue tendency to coagulate, and thus after the shock there are two conditions for recovery so favorable that the merest effort at respiration may lead to recovery. Hence it is, perhaps, that where death is not immediate, recovery is the rule.

The velocity of electricity along a copper wire exceeds that of light through the planetary space. It traverses the Atlantic cable at the rate of fifty miles per second. It is, therefore, quicker than thought, and the speed with which it traverses the animal body is undoubtedly greater than that with which sensation is transmitted to the conscious centres through the afferent nerves. As might be inferred, the reception of the shock which renders the body insensible seems to be unknown to the person injured. The concurrent testimony of those who have been thus struck down and who have given evidence on the event is that they were not conscious of what had happened until the commencement of recovery, the first symptom of recovery being restoration of consciousness. Death by lightning is probably, therefore, the most painless of deaths.

When a person is struck down by an electrical discharge and yet is not killed, the breathing power is reduced, the pulsation of the heart is reduced, the body is lowered in temperature, and there is often for some hours depression of muscular power. *Tinnitus aurium*, paralysis, insanity, delirium, fever, blindness, entire loss of memory, paralysis of the bladder, apoplectic insensibility, muscular twitchings and spasms, epileptiform convulsions, and other neuroses are some of the recorded results of non-fatal cases.

The fatality of the shock is in proportion to the intensity of the shock.

Those shocks which by their intensity kill most readily leave least of distortion or injury.

When we see a person who has been struck by lightning, we may in some instances know accurately from the injuries received the character of the shock to which he has been subjected.

In a very large number of cases there is sufficient evidence from the surroundings and from the appearance of the clothing and the body to warrant us in attributing death to the action of the electric current. Exceptionally, however, death by lightning may give rise to the suspicion of criminal violence. What will be the value of a medical examination in a doubtful case? If an individual has been struck dead by lightning, will it be possible to determine the cause of the death by an inspection of the body alone? What are the characteristic appearances, the thanatognomic signs on which we may rely, when the identity and history of the subject are wholly undetermined?

The bodies of persons killed by lightning are usually distinguished by a variety of external appearances, ranging between an abrasion of the cuticle, a simple ecchymosis erythema and scorching of the surface on the one hand, and wounds resembling those of gun-shot or stabs from a blunt dagger, deep lacerations, fractures and dislocations, and the tearing away of more or less of the body, on the other hand. The coincidence in the dead subject of a diversity of injuries, such as we have mentioned, will suggest the probability, or at least the possibility, of death by lightning, and the probability will be heightened if the individual's clothes are torn and burnt, and metallic substances about him are found melted. The conversion of metallic articles worn or carried about the person of the deceased, such as blades of pocket knives, keys, etc., into magnets by the action of lightning, is a phenomenon of not infrequent occurrence and of great diagnostic value.

Dr. Tidy observes that now that powerful galvanic batteries are becoming common in scientific institutions and private laboratories it is by no means unlikely that some deaths, accidental or otherwise, may happen from the sudden discharge passing through the human body. If called to such a case, he says, make a careful examination, sketch, and memorandum of the exact position of the body, as well as of the markings on it. Note also its proximity and relation to the battery, and the nature of the battery, with the arrangement of its wires, commutators, conductors, etc.

It must not be forgotten that the most fatal of shocks may kill and leave no external sign. A person will be left without a mark upon his body and yet he will be dead. And he may be left in such serenity of death, with such persistent brightness of eye, calmness of expression, and ease of limb, that you could almost accost him, as though he were in life, and deceive yourself that he did yet breathe. This wonderfully life-like appearance of the body is peculiar to death from the penetrating, intense form of lightning, which has its counterpart, on a small scale, as already stated, in the discharge from the Leyden cascade battery. The phenomenon is too striking to readily escape observation; when seen, it will at once arrest the attention and bespeak the fatal cause.

From the nature of their avocations an overwhelming majority of the deaths from lightning are in the male sex and happen out of doors. Suppose a person struck to have been sheltering himself under a tree or exposed openly. In the first case, if the man were

standing, as often happens, with his head inclined slightly forwards, the lightning in passing from the tree strikes the body on the head and shoulders, causing a burn which is attended with much pain (if death or insensibility be not immediate), extravasation of blood, and congestion of the vessels over a broad part of the surface. From this a smaller stripe passes, running down to the nates, and gradually getting narrower and more superficial. On the buttocks, where in the man the clothes fit tighter, the conduction is more intense. The lightning (1) is either conducted by the skin thence to the trochanter, on one or both sides, the marks becoming fainter, and so on towards the knee, where owing to the tightness of the dress it causes a deeper burning, runs along the calf, and then, if boots are worn, passes over and destroys them; or (2) it passes along the skin to the heel, which it wounds, and after piercing the shoe makes a hole in the earth (often the lightning passes along the ankle), or the lightning may be conducted along the trouser, which it destroys or pierces with only a round hole. In the second case, when the lightning strikes a person freely exposed on the ground, then usually the head covering is destroyed and the vertex smitten. From thence the conduction may be twofold: either (1) from the cranial bones to the brain, producing death by the simple or combined influence of injury to the brain mass, or rupture of blood-vessels; or (2) along the skin. In the latter case the skin of the face and neck is almost always completely spared, and the lightning effects a considerable burn over the sternum. In some cases it enters the mouth and affects the teeth and tongue, causes loss of voice and bronchitis, or it may effect — and this may be the only lesion — the removal and disappearance of the tongue. Proceeding downwards the track passes towards the inguinal region; sometimes an interruption of conduction occurs, the lightning merely tearing the shirt. Occasionally we have deep burnings of the groins and genitals, occasionally mortal lacerations of the intestines; in milder cases congestion of the liver, spleen, stomach, etc. The conduction is then through the skin or clothing, or both, to the back of the foot, where a wound is produced. The burning of the hair is sometimes very remarkable, taking place without any injury to the skin. Hemorrhage from the mouth and nose sometimes occurs.

Articles of clothing pierced or rent by lightning usually present peculiarities in the appearance of the holes or tears which it would be hardly possible to imitate artificially, and which are therefore of diagnostic value. No matter what the fabric may be, the holes or rents are quite homogeneous in appearance, and at first view suggest the action of fire. On closer inspection, however, they seem rather to have been produced by mechanical means, the edges of the tears or perforations being left smooth and free from ravelings, although not as elegant as if made by scissors or punch. Carbonization of the edges of the tears, etc., has never been observed, but in the lighter fabrics browning of the edges for a hair's breadth is not infrequent.

Injuries of the human body caused by lightning naturally divide themselves into two groups: (1) external injuries; (2) internal, or visceral.

The external injuries that have been noted are:—

(1.) Burns.

(2.) Ecchymoses or spots.

(3.) Impressions of metallic substances and true metallic marks on the surface of the body.

- (4.) Loss of hair.
- (5.) Peculiar conditions of the eyes.

BURNS.

It is the opinion of some medical jurists that the electric current does not produce burns on the body unless some part of the clothes be ignited, and then of course the burning is an indirect result. This opinion is, however, disproved by well-authenticated cases where the dress of the individual has escaped combustion or ignition, while his body has been severely burnt.

The burns which have been observed differ in degree from mere singings of the hair, superficial scorchings and blisterings of the skin, to extensive cauterizations leading to surrounding inflammatory action. Burns of the skin from the electric current sometimes assume a highly characteristic form, appearing as blue spots, in which the texture of the integument resembles leather shrunk by the action of fire. Metallic substances in the dress, such as stay-hooks, pins, buckles, and the like lead often to severe local injury. In these cases the parts which are burnt are those which lie between the metallic points, the seat of the burning corresponding with the break in the conducting medium. In a medico-legal point of view this is an important fact. It at once suggests the action of electricity or lightning, and where it occurs in a perfect way it may be regarded as diagnostic.

ECCHYMOSES.

Simple ecchymoses and livid spots, having no reference to metallic or other bodies in contact with the body, are sometimes presented on the surface of the body in a marked degree. The color of the spots is sometimes red, and drops of blood may issue from the pores of the injured part without wound of the skin. The spots appear most distinctly over bone, being, in fact, like to a bruise produced by a mechanical blow. The passage of the electric current is not unfrequently marked by discolorations of the skin, often in the form of streaks, which are particularly to be traced in the direction of the spine.

IMPRESSIONS OF METALLIC SUBSTANCES.

Impressions of metallic substances on the surface of the bodies of persons struck by lightning have often been noticed. The validity of these observations was long denied by the masters in electrical science, but is now fully established. The impressions are of two kinds. In the first variety the nature of the mark is very simple. It is an ecchymosis taking the line of the metal, and so producing a rough outline taking the form of the metal. The shock must be received upon a firm surface, such as bone. Impressions of various ornaments, such as a bracelet, a chain, a cross, or of coins, may be most distinctly left upon the body. When these appearances present themselves with undeniable distinctness, we may unhesitatingly refer them to the action of an electric discharge. Something more than a bruise, however, may mark the passage of lightning along a metallic conductor. Fusion of the metal may take place, and the distribution of the particles in fine division may leave true metallic impressions on the surface of the body. Metallic marks precisely similar to those found on the bodies of persons struck by lightning have been produced upon the bodies of animals that have been experimentally subjected to the action of powerful electric discharges. In order to develop the

metallic mark in distinction from ecchymosis or burn, it has been proved that two conditions must coexist. The metallic conductor must be sufficiently fine to offer resistance to the electrical current, and the electrical current itself must be an accumulative discharge of moderately low tension. The flaming discharge which so closely resembles sheet lightning will not produce the effect, although it will produce a burn. The tense discharge got from the jars in cascade will not produce the effect. The discharge required is that from the ordinary Leyden battery, and that of sufficient power in regard to the metal to cause fusion of the metal. A discharge of low intensity would produce heat of the metal and a burn, but it would not fuse even a very thin metal in such a manner as to leave a true metallic stain. A discharge of sufficient intensity to fuse thin metal would fail to fuse thick metal. A discharge of great intensity would produce no metallic impression, and probably no mark at all; in other words, it would not be diverted from its course, but would penetrate the organism. Thus we can determine in some measure from the character of the stain both the intensity of the discharge and the thickness and substance of the metal that has been fused. This is a very important piece of knowledge bearing upon medico-legal investigations. Thus, a person is found dead after a lightning storm; a doubt arises respecting the cause of death, or, if it be clear that lightning stroke is the cause, respecting identity of person. In such a case the detection of a metallic mark upon the body would be of the greatest moment. It would not only demonstrate the cause of the death, but the portion of skin containing the mark might be carefully dissected out and an idea might be obtained as to the metal that had left the stain. Moreover, by subjecting the part to chemical analysis the precise metal might be obtained. Armed with these two facts the medical witness could not only say that the mark he found on the body was a true metallic mark, but he could further say that the deceased at the time of being struck wore or carried a certain metallic substance of gold, silver, copper, or other metal.

Arborescent marks, naturally though wrongly supposed to be representations of the figures of trees fixed on the body, in miniature, by lightning, have been often noticed. This arborescence was correctly described and interpreted aright by Beccaria more than one hundred and twenty years ago. It may be fully accepted as a fact, and when it is found upon the body the evidence of lightning stroke is complete. The arborescence is not, however, the figure of a tree impressed on the surface of the body by the electrical discharge. It is an anatomical outline of the trunk and branches of superficial veins of the body of the subject, which the lightning, choosing the best conductor (namely, as before stated, the metallic chain of the blood), had followed out to its minutest ramifications, so that the figure of the veins appears through the veins penciled out finer than any pencil could have drawn it. The blood in these cases undergoes arrest of its motion, expansion, and possibly decomposition.

LOSS OF HAIR.

In some cases where the nervous centres have been particularly involved after lightning shock, and where paralysis has occurred, the life of the hair has been destroyed, and the individuals have become completely hairless and remained so.

AFFECTIONS OF THE EYES.

Two peculiar conditions have been noticed affecting the eyes of persons who have been killed by lightning. Sometimes they are found brilliant and protruding, so that the eyelids cannot be closed over them. Exactly in the two lateral segments of the albuginea thus left open, dark, bloody spots are observed, which may be considered as a sanguineous capillary infiltration, or electrical burning. These spots are of a conical form, much resembling an inverted pterigium. They occupy the sides of each eye, with their bases towards the iris, and their acute angles corresponding to the internal and external angles of each eye. This mark of death from lightning is usually, but not invariably, accompanied with an injury of the epidermis resembling a burn. Some portions of the epidermis are found separated and rolled up and crisp, and sometimes wounds of an oval shape are noticed passing from right to left in an oblique direction and extending into the cellular tissue. These spots on the eyes are not imitable by human art, and may be considered, therefore, as thanatognomonic signs.

When the second condition referred to exists, the eyes present a uniform bluish cast, like a film over the pupil. This phenomenon is caused by a change in the structure of the cornea, which consists in a coagulation of the plasma taking place between the conjunctiva and the middle elastic coat. This change to opacity is instantaneously produced, and sometimes renders the cornea white and opaque throughout, like a bit of gristle, and remarkably thick. Beyond this injury there are usually no other changes; the aqueous humor, the cry-talline lens, and the vitreous humor are left uninjured. Again, one pupil may be found closely contracted, while the other is widely dilated. In all these instances the shock has passed on the side of the head in which the pupil is contracted.

Before detailing the visceral lesions which distinguish death by lightning, let me caution the medical examiner against the hasty employment of the scalpel. The possibility of an ante-mortem autopsy must be borne in mind, and avoided. Simulated death from lightning is not an uncommon event, and it would be the easiest thing in the world to look upon a man struck by lightning as dead, when in truth he is not dead. He may be rendered insensible to pain, unconscious, and to common observation dead, and yet he may be capable of spontaneous recovery. Nay, he may exhibit several of the phenomena which are usually, and in most cases correctly, regarded as positive signs of death, and he may, notwithstanding, recover. Thus, in a case of apparent death from lightning, it would be wrong to decide too hastily that life is extinct merely because there is absence of any indication of motion of the heart. The pulse at the wrist may be imperceptible, we may fail to detect any impulse or sound of the heart, or any arterial pulsation whatever, and yet, on opening the thorax, the heart might be found still beating, feebly, it is true, but not so feebly but that the normal action might have been re-established, and recovery have taken place. As a rule persons who have been stunned simply by an electrical or lightning shock show signs of reflex motion, so-called, when an irritant is applied to the eye, or when the skin is pricked over a muscle. The absence of any exhibition of reflex action is usually certain evidence that living action is suspended, yet this rule must not be taken as invariable. Again, absence of color in

semi-transparent structures, as, for example, the hand, when tested by the passing a strong light through them, and observing if the red color which is seen in the living parts is absent, ordinarily a good sign of death, and the decrease of the temperature in the cavities to the temperature of water exposed to the surrounding air, a fair proof of death in warm-blooded animals, must not be accepted as absolutely reliable in the case of persons who have been left apparently dead after lightning shock.

The positive signs of death are three: (1) rigidity of the muscles; (2) coagulation of the blood; (3) decomposition of the tissues.

RIGIDITY OF THE MUSCLES.

If muscular rigidity be general, and the muscles of the chest be rigid, the evidence of absolute death is sufficient. But a partial or local rigidity of muscle, as of one limb, is not sufficient evidence.

COAGULATION OF THE BLOOD.

This is a ready and good sign of death. In the human subject the largest vein that can be found immediately upon the skin should be laid freely open, a fillet being first applied above the place for the opening. If, then, in the vein there be found a coagulum, the inference is fair that the process of coagulation is complete, and that the restoration of life is impossible.

DECOMPOSITION OF THE TISSUES.

The occurrence of decomposition of the body is the final proof of absolute death. In the absence of distinct coagulation of the blood in the venous system, and of general rigor mortis, evidence of decomposition ought always to precede dissection or the act of burial.

In a forensic point of view it is important to remember that the statement of John Hunter, so long accepted as authoritative, namely, that "animals killed by lightning and also by electricity have not their muscles contracted," is a fallacy. Rigidity of the muscles after death from this cause is an invariable fact under all conditions that admit of the process of rigidity. The rigidity is well marked, often intense and prolonged. The persistence of the rigidity is in proportion to the intensity of the rigidity itself (from forty-eight to ninety-six hours). The conditions favorable to the development of rigor mortis are good development of muscle, death without great preceding exhaustion, and exposure to a warm temperature. In the absence of these conditions the rigidity would be delayed and reduced in character, but it is doubtful if even then it would be wholly wanting.

For instance, if a man or animal after being struck were to be exposed to cold, and especially to a current of cold air, or if an animal were very thin and cooled quickly, the delay mentioned would take place, but the delay would bear no kind of relationship to the lightning shock as the mode of death. Bearing these facts in mind, we can easily reconcile the conflicting statements on record concerning thunder-struck subjects, to wit, the entire absence of rigidity on the one hand, and such phenomenal development of rigor mortis on the other hand, as to deserve the epithet stony or statue-like.

However the fact may be explained,—and it awaits explanation,—coagulation of the blood *within the body* after death is delayed by lightning shock. There is coagulation, but it takes place slowly within the ves-

sels; on being set at liberty, however, it undergoes the natural process of coagulation. In every case of death by lightning discharge, and by whatever form of discharge, the blood is changed in color, and in so far as color is concerned arterial is changed into venous blood. If the blood thus changed is exposed freely to oxygen the normal color is restored. In that extreme condition of complete disorganization which is sometimes observed after lightning shock the blood is left fluid and incoagulable, the body is distended with gas, and the destruction of organic parts is well-nigh universal. The blood in such cases is decomposed throughout the body, precisely as it is decomposed in the laboratory when the Leyden shock is sent through closed tubes charged with blood. The color of the blood is changed to a deep black, the gases of decomposition are instantly set free, while in a greater or less degree the same change extends to the soft solids. In a word, there is general decomposition. In any case in which the body of a person who but a short time before was known to be alive is found dead and in the condition described, we need be at no loss to refer the death to its true cause.

Beginning with the brain and passing downwards through the different organs, let us now describe the changes which have been found in the viscera when death by lightning has been unaccompanied by instantaneous disorganization and decomposition.

Brain. The vessels of the brain and its appendages are found distended. The sinuses are enormously distended, more so than the quantity of blood which they hold would seem to account for. The arteries, on the contrary, are contracted and nearly empty. Occasionally a small effusion or a film of blood, showing rupture of the vessel, may be found beneath the arachnoid. In some instances the brain itself (as far as mere observation with the naked eye is of value) apparently escapes injury. Its structure is of natural pink hue, and congestion of the minute vessels and vascular points are absent altogether. The same observation extends to the medulla and the spinal cord. The cord itself is healthy, and there is no turgescence of the vessels. In other instances, particularly when death has been delayed for several days, extensive effusion and coagula resembling those of sanguinous apoplexy have been discovered. Often on lifting up the brain and the medulla there is a free escape of bubbles of gas.

The membranes show great redness and vascularity in parts, whenever the fatal discharge has coursed from the head to the lower extremities.

The Lungs. The lungs are usually found natural, left filled with air and of a pink color and free of any trace of congestion. On the pleural surface small ecchymoses are sometimes found, indicating the course the electric current has taken. It is not usual to find signs of injection, redness, or effusion.

The Heart. The heart in all cases is gorged with blood on the right side, and not unfrequently the left side contains a large quantity of blood. The blood is darker than usual in the venous, and very dark in the arterial chambers. There may be rupture of the muscular wall of one or more of the cardiac chambers with exudation of blood; such rupture of the heart is not uncommon. Ecchymosed spots are sometimes found on the surface of the pericardium, and excess of fluid in the pericardial sack.

Alimentary Canal. The alimentary tract is an excellent conductor of the electric current, and important changes are found in it in most cases of death by light-

ning, and some changes in all. Occasionally the walls of the stomach are ruptured, or they may be found softened as if in the early stage of gangrene. The intestines throughout the whole tract of the small intestines are sometimes intensely injected through their structure and of a dark purple color. In one case, in which the individual survived the shock for a few days, the stomach, after death, was seen to be gangrenous within, over a large extent, while the external surface was inflamed and livid. The inflammation was not that of great action. The gangrene, commencing near the cardia, extended over the whole of the stomach to within two inches of the pylorus. A portion of the meso-colon of the size of a half crown was of a bright red color, and of a very fine, delicate membranous texture. In a forensic point of view the knowledge of these effects of lightning shock on the alimentary system might be very important. In a doubtful case of death after lightning shock, these appearances might be mistaken — and that readily — for the effects of an irritant poison.

Liver. Rupture of the structure of the liver and of the gall-bladder are lesions that occasionally present themselves. Usually, however, the gall-bladder is greatly distended, and the liver itself colored deep red, although of normal consistence.

Peritoneum. In some cases the surface of the peritoneum presents a line of deep, dark, ecchymosed spots. These spots are well defined, dark as jet black ink-stains, often arranged in a line mapping out the course which the electric current had pursued in its passage through the body.

Kidneys. The kidneys are always found congested, but not subject to any other lesion, the congestion itself being connected with the congestion of the larger blood-vessels and of the left side of the heart. It would appear to be a secondary result.

Such are the gross appearances, so far at least as I have been able to ascertain, which in a doubtful case of death by lightning may be regarded as of diagnostic value. I regret that in exploring the literature of the subject I have failed to meet with any record of microscopical examinations of the nerve-cells and other tissues.

RECENT PROGRESS IN MATERIA MEDICA AND PHARMACY.¹

BY WILLIAM P. BOLLES, M. D.

ZINGIBER.

MR. J. C. THRESE read at the British Pharmaceutical Conference recently the first complete analysis that has ever been made of this important drug; his researches were conducted with large quantities and in the most thorough manner, and have resulted in separating and weighing twenty different substances, of which the following are the most characteristic: —

(1.) From the ethereal extract,

Volatile oil	0.75 to 1.61 per cent.
Fat, wax, resin, &c.	0.70 to 1.22 per cent.
Neutral resin	0.86 to 2.30 per cent.
Resins α and β	0.31 to 1.47 per cent.
Gingerol	0.60 to 1.45 per cent.

and a tasteless amorphous substance.

¹ Year Book of Pharmacy. Pharmaceutical Journal and Transactions. Chemist and Druggist. Proceedings of the American Pharmaceutical Association. American Journal of Pharmacy. New Remedies. The Pharmacist and Chemist. Canadian Pharmaceutical Journal, etc.

ERRATA.

In Recent Progress in Materia Medica and Pharmacy, the following errors occur:—

Page 183, second sub-head, for “Bidara Lant,” read “Bidara Lant.”

Page 183, under head of Chaulmugra Oil, 19th line of paragraph, for “cocinic” read “coccinic.”

Page 184, 1st column, next to last line of text, for “tropine” read “tropina.”

Page 184, under head of Ergot, wherever “coindia” occurs read “conidia.”

(2.) From the residue,

Starch	13.50 to 18.75
Metarabin	1.86 to 28.08
Pararabin	2.49 to 14.40

and moisture, woody tissues, albuminoids, acids, and other common ingredients.

Of course the two most valuable substances are the essential oil and the gingerol. The former has been isolated and examined before. It is a limpid, straw-colored fluid with a peculiar aromatic odor, by no means recalling that of the rhizoma from which it was prepared, and of an aromatic and somewhat camphoraceous taste. Specific gravity .853. There are probably two or more oils united, as is so often the case.

The gingerol is the active or pungent principle; it is a viscid fluid of about the consistency of molasses, of a pale straw-color, entirely devoid of odor, and of an extremely pungent and slightly bitter taste. It is very soluble in alcohol (even when diluted), benzol, volatile oils, etc. It is neutral in reaction, and has a specific gravity of 1.09. The resins were distinguished from each other by the usual differences in solubility in alcohol, ether, etc., and when pure were odorless and tasteless (unless resin *a* is an exception). The remaining substances need no special mention. He found that the most esteemed variety of Jamaica ginger contained only about half as much of the oil as the others, and less of the gingerol than either the African or the common Jamaica, and its superiority appears to consist principally in the finer flavor of its oil.

SODIUM COPAIVATE.

Dr. Roquette, from examinations of the urine of patients taking copaiba, was led to the conclusion that it owed its therapeutic effects to its acid resins. Dr. Llamal thereupon tried pure copaivic acid and alkaline copaivates, which are readily prepared from the drug, with favorable results. The acid was obtained in white prismatic crystals, becoming opaque upon exposure; the sodium salt, made by direct union with sodium hydrate, is a white crystalline powder. Herr G. Lueich, who prepared it for Dr. Llamal, made it into pills with dextrine and mucilage. The dose of the sodium salt is stated to be one third of that of the oleo-resin.

BIDARA LANT.

This is the wood of a tree supposed with good reason to be a *Strychnos*, and probably *S. ligustrina*, which is largely used in India for dysentery. Mr. Henry G. Greenish, having recently received a specimen, has examined it and published his results. It was part of the trunk or branch of a small tree two and a half inches in diameter, with a small excentric pith, exceedingly hard wood, and thin, dark-gray bark, in some places exfoliating, in others quite adherent. Upon a chemical examination he found in the wood 2.26 per cent. of brucia, and the remarkable quantity of 7.38 per cent. in the bark. It contained no strychnia.

EMETIA.

Dr. Podwissotsky has obtained emetia in a purer form than previous observers, the result being a snow-white, very bitter powder, almost crystalline (quite so in a certain case), readily soluble in ether, alcohol, chloroform, and essential oils, sparingly so (one to one thousand) in water. In diffused daylight it remains

permanently white, but if exposed to the direct action of the sun becomes yellow, the crystals as well as the powder undergoing this change. It unites readily with the common acids, but its salts are no more crystalline than those of previous observers, less so, in fact, since Reich had already obtained crystals of the hydrochlorate. Dr. Podwissotsky's crystals of the pure alkalioid were sparingly formed around the edges of a filter, upon which a very concentrated petroleum-spirit solution was evaporated.

WHITE QUEBRACHO.

The bark of *Aspidosperma quebracho*, order *Bignoniaceae*.¹ There is some confusion in name here, although not in substance, for several other entirely different barks used for tanning are known under the general term "quebracho." The above, which has lately been used in dyspepsia due to emphysema and brouchitis, and in South America (where it grows) for many years as a febrifuge in the same manner as cinchona, is the only one of pharmaceutical interest, and it may be questioned whether this may not soon be forgotten. It contains a well-defined crystalline alkalioid, *aspidosperma*, soluble in alcohol, ether, and fats. The reporter failed to notice the dose in any of the articles upon it, although formulæ are given for syrup, tincture, extract, etc.

CHALMUGRA OIL.

This is a fat obtained by pressure from the seeds of *Gynocardia odorata*, a large tree extensively distributed in India, bearing a globular fruit of the size of a shaddock, which contains numerous seeds immersed in pulp. It is used both externally and internally for "skin diseases, rheumatism, scrofula," etc.* At ordinary temperatures the oil is a granular solid, in "appearance and color not unlike beef dripping;" at a slightly elevated temperature it begins to liquefy, and the pale granular part of which it chiefly consists is thrown into relief by the melting away of a more liquid portion. It melts completely at 42° C., and is slow and capricious in solidifying again. Its reaction is acid, its taste acrid, and its odor something like that of scammony. Mr. John Moss, after making a pretty elaborate investigation into the chemistry of chalmugra, has presented his results to the British Pharmaceutical Congress in a rather wordy paper, giving its composition as palmitic, hypogaeic, coccinic, and gynocardic acids, in combination with glycerine as fats. Of these the latter only is peculiar, and is the one which yields the characteristic green coloration with sulphuric acid that forms Dymock's test for chalmugra. It constituted about eleven per cent. of the oil, had the acrid taste of the drug when swallowed, melted at 29.5° C., and crystallized in plates.

CHIAN TURPENTINE.

This venerable substance, mentioned in *Genesis* and by every classic writer upon medicine, having served mankind acceptably for many centuries, and been respectably retired, has lately got into rather bad company, and appears as a cancer cure. Of course it has been abundantly described in all the text-books and dispensaries for many years, and there is not much new to say about it; but few of the present generation of physicians or druggists in England and America

¹ Apocynaceæ of some writers.

have even seen it.¹ It will, however, now, for a little while, be quite common (one importing firm has already advertised a small quantity of it, supposed to be genuine), and most of the pharmaceutical journals have printed articles upon it, all compilations from older works, or observations so immature as to be of little use. It is a clear, yellowish or brownish-yellow oleo-resin, not unlike in general appearance Canada turpentine, varying in consistency from that of thick molasses to that of a resin brittle when cold, but plastic at summer temperature; its odor is terebinthinous, but slightly peculiar, recalling that of an umbelliferous oil or cajuput mingled with that of mastich. It consists of an oil of the terpene series (oil of turpentine), and a resin (*a* resin of mastich) soluble in alcohol. There is nothing in its chemical composition, so far as known, that should make it therapeutically different from other turpentine (Canada, American, Venetian, etc.), and nothing in its physical characters which will at present prevent successful imitation. Perhaps the cheaper frankincense would do as well.

DUBOISINA, DATURIA, ETC.

A. Ladenburg, who has studied the solanaceous alkaloids very carefully, has recently examined these, taking his material from Merck, of Darmstadt. The former was received as a brown, resinous, hygroscopic mass, readily soluble in water; the reactions were mainly those of atropia, but the precipitates were resinous. By treating it with gold trichloride a salt was obtained similar to that of hyoscyamina, in handsome, lustrous crystals, having the composition $C_{17}H_{21}NO_5 \cdot HCl$, $AlCl_3$, also the same as that of the hyoscyamina salt,² according to his previous observations, and melting at the same temperature, 159° C. This was decomposed by sulphureted hydrogen, filtered, the liquid concentrated, and treated with an excess of potassium carbonate. A gelatinous precipitate formed, and after some time crystallized in beautiful small needles of the alkaloid, which, when purified, corresponded exactly with hyoscyamina, and this is what he considers it to be. The examination of daturia was similar; the specimen was obtained from the same manufacturer as a nearly crystalline white powder, the gold salt formed and decomposed, the alkaloid purified and obtained, as above, in needles. Its composition and reactions proved that this, too, was pure hyoscyamina.

Hyoscyamina is isomeric with atropia, but differs from it in its melting point, crystals, and other chemical details, as well as perhaps in the intensity of its action.³ It may be decomposed into hyoscinic acid and hyoscina, corresponding to, if not identical with, the tropic acid and tropina of atropia.

These two latter substances in the form of tropate of tropina have been reconverted by Herr Ladenburg, by means of dilute hydrochloric acid, into atropia, thus artificially forming that alkaloid; and he has further produced a series of alkaloids, which he terms "tropines," by combining tropine with different organic acids, and treating the salts in a similar manner.

¹ Good descriptions may be found in Guibourt's *Hist. Nat. des Drogues*, Planchon de la *Détermination des Drogues*, Fiediger and Handberg's *Pharmazie*, besides the more common books.

² But H. Koser, quoting Hohn and Reichert, gives $C_{17}H_{21}NO_5 \cdot HCl$ in the second edition the *N* is accidentally omitted.

³ The following note, condensed from *Proc. Am. Pharm. Ass.*, 1878, is interesting here: The well-known difference in the medicinal activity of commercial atropia and its salts is due to the practice of preparing it not only from belladonna but also from the leaves and seeds of stramonium (*Datura*).

These combinations have, in varying degrees, the properties of atropia.

PITCHERE, PITCHIRI, OR PITURY,

the leaves and twigs of *Duboisia Hopwoodii*, another solanaceous plant, used by the natives of parts of Australia as tobacco is in civilized countries. Singularly enough, its alkaloid, after much careful examination, having first been described as piturina, turns out to be pure nicotia.

ERGOT.

M. Tulasne, in 1853, published in the *Annales des Sciences Naturelles* his now classical observations upon the development of this drug, and revolutionizes our knowledge concerning it. Little has been added to his investigations, and his plates and descriptions have been copied almost word for word and line for line since.

Mr. W. W. Stoddard has recently gone somewhat over the ground again, having had his attention called to it by the annual sickness and death of sheep on a neighboring farm. After an examination of the water and soil had given negative results, the symptoms — diarrhœa, dysentery, gangrene, abortion, etc. directed his attention toward ergot, which he shortly found growing upon *Lolium perenne*, L., a common pasture grass. In the following April, when the grass was beginning to flower, he found thousands of coindia multiplying rapidly and filling the young grain, but never investing the stamens. They were from .005 to .007 mm. in length, a little more than half as broad, "curved and divided into two parts, each containing a nucleus. On touching them with a drop of diluted sulphuric acid a cilium or minute flagellum was extruded, and when placed in water had a vibratile motion." (Stoddard.)⁴ He also found these coindia in bread and pastry containing ergot. On the third week in May the "honey dew" made its appearance in several drops upon the stem and also contained coindia. Mr. Stoddard regards this as a bait to insects, which, smearing their bodies with the syrup, carry it and the coindia in it to other plants. The ergot had at this time entirely replaced the grain, and the scierotium, partly formed, gave off the characteristic trimethylamine odor with caustic potash.

July 18th. The first ergot was ripe.

August 1st. One of the lambs was taken ill with the usual symptoms and was shown at a post-mortem examination to have coindia in the "coffee-ground looking feces."

At the end of August he placed one or two ergots, that had fallen with the grass upon the damp ground, on the moist soil of a flower pot, and in a few days saw the heads of the mature claviceps protruded and afterwards continued on to complete fructification.

As soon as these heads made their appearance, the oil, which had previously been abundant, dried up and disappeared.

He believes that ergot possesses its greatest medicinal value in the month of August, that it deteriorates soon after, and that it should be gathered as early after maturity as possible; quoting Dr. Kluge, of Berlin, to the effect that it varied according to whether it was collected before or after the harvest. In the former case it had an energetic action, in the latter it was often quite powerless.

⁴ Two cuts showing the germination of the spores and of the coindia may be seen, copied from Kuhn, in *Luesen's Medicinisch-Pharmaceutische Botanik*.

Medical and Surgical Journal.

THURSDAY, AUGUST 19, 1880.

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VERIFICATION AND CORRECTION OF THERMOMETERS.

WE have recently received from Dr. Leonard Waldo, astronomer in charge of the Thermometrical Bureau of the Yale College Observatory, the following prospectus of the work now being accomplished in his department. We think it unnecessary to do more than allude to the importance of the matter which Dr. Waldo urges upon the notice of medical men. It is undoubtedly true that many physicians will be surprised to learn that thermometers in which they place great confidence are not always reliable. The opportunity offered by the Yale College Observatory for the proper correction of these indispensable instruments should be used by all who wish to be correct in their case reports. The following is from Dr. Waldo's announcement: Statistics show that several thousand thermometers of refined construction, and graduated on the stem to 0.2° F. or thereabouts, are annually procured for physiological researches and daily practice by the medical practitioners of our country alone. The majority of these thermometers are newly made (within six months), and their verification depends (from the scientific stand-point) on inferior thermometers in the hands of individual makers. It is needless to say that in seeking the true temperature of a patient, or in collecting data in cases which the physician wishes to publish, the readings of such thermometers have but little value.

The makers of thermometers in our country have generally been content to use for their standards thermometers which have been compared at some foreign observatory, or with some more easily accessible instrument in which they place confidence, as one in the hands of a friendly neighbor. Thus it happens that many thousand American clinical thermometers have been sold, which do not depend upon a comparison with a recognized standard for their scale readings. The result has been that the American instruments have suffered in the estimation of scientific practitioners. This is not so much the fault of the American makers as their misfortune in not having the same facilities offered them by the properly equipped observatories on this side of the water, which their favored competitors enjoy abroad.

The meteorological observers in this country at present have no common standard of easy access; and it seems eminently proper that the observatory should undertake to be useful to the medical profession and the meteorologists in this country, and afford the

means of comparison desired. With this end in view, the observatory has accepted the aid of the Board of Directors of the Bache Fund of the National Academy in obtaining the standards of the foreign observatories, and has made provision for the constant determination of the errors of the standards themselves. The following is the official circular of the Thermometric Bureau:—

CIRCULAR CONCERNING THE VERIFICATION OF THERMOMETERS.

This Bureau has been established by the Corporation of Yale College, at the recommendation of the Board of Managers of the Winchester Observatory, in order to afford desired facilities for the adequate verification of thermometers.

Thermometers will be received by the observatory for the purpose of comparison with the observatory standards, and certificates of comparison signed by the astronomer in charge will be issued with thermometers so compared. These certificates will contain a statement of the corrections to be applied at intervals of five or ten degrees of the thermometer scale to cause it to have the same reading as the observatory standards. In general these corrections will be expressed in tenths of a degree Fahrenheit, or in twentieths of a degree Centigrade.

Thermometers sent for verification must have a name and number engraved upon them; and thermometers which are not graduated on the glass stem must be of sufficiently good workmanship to satisfy the observer in charge that the scale will not suddenly change with reference to the glass stem of the thermometer tube, with ordinarily careful usage.

The board of managers have established the following scale of charges for this service, which includes the hall mark and the certificate:—

Standard meteorological thermometers . . .	\$1.00
Ordinary meteorological thermometers . . .	.50
Ordinary maximum thermometers . . .	.75
Ordinary minimum thermometers . . .	.75
Clinical thermometers . . .	.50

There will be a deduction of one fifth of the above charges where more than eight thermometers of one kind are received at the same time. In the case of clinical thermometers the charge will be four dollars per dozen when not less than two dozen are sent at the same time.

For other thermometers than the above the charges for verification will be furnished on application.

The letter of advice accompanying thermometers sent for verification should contain the maker's name, the number of each thermometer, and full directions for reshipment.

All proper precautions are taken by the board of managers to guard against loss or injury; but as it is manifestly inexpedient that a university corporation should be responsible for property in its care for such a purpose, it is to be understood that all risks are assumed by the person sending the thermometers.

LEONARD WALDO, Astronomer in Charge.

Approved and ordered to be published by the Board of Managers of the Winchester Observatory.

C. S. LYMAN, President.

H. A. NEWTON, Secretary.

NEW HAVEN, CONN., June 1, 1880.

The observatory desires to encourage the general verification of thermometers on the part of the members of the medical profession, meteorological observers, and all those persons who have occasion to note temperatures to less than one degree Fahrenheit. The inaccuracies of the thermometers in use by the majority of such persons are considerably greater than is commonly supposed.

It will be seen that the observatory places every facility at the disposition of observers and thermometer makers for the ready verification of thermometers, and there is no good reason why a purchaser should not have an accurate knowledge of the errors of his instrument, should he so desire.

The observatory will make arrangements with hospitals and other institutions using a number of thermometers, for the systematic examination at stated intervals of all thermometers in their use. Such an arrangement precludes errors arising from the use of newly made instruments which have been verified, but whose scales have not yet attained an approximately permanent position.

For the present the comparisons of clinical and meteorological thermometers will be made with a water bath, in which the water is brought to a given temperature, and mechanically agitated before the comparison is made. The standard to which the primary and secondary mercurial standards will be referred is the air thermometer.

Ordinary thermometers are returned within three days from the time of their reception if the observatory charges for verification are remitted with the thermometers.

In case they are not so remitted, they are payable upon notification by the observatory that the thermometers are ready to be returned.

Dealers and manufacturers furnishing satisfactory references to the observatory may open an account, to be settled quarterly, beginning with January 1st of each year.

The following standards are used by Dr. Waldo for the verification of thermometers: Kew Observatory; Fastré and Aincé of Paris; Casella, London; Fuess, Berlin; Baudin, Paris.

COLOR-BLINDNESS AN ISSUE IN POLITICS.

CONNECTICUT is the first State to pass a law requiring all railroad employees to undergo an examination by medical experts in regard to color-blindness and visual power. As a pioneer in this field in our country her experience will be watched with interest. The law goes into force from the first of October this year. The State Board of Health was directed to prepare rules and regulations for the examination and re-examination of such employees, prescribing the method

in which, and the intervals at which, such examinations shall be made, the maximum fee to be charged for each examination, the form of certificates to be issued by the examiners, and any other regulations deemed necessary by the board. The board is also entrusted with recommending annually two or more medical experts qualified to conduct these examinations for appointment by the governor. On or before the first day of October every railroad company and trustee operating any railroad in the State must cause every person in their employ as locomotive engineer or fireman, train conductor or brakeman, station agent, switchman, flagman, gate-tender, or signalman, to be examined at the expense of the railroad company by one of these examiners appointed by the governor. The regulations for conducting the examinations and the standards for each class are determined by the Board of Health, and the examiners are to report to it.

Having resolved to take this step, as we think, in advance, the legislature took it boldly and passed an act covering the ground completely. But the heart of the Republican State Convention was fired by the tyranny about to be exercised when it was discovered that of the three thousand employees of Connecticut railroads at least one half are republican voters. It accordingly passed a resolution demanding "that the next legislature make such alterations in the act, to which we have referred, as to require only the examination of those employed on railroads by practical tests in the hands of practical men." This was accompanied by other resolves euphemistically described by a Hartford daily "as rather in the nature of advice to the Board of Health than an appeal to voters, and as giving voice to the calm feeling of the people on this subject, which has been rather run away with in the zeal to have it thoroughly done."

Connecticut is not to be allowed to crush her free citizens under the weight of "sumptuary" legislation without a gallant effort on the part of their natural protectors, the politicians. Is it not better that trains should collide rather than that four per cent. of three thousand men, fifteen hundred of whom are republican voters, should be forced to adopt some other occupation than the one of their predilection? The present is simply one of many occasions full of instruction for observing the struggle between the original wild man, or his first cousin the *practical* man, and the requirements of a more highly developed civilization.

MEDICAL NOTES.

— We have just received the report of the transactions of the American Dermatological Association, containing the address of the president, Dr. Duhring, at the meeting a year ago, and the discussions. Dr. Duhring's paper gives an account of the literature of dermatology in this country from the earlier times, and is a faithful and judicious criticism of the work done in this department in America. The meeting of the present year will be held at Newport, at the end of the month. We trust the Transactions will appear a little more promptly in future.

—The September number of the *North American Review* will contain an article on the ruins of Central America, by M. Charuay, the leader of the expedition now exploring Central America under the auspices of the American and French governments; also a paper on the trial of Mrs. Surratt, containing many new facts, written by the only surviving member of her counsel.

—Macmillan & Co. have in press, for publication in the early fall, a book which is likely to be of value to the medical profession and of advantage to the general public. It is entitled *Food for Invalids*, and is written by Dr. J. Milner Fothergill, of London, and Dr. H. G. Wood, of Philadelphia. The aim of the authors has been to furnish the profession with a standard reference book on the subject treated.

—The following from the *British Medical Journal* will give an indication of the chaotic state of the coroner laws and management in Great Britain:—

An informal inquiry was held at Abergelle on Friday in last week, over which Dr. Pierce, the coroner, presided, respecting a quantity of human bones which had been found collected together, and which had given rise to a great deal of curiosity and excitement. Dr. Pierce pointed out that they were the bones of three individuals of different ages, and explained that they had been used in scientific studies. He thought that they had been gathered from the surface of church-yards by the scientific investigator, whoever he was, and narrated some instances which went to show that, forty years ago, it was tolerably easy to make such a collection of the relics of "poor humanity." He further remarked that, had the bones been the remains of a murdered person, the probability was that they would have been burned, or otherwise destroyed, instead of being carefully buried in an earthenware vessel. The general opinion of the persons present at the inquiry was that the "mystery" had been lucidly explained, and Dr. Pierce took the opportunity of expressing his opinion that medical men alone ought to fill the office of coroner. "The explanation," says the *Carnarvon Herald*, "given by Dr. Pierce redounds greatly to his credit and that of his profession, and the case is certainly one which may be cited with propriety whenever an argument is raised as to whether legal or medical gentlemen have the better qualification for the coroner's office. It is also satisfactory that, by the complete unravelment of the 'mystery,' the principal has no longer attaching to it the suspicion of a foul crime, which a certain section of the press seemed to be only too anxious to establish." And further remarks: "As things are, and according to the arguments that are allowed to prevail among some people at present, any legal booby who has passed the required examinations can be appointed to the onerous and most responsible office of coroner. I have heard—and I have heard it with a feeling akin to dismay—that it has been contemplated to make barristers, and barristers only, coroners in future. A more nonsensical proposition was surely never advanced. A close-shaven barrister, with an expensive wig, and devoid of surgical, anatomical, or

medical knowledge, would have looked very foolish with the assorted collection of bones before him at Abergelle on Friday in last week."

—A Belgian correspondent of the *British Medical Journal* writes that just at present the profession in Belgium is a good deal exercised on the subject of the laws relating to the admission of foreign practitioners. By the latest enactments, any doctor or licentiate in medicine of a recognized school may, at the minister's discretion, be granted permission to practice medicine. This permission may also be refused absolutely, or the candidate be called upon to undergo an examination in any branches of medical knowledge in which he was not examined at the time he obtained his diploma. A powerful opposition has been stirred up against this certainly not unduly liberal measure. A cry has been raised that the Belgian standard of medical education is really higher than that of most other European schools, and that consequently practitioners who have passed the searching ordeal of Liège, Brussels, or Louvain are prejudiced by the admission of men who have passed in certain of the English, French, or German schools. The agitation is scarcely likely to be successful so far as the repeal of the existing law goes. Nevertheless, it has to some extent answered its purpose, in that the government is becoming extremely chary of admitting even well-qualified foreigners to the privilege of practicing in Belgium. This is to be regretted for more reasons than one; although, as reciprocity is not conceded by England in this matter, English practitioners can hardly complain when they are left out in the cold in other countries.

Miscellany.

LETTER FROM NEW ORLEANS.

MR. EDITOR,—The geographical position of New Orleans, its intimate commercial relations with the permanent seats of yellow fever and with most parts of the western and southwestern States of the Union, together with its semi-tropical climate, render its public health a matter of deep and wide-spread interest. This has been particularly manifest since the epidemic of 1878, and does not seem to diminish in 1880, though 1879 was a year of unprecedented healthfulness. Undoubtedly there was an apprehension, on the reorganization of our Board of Health in April last, that a great reaction would take place in its quarantine policy, which would allow the importation of yellow fever infection. In fact, great changes have been made in this respect, for quarantine now applies only to a few ports known or strongly suspected to be infected; whereas, in 1879, it extended to all the West Indies, except the Bay Islands, together with the whole eastern coast of the mainland, from Texas to Buenos Ayres. Besides, last year the period of detention at quarantine was twenty days, at first; while this year it is only three days for vessels in good sanitary condition, or not less than five days from an infected port to the city.

There was probably also some fear that the fever would again spring up from its old ashes, as it had in 1879 at Memphis and Morgan City, as well as New

Orleans; and therefore it is not surprising that the anxiety of sanitarians in the neighboring States led the National Board of Health, early in June, to establish a system of inspections for merchandise shipped inland from New Orleans, by both railroad and steamboat. The actual discovery, on July 10th, of a case of yellow fever on the bark *Excelsior*,¹ after her arrival in port from quarantine, was therefore the signal for further action on the part of the State Board of Health of Mississippi, and personal certificates were required of all travelers from New Orleans who proposed to stop in that State, showing that they had not exposed themselves to infection. This requirement continued in force until a week ago, and the inspection of freights still continues. It was known that a portion of the coffee which formed the cargo of the *Excelsior* had been shipped from this city to various points, before the case of yellow fever had been discovered, and people naturally determined to take no more risk of this kind.

This *Excelsior* affair has created a profound impression in other communities, but here the chief apprehension has been that it would lead to interruption of intercourse with other people. Those who were cognizant of the whole facts never apprehended a spread of the disease, but those at a distance have acted as people usually do in conditions of uncertainty and distrust.

The operations of the National Board of Health, in 1880 as in 1879, have greatly contributed to allaying fears and preventing interruption of intercourse. Thus far its most valuable services have been rendered in organizing and conducting a system of inland quarantine, and our city especially has enjoyed its benefits. The restrictions imposed on traffic, under the rules of the National Board, have not been felt as a serious inconvenience, and have been cheerfully submitted to, both by travelers and shippers, in the full conviction that the regulations of independent local authorities would press far more heavily.

The efforts of our Auxiliary Sanitary Association this year have been directed mainly to inaugurating a permanent system of works for flushing the street gutters with river water. The plan is to lay a twelve-inch pipe along the river front, with outlets at all the intersecting streets perpendicular to the river, and to send through the gutters a sufficient volume of water to sweep them clear of all accumulations, whether solid or liquid. The water is raised from the river by a powerful pump, and the natural slope of the ground from the river-bank backward carries the water to the drainage canals in the rear of the city, whence it is raised by the drainage wheels into rail-races and conducted onward to Lake Pontchartrain. The length of pipe already laid along the front amounts to 13,370 feet, at a cost of about \$46,000, and it is purposed to continue the work next season. This is in fact the only work of permanent public improvement now in progress in New Orleans, and it is not done by the public authorities, but through contributions raised by a voluntary association of citizens. The city government is unable to undertake any work of such magnitude, for want of means, as the lately adopted constitution of the State limits municipal taxation to ten mills per dollar on the assessed value of property, unless the people of the municipality, by a special vote, authorize an increased tax for works of public improvement.

As might be expected, the sum appropriated for

sanitary purposes under direction of the Board of Health is ridiculously small, being only \$10,000, or at the rate of less than five cents a head of the population. This amount does not suffice for paying the sanitary inspectors and policemen now in service of the Board, and for many years their salaries have not been paid during the closing months of the year. Those who appreciate the value of public health and the cost of sickness of course understand the poor economy of retrenchment in expenses for sanitary purposes; but either the millennium is still too distant, or the evolution of our race is too imperfect, for the average politician to think such matters worthy of his attention.

Great epidemics are not an unmixed evil. New Orleans and Memphis are making practical application of their late lessons in sanitary improvements of a permanent character, which would not otherwise have been undertaken, and it is not probable that such visitations will again occur, at least during the present generation.

During the earlier months of the year scarlet fever and diphtheria were moderately prevalent, while whooping-cough and measles were epidemic. In consequence our rate of mortality was rather high for several months, but it has diminished with the advance of the hot season, and at present we can claim to have the healthiest large city in the country. During the last week in July the total mortality was 76, and the first week of August 89, giving an annual ratio per 1,000 of 18.32 and 21.42 respectively. If it is considered that this happens at the most critical time of the year, when we have most reason to dread an outbreak of our special enemy, then it must be acknowledged that we have special reason for self-congratulation.

S. S. H.

NEW ORLEANS, August 9, 1880.

LETTER FROM LONDON.

THE PARKES MUSEUM OF HYGIENE.

THE following account of the Parkes Museum of Hygiene in London is from the pen of Eliza M. Mosher, M. D., whose article on Medical and Sanitary Matters at the Women's Prison at Sherborne, where she for some time was attending physician, many of our readers will remember.

MR. EDITOR.—Among the many institutions in London founded for the public good may be numbered the Parkes Museum of Hygiene, which, though still in its infancy, promises to become a most valuable means of disseminating information on sanitary subjects so much needed by all classes of people. As regards the origin of this museum we quote from the report read at the opening meeting, held at University College, London, June 28, 1879:—

“When Dr. Parkes's lamented death occurred, in the spring of 1876, it was strongly felt by his professional and personal friends, as well as by those who had known him officially, that some steps should be taken to perpetuate the memory of a man whose existence had proved of almost unparalleled utility to others; whose life had been from first to last unselfishly devoted to the benefit of his fellow-creatures; whose scientific attainments were of the highest order; and the beauty and perfection of whose moral nature were such as to inspire affection and respect in all with whom he came in contact. At a meeting held at the residence of Mr.

¹ See New Orleans Medical Journal for August.

Erichsen, on April 10, 1876, it was resolved by those present to attempt to found a memorial to Dr. Parkes of such a character as to aid scientific investigation and practical study in the subjects to which Dr. Parkes had been especially devoted; and at a public meeting held under the presidency of Sir William Jenner, on the 18th of June, 1876, it was unanimously resolved that the memorial should take the form of a museum of hygiene."

The council of University College generously offered a suite of rooms for the museum, which enabled the executive committee to begin the collection with a comparatively small capital, and the museum was formally opened to the public on the 28th of June, 1879. The articles exhibited, all voluntary contributions, are arranged in six groups under the following heads:—

(1.) Engine-ring and local hygiene. (2.) Architecture. (3.) Furnishing. (4.) Clothing. (5.) Food. (6.) Preservation and relief.

Each of these sections already contains some valuable specimens, appliances, charts, etc. In class II. may be seen illustrations of the application of hygienic principles to the design and construction of dwellings and public buildings, contrivances for properly ventilating, heating, and lighting, so far as these come within the province of the architect; various apparatuses, more or less complete, for the removal of sewage matter, the prevention of a return of sewer gas into houses, etc., etc.

In addition to these a valuable library has been begun, which gives promise of becoming one of the most complete departments of the museum. It already contains several hundred volumes relating to subjects illustrated in the different sections.

"During the past winter a series of demonstrations was given on Saturday afternoons by members of the executive committee. The first series, by Professor Corfield, Dr. Steele, and Dr. Poore, was given for the benefit of the Workingmen's Club and Institute Union, and comprised the subjects of House Drainage, Ventilation, Lighting and Warming, Food, and the Management of the Sick-Room.

"The second series, by Professor Corfield and Rogers Field, was given to members of the Institution of Builders' Foremen and Clerks of Works, and comprised the subjects of Ventilation and House Drainage. Both series were numerously attended."

The first public annual meeting was held at the Mansion House, July 27, 1880, the Lord Mayor presiding. The meeting was largely attended by both ladies and gentlemen. Among those seated on the platform were Sir William Jenner, Dr. Erasmus Wilson, Mr. Erichsen, President of the Royal College of Surgeons, Sir Joseph Fayrer, Dr. Sieveking, Mr. Berkley Hill, Miss Müller, of the London School Board, Mr. Rogers Field, and others. Dr. Poore, the honorable secretary, stated that a considerable amount of encouraging support had been afforded to the museum during the year. Since January 1, 1880, 2166 visitors have been recorded. Besides these, professors of hygiene have brought their classes for practical teaching. The large collection of appliances for the hospital and sick-room has attracted nurses from the various training schools, while artisans and builders have here found much that was instructive and helpful to them in their work; thus it is evident that the institution has not only been made use of by the casual visitor, but also for the purpose of affording systematic instruction to persons inter-

ested in special subjects relating to the great one of hygiene.

ELIZA M. MOSHER, M. D.

LONDON, July 30, 1880.

GREEK AS A COMPULSORY SUBJECT OF PRELIMINARY EXAMINATION FOR MEDICAL STUDENTS.

At the late session of the General Medical Council, of Great Britain, a motion was made that Greek be included among the compulsory subjects of preliminary examination for medical students. Fortunately, as we think, it did not prevail. The sentiments of the *Lancet* touching this question are ours:—"In bad English eulogize the Greek," sang Saxe; but we are delighted to see that when it comes to the 'good English' who represent the Medical Council of Great Britain, they don't do it so far as physis is concerned. It was remarked by one of the gentlemen that 'Greek would be cultivated for its own sake.' That is a broad enough bottom for it to stand on, and there is no danger of its perishing. We have an occasional 'Dr. Haughton' in this country, but we are glad to think that there are not many who represent his extreme views on the question of Greek. The old saying about 'who shall watch the watchmen' applies with wonderful force to medicine. Profound general education is not common even in the highest ranks—not perhaps even among those who are loudest in their demands for impossibilities in preliminary education. Heaven and the several faculties know that the average American medical student is not overloaded with antecedent lore. We wish greatly for him to be improved in this respect. Meanwhile we would not slay him with Greek—we would commence mildly with fair spelling."

CORRECTION.

MR. EDITOR.—The article entitled A Fatal Case of Fatty Embolism, in the JOURNAL, June 17th, and alluded to by Dr. H. E. Marion in his report of the same case, in the JOURNAL, August 1st, was published with the assent and approval of the attending physician, Dr. Alphonso Brooks, of Boston. Moreover, I temporarily saw the patient for several days for an intercurrent indisposition, while Dr. Brooks was the attending physician.

MARSHALL L. BROWN, M. D.

BRIGHTON.

We decline to be the medium for a continuation of this dispute.—Ed.

THE MIRACLE OF THE IODIDES.

Who shall say that therapeutics is without its romance? It was before the laryngologists, in the days of the Second Empire, eight and twenty years ago. R—— was the first tenor of Paris. Scarcely any one could sing even second to him, and he held the French capital enslaved within the compass of his gamut. But suddenly his song ceased. Days passed and he came not on the boards. Was he tired? Perhaps. Weeks went by and he warbled not. Was he not well? He was not well. Then weeks ripened into months, and months into years, and R—— had been consigned to the brilliant past of the opera. But one day, after a silence of two years, it was announced that he would sing again, and in his old rôle, in Favo-

rita. What a rush there was to see the resurrection, and to judge if the tradition of his song were true! The emperor was there with Eugénie; Magnan, commander of the garrison, a hundred thousand strong; the admiral of the fleets; De Morny, in all his supposed brilliancy; and what concerns us most, the Ecole de Médecine was out in full force; and Ricord was there in the zenith of his fame. R—— never sang better. His melody came by the gushful. The storm of applause shook the roof. Rising even above the rest of the din, quaking the towers somewhat, were the plaudits of Ricord, — Ricord who notoriously knew not one note from another, save those upon the Bank of France. Marshal Magnan sat beside him. "How comes it, Ricord," he said, "how comes it thou cheerest the music so vociferously; thou who diagnosest not between A minor and B flat?" Then answered him the great Ricord, "Hear the music, Magnan (*sacré musique!*); it is the iodide of potash I hurrah!" — *Louisville Medical News.*

THE INTERNATIONAL MEDICAL CONGRESS.

The *London Lancet* says, "The necessary arrangements in preparation for the seventh session of the International Medical Congress, to be held in London in August, 1881, are progressing. The committee have discussed the question of the admission of women to the meetings of the congress, and by a decided majority have determined to issue invitations to male practitioners only. This is the decision we were confident would be arrived at, for knowing the names of the committee we felt that on this, as on other points, they fairly represented the profession, and would not take any step distasteful to the majority of their fellows. The congress is a voluntary association, and none can claim any 'right' to be asked, and the fact that on some former occasions women have, unwisely, been permitted to be present, can in no way hamper the action of the British committee. As regards the practitioners of this country the decision is, happily, theoretical rather than practically important."

"It is now definitely announced that Her Majesty and His Royal Highness, the Prince of Wales, have both been graciously pleased to extend their patronage to the congress. Some few additions have been made to the list of officers printed by us a fortnight ago. Dr. Risdon Bennett and Dr. Bucknill have been added to the list of vice-presidents; Dr. Alfred Carpenter, Mr. Erichsen, Sir H. Thompson, and Mr. G. Pollock have been placed on the executive committee; and Dr. Chepmet, Mr. Mitchell Henry, M. P., and Dr. Grigg have consented to serve on the reception committee. Dr. Braxton Hicks is appointed a vice-president in the obstetric section, and Professor Curnow is a secretary of the anatomy section. The general secretary is already able to state that many well-known and illustrious foreigners intend to be present, among others Langenbeck, Virchow, Liebreich, and Waldenburg, and there is every prospect that this meeting will be a very notable gathering of professional celebrities. It must be the aim of all British practitioners to make this session worthy of the metropolis of the world, and of the great school of British medicine and surgery. But it can only be this if all will heartily and generously coöperate and support the executive committee with thorough confidence. We repeat that

the composition of that committee must be accepted as satisfactory; it is not a committee of a clique, but of the whole profession, and these gentlemen certainly deserve to be treated with entire confidence in the somewhat difficult task they have undertaken. We would strongly deprecate the raising of difficulties and objections which can only have for their object the discomfiture of the committee and the impairment of the success of the congress. No doubt it is possible to criticise adversely the selection of the committee, and the presence of some names excites surprise equalled only by that caused by the absence of others. But could we hope for a perfect list? Is it not fair to recognize the difficulty of the choice where every selection entailed a rejection of at least one equally eligible man? From those whose names do not appear at all another complete list of officers could be selected well worthy of the posts to be filled. And where there are so many to choose from, the efforts of the committee should be supported by mutual confidence and forbearance. If personal or local jealousies are to be thrust forward, and the visit of the congress is to be made the occasion for the display of party feeling, the profession in this country will be disgraced in the eyes of the whole world, and it would be well not to hold the meeting at all. We appeal with confidence to the profession to support their representatives on the executive, and to allow them fairly and deliberately to make all arrangements free from the outside pressure that petty jealousies and party spirit, however unworthy, can always exert. Thus alone can the success of this meeting, which all must desire, be attained."

A FEW PRACTICAL REMARKS ON THE SUBJECT OF TROPICAL DYSENTERY.

In regard to the treatment of dysentery by ipecacuanha, Dr. J. H. Courtenay, of Jamaica, writes to the *London Lancet* the following:—

Some practitioners whom I consulted when I first had to deal with this disease recommended acetate of lead and opium; others advocated calomel and opium; others, small doses of ipecacuanha and opium. Within the past three years I have had to treat upwards of two hundred cases of dysentery, and I can safely assert that until I absolutely adopted the ipecacuanha treatment my results were anything but satisfactory, and since then some of the most apparently hopeless cases have made a rapid recovery.

The chief difficulty that young practitioners experience is their inability to follow one definite line of treatment, so many varieties of administering ipecacuanha are advocated by the different writers on the subject. If I may, without presumption, attempt to simplify this variety of treatment, I think the best means to accomplish this end will be to make a brief statement of the course that experience and a careful study of the writings of others have led me to pursue.

As a preliminary measure, if the dysenteric phenomena have not displayed themselves in too marked a degree, I order half an ounce of castor-oil with ten or fifteen minims of tincture of opium; the patient to be kept quiet and abstain from all solid and irritating food. This failing to check the disease, absolute rest in the recumbent position must be enjoined, twenty to twenty-five minims of the sedative solution of opium administered, and in twenty minutes afterwards thirty grains

of powdered ipecacuanha in an ounce of water or syrup of orange-peel. The patient must then be kept perfectly quiet and abstain from all food, fluid or solid, for two or three hours. If the ipecacuanha is vomited immediately after it has been administered allow an interval of about half an hour to elapse, and then repeat the full dose again. In the further treatment of the case ten-grain doses of ipecacuanha should be given every six hours until convalescence is established; and when it is, to guard against a relapse, it is a wise precaution to give five or ten grains at bed-time for a few nights. In addition to this treatment a two-ounce starch enema containing twenty to twenty-five drops of sedative solution of opium, given at bed-time, has an admirable effect in controlling tenesmus and inducing sleep. With regard to nourishment I have never found, in adopting this line of treatment, that the nauseating effect of ipecacuanha produced any alarming intolerance of food; of course, food of the lightest nature, such as beef-tea, chicken-tea, arrowroot, milk, and the like, should only be administered. I think the use of stimulants should be dispensed with unless there is extreme exhaustion, and even then they should be given sparingly and extremely diluted.

And now it will be asked, Does the ipecacuanha treatment never fail, and is it an absolute specific for

dysenteric disease? I can unhesitatingly answer, as far as my experience enables me to do so, that in the great majority of cases it most certainly does not fail, and that its effects are often magical; but I have met a few cases where no precautions or varieties as to administering small or large doses of the drug seemed to be able to avert the absolute intolerance of it. Under these circumstances I administer a bismuth and soda mixture containing five drops of sedative solution of opium in each dose. I also gave a powder containing mercury with chalk and compound ipecacuanha powder every four hours, and an opiate enema at night. Several writers on the subject say that when this intolerance is present hepatic complications are to be dreaded, but happily in the cases I have alluded to no such difficulties had to be encountered, and the disease quickly yielded to treatment; but I consider that when a patient suffering from dysentery is unable to take ipecacuanha his chances of recovery are seriously lessened by such inability. My utmost expectations will be fully realized if this very imperfect outline of the treatment of tropical dysentery enables some new-comers to grapple with a disease that admits of no parleying with, and if the reopening of the subject is sufficient at least to arouse the attention of those who feel a great difficulty in yielding up preconceived ideas.

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 7, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diarrhoeal Diseases.	Lung Diseases.	Diphtheria and Croup.	Typhoid Fever.
New York.....	1,085,000	654	337	38.99	28.75	6.27	3.98	1.07
Philadelphia.....	901,380	302	138	26.16	16.89	2.98	.66	4.30
Brooklyn.....	564,400	271	143	36.90	28.78	5.17	2.58	.37
Chicago.....	—	221	142	47.06	33.48	6.33	8.14	.90
St. Louis.....	—	—	—	—	—	—	—	—
Baltimore.....	393,796	158	90	39.24	21.52	1.90	3.80	3.16
Boston.....	365,000	249	141	55.02	50.60	5.22	2.41	1.21
Cincinnati.....	280,000	87	40	20.69	9.20	6.96	1.15	4.60
New Orleans.....	210,000	89	36	19.11	5.62	1.12	2.25	3.37
District of Columbia.....	170,000	86	40	18.60	6.98	4.65	4.65	3.49
Buffalo.....	—	45	32	37.78	28.89	8.89	4.44	2.22
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	153,883	65	38	55.38	33.85	6.15	6.15	3.08
Milwaukee.....	127,000	62	42	24.19	17.74	9.68	1.61	1.61
Providence.....	104,862	45	24	42.22	20.00	4.44	8.89	—
New Haven.....	60,000	27	11	18.52	11.11	3.70	—	3.70
Charleston.....	57,000	26	11	11.51	3.85	3.85	—	3.85
Nashville.....	37,000	24	7	33.33	16.67	4.17	—	12.50
Lowell.....	54,000	31	23	45.16	38.71	9.68	—	3.23
Worcester.....	55,000	26	13	53.85	53.85	—	—	—
Cambridge.....	50,400	20	10	25.00	20.00	5.00	5.00	—
Fall River.....	49,000	35	17	17.14	8.57	2.86	—	2.86
Lawrence.....	38,600	22	15	40.91	36.36	4.55	—	—
Lynn.....	34,000	17	10	29.41	29.41	—	—	—
Springfield.....	31,800	13	8	38.46	30.77	—	—	—
New Bedford.....	27,200	17	9	58.82	47.06	5.88	—	11.76
Salem.....	26,500	12	5	41.67	33.33	—	8.33	—
Somerville.....	23,500	12	12	58.33	50.00	—	—	—
Chelsea.....	21,000	17	11	64.71	47.06	—	11.76	5.88
Taunton.....	20,200	6	4	66.67	66.67	—	—	—
Holyoke.....	18,400	14	12	64.29	64.29	7.14	—	—
Gloucester.....	17,300	15	10	60.00	60.00	—	—	—
Newton.....	17,300	2	1	50.00	50.00	—	—	—
Haverhill.....	13,350	8	4	62.50	50.00	—	12.50	—
Newburyport.....	13,500	4	0	50.00	25.00	—	—	—
Fitchburg.....	12,600	4	3	75.00	75.00	—	—	—
Seventeen Massachusetts towns.....	126,310	63	26	28.57	22.22	3.17	1.59	1.59

Deaths reported, 2660; 1429 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 1033, diarrheal diseases 754, consumption 311, lung diseases 134, diphtheria and croup 89, typhoid fever 56, scarlet fever 42, malarial fevers 37, whooping-cough 26, measles 13, cerebro-spinal meningitis seven, erysipelas seven, small-pox two. From scarlet fever, Baltimore eight, New York and Philadelphia seven, Chicago six, Providence five, Brooklyn and Pittsburgh three, New Orleans, Buffalo, and Fall River one. From malarial fevers, New York 18, Brooklyn eight, New Orleans five, District of Columbia three, Chicago, Baltimore, and New Haven one. From whooping-cough, Baltimore six, New York and Philadelphia four, Cincinnati three, Brooklyn and Pittsburgh three, Boston, Providence, Charleston, Nashville, and Bridgeport one. From measles, New York, Cincinnati, and Pittsburgh three, Baltimore, Boston, New Orleans, and Lowell one. From cerebro-spinal meningitis, New York, Chicago, Baltimore, Milwaukee, Fall River, Lawrence, and Springfield one. From erysipelas, Chicago two, New York, Brooklyn, Milwaukee, Somerville, and Newburyport one. From small-pox, Philadelphia two.

Nineteen cases of diphtheria, eight of scarlet fever, three of whooping-cough, three of typhoid fever, and one of measles were reported in Brooklyn; small-pox, one in Chicago; diphtheria and croup 26, scarlet fever six, in Boston; diphtheria and croup, nine in Milwaukee, where diarrheal diseases were prevailing; scarlet fever 12, diarrheal diseases 10, typhoid fever six, measles four, diphtheria four, whooping-cough two, in Providence; scarlet fever three, diphtheria and croup three, in Cambridge; scarlet fever five, diphtheria and croup three, in New Bedford.

Total deaths diminished; deaths under five diminished in

Philadelphia, Brooklyn, and Cincinnati; increased in New York, Baltimore, and Boston.

In 35 cities and towns of Massachusetts, with an estimated population of 1,014,960 (population of the State about 1,690,000), the total death-rate for the week was 30.28 against 31.82 and 23.09 for the previous two weeks.

For the week ending July 17th, in 150 German cities and towns, with an estimated population of 7,571,668, the death-rate was 31.2. Deaths reported, 5412; 2894 under five: pulmonary consumption 444, acute diseases of the respiratory organs 223, diphtheria and croup 97, scarlet fever 69, measles and röteln 66, whooping-cough 58, typhoid fever 51, puerperal fever 14, typhus fever (Erlang, Munich, Berlin, Dortmund two) five; small-pox (Königsbrunn two, Berlin) three. The death-rates ranged from 11.4 in Karlsruhe to 50.1 in Breslau; Königsberg 38.7; Munich 37.8; Dresden 28.3; Berlin 39.8; Leipzig 30.3; Hamburg 26; Hanover 17; Bremen 22.9; Cologne 37.4; Frankfurt 25.2; Strassburg 34.2.

For the week ending July 31st, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 23.3. Deaths reported, 3353; diarrhoea 577, acute diseases of the respiratory organs 200, scarlet fever 133, whooping-cough 65, measles 56, fever 38, small-pox four. Death-rates ranged from 15 in Sheffield to 34 in Brighton; London 24.9; Birmingham 21; Manchester 25. In Edinburgh 17, Glasgow 18, Dublin 28.

In the 20 chief towns in Switzerland for the same week, population 445,790, there were 34 deaths from diarrheal diseases, scarlet fever nine, acute diseases of the respiratory organs seven, typhoid fever six, diphtheria and croup five, whooping-cough four. Death-rate of Geneva 14.8; of Zurich 22.5; Basle 28.5; Bern 24.5.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
August 1	30.056	78	93	65	76	33	69	57	W	SW	SW	10	15	10	C	C	C	—	—
" 2	29.913	76	88	66	70	51	81	67	SW	W	SW	13	17	14	C	F	F	—	—
" 3	30.004	68	82	62	77	80	94	84	W	N	N	6	12	8	C	O	R	1.10	.57
" 4	30.038	65	77	60	100	86	94	93	NE	NW	NE	10	5	1	G	T	R	—	.39
" 5	30.150	68	76	62	100	68	74	81	0	E	NW	0	4	5	R	F	F	17.50	.19
" 6	30.153	67	77	58	63	56	74	64	NW	E	0	2	8	0	F	F	F	—	—
" 7	30.163	72	85	59	68	46	76	63	NW	E	SW	8	8	7	T	C	C	—	—
Week.	30.068	71	93	58				73										25 00	1.15

¹ O, cloudy; C, clear; F, fair; G, fog; H, hazy; R, rain; S, smoky; T, threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM AUGUST 7, 1880, TO AUGUST 13, 1880.

HAYARD, V., captain and assistant surgeon. To proceed to Fort Clark, Texas, and report to the commanding officer, first infantry, for duty with his command. S. O. 158, Department of Texas, August 8, 1880.

CORRECTION. — Dr. C. F. Folsom begs us to say that his remarks on page 158 of last week's JOURNAL on Dr. Denny's paper should have been stated to the effect that he did not attach the same importance as the reader to slight physical changes like hyperæmia, etc., as indicative of insanity. The statement about coffee belongs to the remarks about the ophthalmoscope, and was that a single cup of strong coffee in some individuals produces as much change in the appearance of the retinal circulation as might lead to the supposition that there was decided hyperæmia if compared with the eyes of other persons or of the same person at another time.

BOOKS AND PAMPHLETS RECEIVED. — The Student's Dose Book and Anatomist combined. By C. Henri Leonard, M. D. Detroit: Leonard's Illustrated Medical Journal. 1880.

Lacerations of the Neck of the Uterus. By A. Reeves Jackson, M. D. (Reprint.)

The Use of the Sphygmograph in Practice. By Abram B. Arnold, M. D. (Reprint.)

The Medical Treatment of Cystocele and Prolapsus Uteri. By Eugene C. Gehring, M. D. (Reprint.)

A New Eye Bandage. By Samuel Theobald, M. D. (Reprint.)

Peptonized Milk as Food for Infants and Invalids. By R. J. Munn, M. D. (Reprint.)

Incised Wound of the Elbow. By Thomas R. Wright, M. D. (Reprint.)

Report and Supplementary Report to the Parliamentary Bills Committee of the British Medical Association on Vaccination Penalties. The Principle of Compulsion in Vaccination. By Ernest Hart. (Reprint.)

Transactions of the South Carolina Medical Association, Thirtieth Annual Session, held in Columbia, S. C., April 20 and 21, 1880. Charleston, S. C. 1880.

United States Marine Hospital Service. (Reprinted from Appleton's Annual Cyclopædia, 1879.)

Lectures.

CLINICAL LECTURE ON THE PHYSIOLOGICAL PATHOLOGY OF SYPHILIS.¹

DELIVERED AT THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK, SESSION OF 1878-79.

BY FESSENDEN N. OTIS, M. D.,

Clinical Professor of Genito-Urinary Diseases, etc.

VI. PERIOD OF LYMPHATIC OBSTRUCTION.

GENTLEMEN,—In resuming the consideration of the so-called tertiary or late manifestations of syphilis, it may be well to recall an important advance in the systematic study of this subject, brought prominently before you at our last session, namely: that while, as a rule, authorities treat of these manifestations as implying the influence and actual presence of a *virus*, a so-called "syphilitic taint" in the blood, yet clinical observers and authorities such as Hutchinson, Lancereaux, Von Bürensprung, Bumstead, and others have, somewhat recently, drawn a broad line of separation between the earlier and later lesions due to syphilis, by accepting the former as specific and always associated with a contagious element, and characterizing the latter as "sequelæ," lesions free from any contagious property, and thus strictly personal; incapable of transmission either by inoculation or hereditary influence; not an essential, but merely an accidental, result of syphilis. This, it will be seen, has a tendency to lift the late lesions due to syphilis out of the realm of the supernatural, and lead us to a study of cause and effect through known physiological and pathological processes.

The first positive step in this direction was recognized in the acceptance by authorities of the "gummy material," the "syphiloma" of Virchow and Wagner, as *uniformly* if not *necessarily* associated with all the late lesions due to an antecedent syphilis.

Whether in the skin as a diffuse infiltration of its superficial layers, and resulting in a so-called *scaling syphilide*, or localized in the deeper layers as a *tubercular syphilide*, or in the cellular tissue, in the muscles, in the bones, or in the viscera, as the *gummy tumor*, the constant presence of this still mysterious material was recognized, and always suggested its importance as a prime factor in effecting the mischief with which it was associated. But the most searching analyses had failed to find in it any mischievous property, or to show that it was anything more or less than an aggregation of normal nutritive elements.

It was at this point that I called your attention to the significant fact that during the active stage of syphilis the vessels and organs of the lymphatic system, whose uses, as far as known, are confined to the normal nutritive elements of the organism, were prominently affected, and that too in such a way as to suggest the possibility of subsequent pathological changes in the walls of the lymph channels, and an interference with the lymphatic circulation as a legitimate consequence.

If then we accept the *gummy material* for what scientists have proved it, simply an aggregation of normal germinal elements in various localities and degrees, its exact localization of necessity must be referred to spaces, vessels, and organs of the lymphatic system as the recognized habitat of those elements. In order, however, to account for the localized accumulation of

this material in such degree as to constitute a pathological condition, obstruction of the normal lymphatic channels becomes essential. Now it is that the pre-existence of the syphilitic disease, prominently affecting this especial system, becomes important and furnishes us with the only logical and legitimate explanation of the cause of obstructed lymphatics, and of accumulated normal germinal elements; in point of fact, now for the first time we are in possession of a reasonable solution of the origin and nature of the mysterious *gummy material* of late syphilis.

In the first of the five cases (Case IX.) presented as typical of as many different phases of syphilitic sequelæ, the damage to the tissues implicated in the tubercular eruption was recognized as an atrophy resulting from mechanical pressure. It was seen that loss of substance had not occurred through the ulcerative process. Authority was cited to prove that ulceration was not the necessity in such cases, but that the accumulation of the gummy material, "a diffuse hyperplasia of small cells," was the cause of the "atrophy and absorption of the true elements of the skin tissue." In the remaining four cases the behavior of the accumulation was not so easily appreciated. I propose, however, to-day to continue the consideration of the lesions then presented, and shall endeavor to show among other things that the damage resulting is still (as in the tubercular eruption) independent of any destructive property or constitutional taint *per se*, but that the sources of trouble are purely local, and that the losses of tissue which do occur, result from arrest of the processes of nutrition through *mechanical* disturbance; primarily of the lymph channels, and secondarily of the blood-vessels, with which they are associated.

CASE XIV. This patient gives a tolerably clear history of active syphilis occurring about twenty years ago, and of eruptions more or less ulcerative during two or three years subsequently. Since that time he had enjoyed good health up to five years ago, when his right testicle became enlarged to the size of his fist. He states that under occasional treatment by the iodide of potassium, the testicle grew very much smaller. In fact, he thought the difficulty almost cured; but within the last few months the swelling had returned and had again become troublesome from its increased size. We find here the right scrotum greatly enlarged; not at all sensitive to the touch; and so far like Case XI. of syphilitic testicle, previously examined. But the tumor, while quite heavy, fluctuates very perceptibly, and it is only by firm pressure that a solid material can be felt through the fluid, and this apparently not much larger than the testicle in its normal condition. Application of the light test, in this instance, is not altogether satisfactory, but as no impulse is transmitted to the tumor through the inguinal canal in coughing, we may venture to aspirate it. And now after introducing the needle, as I draw back the piston of the instrument the straw-colored fluid characteristic of hydrocele flows into the glass barrel of the aspirator in quantity sufficient to show that the mass of the tumor was fluid, just filling the receptacle, which registers a capacity of a little more than four ounces. Having removed the fluid, it at once becomes evident that the tumor, while not larger than a normal testicle, is irregular, somewhat nodulated in shape, and especially at the lower portion is very hard, quite like cartilage. As I press it between my thumb and finger there is no complaint of pain until reaching the very top of the

¹ Continued from vol. cii., page 129.

organ, where, as you have seen, the patient shrinks and makes some complaint. This remaining sensitiveness is an evidence that the normal structure of the testicle is not entirely destroyed.

In the post-mortem examination of similar cases it is found that two forms of trouble frequently (and always in long-standing cases) unite in the so-called chronic orchitis of late syphilis, the one usually the earliest to manifest itself being a localized tumor at one or more points in the substance of the organ. This is found to be made up of materials characteristic of the *gummy tumor* occurring in other localities. Subsequently to the occurrence of these tumors a marked growth of fibrous tissue is found to take place, *apparently commencing in the lobular spaces*, and gradually encroaching upon the seminal lobules until they are destroyed; and the elements of new formation traversing in this same way the substance of the entire organ, with cicatricial network, the contraction which naturally follows not seldom results in the total destruction and almost complete disappearance of the organ. This explains what we find in the present instance. The history points to a general so-called gummy infiltration, involving, probably, the epididymes and the body of the testicle, and a later development of fibrous tissue, which has by its subsequent contraction reduced the organ to its present indurated and atrophied condition. It is interesting here to recall the fact, made prominent by all authorities on syphilis, that cicatricial deposit and its subsequent contraction and strangulation of the parenchyma resulting in true atrophy is characteristic of the influence of late syphilis, occurs not alone in the testicle, but notably also in the liver and the kidneys. The tendency to formation of fibrous tissue has also been recognized from apparently the same causes at other points, as in the larynx, intestine, etc. Ranvier and Cornil significantly remark¹ that all profound syphilitic lesions of the mucous membrane occasion a proliferation and a production of connective tissue usually much greater than in diseases due to other causes. It is a well ascertained clinical fact that the gummy infiltration precedes the stage of cicatricial deposit, and that while both the gummy tumor and cicatricial atrophy are often met with in the same testicle, general enlargement *first occurs*; then comes the recognition of localized deposits of gummy material, and later, often several years after, compression due to contraction of cicatricial deposit finally takes place, and atrophy of the testicle results. The clinical evidences are strongly in favor of considering the gummy exudation as the *basis* of the cicatricial deposit, and the different subsequent conditions as but stages of the same pathological process, terminating finally in atrophy, through cicatricial contraction. In favor also of this view, and as affording a possible explanation of the cause and mode of formation of the cicatricial deposits in other organs, due to late syphilis, we may recall the statement of Rindfleisch in regard to the most favorable conditions for the development of new cell formations, namely, "Contact with tissue and *relative rest* of the emigrant cells induces them first to essay their amoeboid mobility and then to division."² But *absolute rest, stasis* of such cells, or of any cells, is necessary for their *development into tissue*. All fibrous or connective tissue is said to be made up of the spindle-

shaped or connective-tissue cells and fibrillae which are simply a higher stage of development of the lymphoid cells and corpuscles, evolved from and circulating in and through the lymphatic organs, spaces, and vessels. This is exactly the essential material of which *cicatricial tissue*, wherever found, is made up, and this is exactly the sort of tissue which has caused the mischief in this testicle, and which by authorities is accepted simply as one of the many mysterious phases of the so-called tertiary period of the disease. Only a single condition is lacking, however, in order to place this cicatricial deposit, due to syphilis, in the line of ordinary pathological conditions, and that is, one which will account satisfactorily for the presence and quantity of embryonal or formative cells in the localities where the cicatricial tissue is subsequently developed, and the causes of their enforced accumulation and stasis in those localities during a period sufficient for the formation of such tissue.

His and Thoma's³ claim to have demonstrated a very generous distribution of lymphatic channels in the testicle, the liver, and the kidneys, organs in which the cicatricial contraction due to the influence of late syphilis is chiefly found. Especially are the lymphatics claimed to be numerous and ample in the testicle, where injections performed upon dogs have shown that lobular spaces are simply lymph sacs or lacunae. In point of fact, the seminal lobules are literally inclosed in lymph chambers, and the reticulation of lymph channels not only surrounds but permeates every portion of the testicle and its appendages. The same rich distribution is shown also in the liver and kidneys. Having, then, the material necessary for the formation of cicatricial tissue, and in localities where it is known to develop, the essential condition to produce it is an enforced stasis of cell elements through interference with the lymph circulation of these organs; in short, *obstruction of the lymph channels* at various points.

The possible damage to these channels,—to the walls of lymphatic vessels and sacs and spaces,—through development of fibrous tissue in the active stage of syphilis, has already been explained to you. The coincidence of antecedent syphilis, of the development of this cicatricial tissue in the line of the lymphatic distribution, and apparently in proportion to its richness; the coincidence of the aggregation of purely lymphatic elements as the condition preceding the cicatricial formation (as in the testicle); the coincidence also of the entire absence of any injury to the affected organ except that which results from purely mechanical causes, will, I think, warrant us in claiming, at least as far as syphilitic degeneration of the testicle is concerned, that there is no necessity to invoke the influence of a taint in the blood in order to obtain an explanation of its occurrence. When at a later period we come to consider the treatment of this and allied affections, it will be found that the only agents which are accepted as most efficient, or which are at all efficient in preventing its occurrence, or in arresting its progress, are just and only those which are known to be most potent to prevent, arrest, or dissipate new formations, normal or abnormal, which occur independently of the syphilitic influence.

In support of the views just advanced in regard to the formation and behavior of the gummy and cicatricial deposits in the testicle resulting from syphilis, I

¹ Patholog. Histol., page 399, 1880.

² Rindfleisch, Path. Hist., page 94, section 77.

³ Stricker.

will quote from a recent authority¹ an account and opinion of similar pathological conditions occurring in the liver.

DEVELOPMENT OF THE GUMMA OF SYPHILIS.

"The first phase consists in the proliferation of connective tissue or of an analogous tissue. . . . In syphilitic interstitial hepatitis the proliferation of cells of the connective tissue takes place not only between the hepatic islands, but also in their interior, along the capillaries, and up to their entrance into the central vein. . . . This formation of embryonal tissue takes place either throughout the organ or in limited points. . . . The new tissue, which accumulates in masses, becomes riddled with numerous vessels. Then commences the second stage of the development of gummatu. The cells multiply, diminish in size, are compressed against each other, and there are thus produced little nodules or irregular islands, in which the central cells are atrophied and granular (from pressure?), while the peripheral cells are more voluminous and present the character of embryonal cells (because freed from pressure?). . . . Then in regard to "gummatous nodules which have undergone degeneration," page 112, "One might at first sight believe that these groups of fatty granules correspond entirely to the *plasmatic cells*, but, studying more closely, we see that many belong to *spaces*, more or less lengthy and sometimes wide, which represent the *disposition of the lymph canals* in the fibrous tissue, and we are right in concluding that the spaces filled with these groups of fatty granules are *lymph vessels* stuffed with the fat resulting from the decomposition of the morbid mass. . . . It is by means of the *lymph vessels* that the products of the decomposition of the nodules are absorbed, when, after yielding to proper treatment or to the processes of nature, the gumma diminishes."²

I shall now call your attention to another variety of lesion, also characteristic of the influence of late syphilis.

CASE XV. This patient's age is fifty years. He has a clear history of syphilis of twenty years ago. His appearance indicates a generally bad condition. Somewhat emaciated, his dusky complexion and his anxious expression, and a previous history of syphilis, would lead us to look for syphilitic degeneration of the liver or kidneys or both. When we find such a condition as his associated with visceral disease due to syphilis, we call it *syphilitic cachexia immitritio* occurring, not from any virus circulating in the blood, but from functional incapacity of the organs affected, and due to the so-called gummy deposit or infiltration in various stages of its development. This man's health and habits have, by his own account, been bad for several years. He has suffered from no local pain except occasionally in his back, which he is not able to localize sufficiently to indicate any special trouble. Examination by percussion and palpation over the right hypochondrium shows that the liver is diminished in size. I cannot positively make out any irregularity in its form or consistence. Gummy tumors may be present for years in similar cases without creating any marked local or constitutional disturbance, and even subsequent cicatricial contraction may go on to a considerable extent without much constitutional suffering. Again, in a case like this the contraction of the liver may be due to alcoholism. If the

trouble in the liver is in considerable measure due to gummy infiltration or localized deposits, which have not yet undergone the cicatricial change, we may hope for improvement by use of remedies, previously spoken of as appropriate for removal of new formations. If, however, cicatricial tissue has formed, *from whatever cause*, the probabilities are greatly against any marked improvement.

This patient is presented, however, chiefly to illustrate the behavior of "gummy deposits" in bony structures. He shows us here, on the right parietal protuberance, a swelling or tumor about the size of half a pullet's egg, very dense in structure and resistant to the touch, like other parts of the cranium. Besides this, at the vertex, on removal of the carbolated dressing, you may observe that complete destruction of of the scalp has occurred, for the space of a full square inch. The external table of the skull is also gone, as well as the diploe, and as I pass my probe under the overhanging edge of the scalp, I find that the bone is destroyed for a half inch beyond the apparent size of the ulcer; yet, as you see by its rosy, sloping edge, it is healing. About a month since, when this patient first came under observation, the ulcer was at least twice its present size, and presented an abrupt and ragged edge, and the cavity filled with fetid pus. This improvement has apparently resulted from treatment which I will explain to you later.

According to the patient's account, this lesion came almost imperceptibly, as a swelling, without tenderness, about three years ago, and remained unchanged until a few months since, when, after a heavy drinking bout, it began to be sensitive, and finally softened down and discharged a quantity of matter.

We may reasonably infer that this destructive process was preceded by a condition similar to the swelling on the adjacent bone, to which attention was first directed, and that the insensitive bony swelling and the destructive bony lesion are but stages of the same trouble. These inferences are in complete accord with what is known in such cases. It is furthermore shown that, in similar cases, true bony material is exuded or accumulated and organized under the influence of mysterious conditions following syphilis (anywhere from one to fifty or more years), and that such overgrowth may occur at any point in the osseous system, or it may rise up under the periosteum of one of the long bones, as the tibia or the humerus, and appear as a distinct bony tumor — and remain as such, for years, without causing great inconvenience, or it may originate in the substance of the bone, as in the present instance, and after a long quiescence break down into a bony abscess within a few weeks or even days. Examinations of these lesions in every stage have shown that they are made up in the first place of simple collections of germinal material, identical with that forming the gummy tumor of the soft tissues. The cells become organized in some instances into solid bony material, especially when external pressure is slight; in others, where the "gummy material," that is, "*accumulated germinal material*," is deep seated, the pressure causes atrophy of bone, bony loss taking place just as loss of cellular tissue was explained in the tubercular syphilis, *without ulceration*. Again in others the material breaks down from irritation caused by the pressure, and under influences such as lower the resisting powers of the patient, and the newly organized material melts away into pus and the debris of disorganized tissue.

¹ Cornill and Ranvier, American Edition, 1880, page 110.

² Italics are my own. — F. N. O.

It will be seen, then, that in these three modes of action of the gummy deposit in bone, we have nothing to suggest any destructive property or virus *per se*, nothing to militate against the application of the same explanation that was offered to account for the gummy tumor and other forms of gummy deposit in the soft tissues, namely, simple obstruction of the lymphatic vessels, of bones in this case, the results varying from circumstances of location and from condition of the subject. Destruction of the tissues implicated never occurring except from mechanical pressure, either acting as an interference to nutrition directly through pressure, or through pressure upon blood-vessels supplying the part. The fact that the same treatment which has been found successful in treatment of gummy tumors and infiltrations of the soft tissues is equally efficient in lesions of bones, due to late syphilis, is in support of such a view.

It will be seen that the affections of the so-called tertiary or late stage of syphilis affect various structures, and that their destruction, as far as we have found any explanation for it, has been the result of purely mechanical causes. The cases, however, which have been presented up to this time have not been characterized by extensive losses of substance rapid and involving various tissues often met with. Infiltrations of "gummy material" may indeed be invoked to explain such losses through interferences with the nutrition of parts. Examples of such destruction are seen in Plate 16 on my right, which represents the serpiginous ulcerations characteristic of late syphilis, where the entire thickness of the integument is shown to have been destroyed from knee to ankle. In Plate 17 — representing what are called *rupietic* ulcers, fully as large as a silver dollar, and presenting an appearance as if some foreign body had sloughed out — several smaller ulcers are also seen, near by, covered with thick sienna-colored scabs, which scabs, I may say in passing, apparently the product of the ulcerative process, when examined under the microscope are found to be made up only of disorganized lymphatic elements which do not present any specific feature. And again, Plate 18, which represents the so-called *tertiary syphilitic impetigo*, a superficial ulceration of the skin the size of your two hands, crescentic in shape and covered here and there with a thick, crust-like scab, while along side of it is represented an ulcer which has destroyed the integument and the underlying cellular tissue to a considerable depth. Here, again, at Plate 19, is an ulceration with profound loss of substance at the ankle, and still another, No. 20, which represents loss of the soft and hard palate, and implicates the fauces.

Now I want not only to show you, by these and other examples, that destruction from the influence of syphilis occurs at any point where lymphatic vessels are present, — in other words, at any point to which nutritive material is carried, not only to the skin, the cellular, muscular, bony, and even cartilaginous structures, but to every part of the brain and nervous system. — I want also to say at this point that the behavior of tissues and structures infiltrated with the so-called gummy material of syphilis, in all forms in which it presents a destructive result, shows nothing, either by inoculation or by any physical property, which proves it capable of acting except by the mechanical influence of its presence, by interfering with function and cutting off nutrition through diminishing the calibre of

blood-vessels or possibly effecting entire obliteration of such vessels.

In this connection the statements of Cornil and Ranvier in regard to what is termed *tertiary degeneration* of arteries — certain changes recently described by Huebner as characteristic of syphilis — may be introduced in illustration of the foregoing statements: "These changes have been recently brought prominently before English pathologists by Drs. Greenfield and Barlow and others, and the investigations of the first named of these observers would tend to render it probable that similar changes occur in arteries in other situations. In the cerebral arteries the changes produce opacity and marked thickening of the vessel, with considerable diminution in its calibre. It is this diminution in the lumen of the vessel which is especially characteristic.

"When transverse sections of the vessels are examined microscopically the principal change is seen to be in the inner coat. This coat is considerably thickened by a cellular growth. The growth, which is limited

FIG. 182.1



Syphilitic Disease of Cerebral Arteries. A, segment of middle cerebral artery, transverse section; *i*, thickened inner coat; *e*, endothelium; *f*, membrana fenestrata; *m*, muscular coat; *a*, adventitia, $\times 200$, reduced $\frac{1}{2}$. B, small artery of pia mater, transverse section, showing thickened inner coat, diminished lumen of vessel, and considerable infiltration of adventitia. The cavity of the vessel is occupied by a clot (? thrombus). $\times 100$, reduced $\frac{1}{2}$.

internally by the endothelium of the vessel (Figure 182, A *e*) and externally by the membrana fenestrata (Figure 182, A *f*), closely resembles ordinary granulation tissue, consisting of numerous small round and spindle-shaped cells. This tissue appears gradually to undergo partial development into an imperfectly fibrillated structure. In addition to this change in the intima, the outer coat is unusually vascular and infiltrated with small cells, and this cellular infiltration usually also invades the muscular layer (Figure 182, A *m*). The result of these changes in the inner coat is to diminish very considerably the lumen of the vessel (Figure 182, B), and the consequent interference with the circulation frequently leads to coagulation of the blood, thrombosis, and cerebral softening."

Dr. Greenfield's observations, as already stated, tend to show that similar arterial changes occur in other

¹ Cornil and Ranvier, Pathological Histology, American Edition, page 341. Electrotypes through favor of Mr. Henry C. Lea, publisher American Edition.

² Italics my own. — F. N. O.

parts, and that they account for the degeneration of the syphilitic gummata.

Thus it will be seen that the *degeneration of arteries* from syphilitic influences, according to recent eminent authorities, consists in an antecedent development and growth of new fibrous tissue *at the points of degeneration*.—fibrous tissue not distinguishable, either in its cell elements or the fibrillæ developed from such elements, from normal productions. There can scarcely be a question that, occurring as a recognized sequence of the same trouble and in the same period which produced in the liver a similar cell development, resulting in cicatricial contractions of that organ, the fibrous tissue thus developed in the coats of the arteries had a similar origin. It is true that the lymphatic channels in the coats of arteries have not yet been practically demonstrated, but if, as claimed, the office of the lymphatic system is to return from the tissues nutritive material, tissue-fluid, and white blood cells, exuded by the blood-vessels in excess of the necessities of growth and nutrition, then we must admit the existence of lymphatic channels in *every tissue*. It is scarcely ten years since their existence in bones was denied by all histological authorities, but since then Ludwig and Sweigger-Seidel have demonstrated their presence in cartilage, and Thinn has furnished a chart of lymphatics of the cornea. It may be now claimed, I think, that the evidences which have been adduced in proof of the important part played by the lymphatic system in the early and late periods of syphilis will warrant further investigations into the histology and pathology of that system. With newer discoveries we shall, I believe, find the demonstration of causes of syphilitic trouble, in regard to which at present we are obliged to depend for solution upon analogy, treatment, and the lack of any other way of accounting for them. Syphilitic disease of the brain, for instance, is now usually considered as resulting from the deposit of gummy material in its substance, and so it may be proven by plenty of post-mortem evidence; but softening of the brain, independently of the recognized presence of gummata in that organ would not suggest a syphilitic cause. By analogy, however, the disease—first the gummons, then the fibrous deposit—might be in the coats of an artery supplying a large tract of brain substance, interference with the calibre of which and consequent innutrition of the tissues it was designed to nourish would eventuate in a case of as extensive cerebral *ramollissement* as could be met from any other cause. In the same way loss of every kind of tissue might be reasonably accounted for whenever gummy deposits were located in the coats of vessels, thus adding a destructive agent of the most positive character and wide-spread influence to the simple processes of atrophy from mechanical pressure and localized strangulation of vessels of nutrition, resulting in more or less rapid local necrosis of tissue.

The measures for relief and cure of syphilis logically suggested by the foregoing views of its nature and its behavior in its various stages and phases will next be considered.

—The news of the death of Professor Hebra, of Vienna, on the 5th inst., has been communicated to us. The announcement comes from the family, but we have heard no details of the circumstances under which the celebrated clinical teacher and practitioner passed away.

Original Articles.

BORACIC ACID IN SURGERY.

BY WM. WARREN GREENE, M. D.,

Professor of Surgery and Clinical Surgery in the Medical School of Maine;
Surgeon to the Maine General Hospital, etc.

For several years past I have used the boracic acid more or less in my surgical practice, but it was not until a little over three years ago that I determined to give it a thorough trial. I first used it in the treatment of certain obstinate, unhealthy ulcers, and it was from observation of its action in this class of cases that I was led to test its qualities more extensively. For certain reasons I have preferred to confine its exhibition to private practice exclusively, not having, up to date, used it probably a dozen times altogether in the hospital.

This trial has been sufficiently extensive and thorough to warrant somewhat definite conclusions as to the merits of the drug, and convinced as I am that in it we have a remedial agent of much greater power and wider range of applicability than members of our profession are aware, I desire to put in concise form a statement of my clinical experience with it. Indeed, very little is generally known of this article.

True, Mr. Lister has used it in the treatment of "foul sores," and lint steeped in a hot solution of boracic acid forms a part of his anti-septic dressing. Mr. Watson has testified to its value in his East India practice, and Dr. Hussmann, of Germany, and a few others have given evidence in its favor, while a second and careful reading of Poli's published account of his investigations from a chemical standpoint more especially preposessed me in its favor. Nevertheless, it is not even named in any of the older text-books, and is very briefly noticed in few of the more modern ones, while the little that has been written of it in periodical literature has not attracted general or marked attention. So that I am warranted in saying of the large majority of medical men, that they have no familiar or practical acquaintance with this important therapeutic agent.

I shall not occupy time or space with a tedious detail of individual cases, but content myself with a brief statement of facts, and my own conclusions therefrom.

TOPICAL USE.

Although, as will be seen further on, I have administered the acid internally to considerable extent, yet I have for the most part used it as a topical remedy, and it is to the results of its local application that I especially invite the careful attention of my professional brethren.

The first instances in which I employed boracic acid as a dressing were *old, indolent ulcers following severe burns*; and I wish to call particular attention to three of these cases, each one of which presented typical features.

One had a glazed, dark, tender surface, with considerable induration of base and edges, a scant, watery discharge, with entire absence of granulations. The surface of the second sore was a mass of large, flabby granulations, bathed in unhealthy puriform fluid; while the third ulcer was exceedingly tender and painful, covered with foul flecks and shreds of aplastic inflammatory products, and discharged freely a thin, ichorous, fetid matter, which was often mingled with

dark blood. Having stated that the ulcers were old, I hardly need to say that the usual methods of treatment in such cases had been previously employed, and had failed.

Under the action of the acid marked improvement took place with a promptitude not to be explained as mere coincidence. The glazed surface became less irritable, and within a week was covered with an abundance of healthy granulations. In the other sores, unhealthy discharge gave place to laudable pus, granulations became normal, and in each case the process of cicatrization was established.

Since this first trial I have treated a large number and a great variety of sores, both simple and specific in origin, with the acid, and with quite uniform results. These results have been an immediate correction of unpleasant odor, relief of pain or itching sensations, and an improvement in the granulation process. An important fact in this connection is that in all the cases treated, either other plans of treatment had been fairly tried, or, as in a few cases treated by the acid applications from the first, were observed in comparison with similar ulcers which were being managed by some one of the time-honored methods.

Under the influence of this remedy the tissues become better fitted for the reception and nourishing of skin grafts, while those that have taken but indifferent hold, and give doubtful promise, brighten and quicken under the vivifying contact of boracic acid. The mode of its application will be given further on.

In several fresh, open wounds of large area, I have followed the primary dressing of cotton wool with the boracic-acid ointment, and with most satisfactory results. For example, two weeks ago I removed a large scirrhous breast, to which the infected, leathery skin so closely adhered as to require removal with it. Hence the surface of the resultant open wound was a little more than equal to the base of the mammary gland. Under the boracic acid dressing the sore is perfectly healthy, and already new skin is rapidly pushing in from the edges.

In simple catarrhal inflammations of mucous surfaces, as well as in the ulcerative forms of disease associated with fetid, muco-purulent secretion, the effect of boracic acid solutions has been most gratifying. In ozæna and otorrhœa I have proved its quality as a prompt deodorizer and healthful alterative, and as a lotion for washing out the bladder in chronic cystitis with muco-purulent and offensive urine, I know of nothing better. I have employed it as an injection in twenty-eight cases of gonorrhœa, and I never had similar cases do better under any other treatment. I have been equally pleased with its effect in vaginitis and inflammation of the external genitals of the female.

I have had but limited experience with it in genuine diphtheria, but in the few cases where I relied upon it as the local remedy, I have been abundantly satisfied; and in diphtheroid and aphthous inflammations of the fauces, I have convincingly tested its action and demonstrated its value.

In the form of a lotion or ointment it has proved efficient in erythema and facial erysipelas; and in a variety of skin diseases, especially eczema and the various forms of tinea, the use of the acid has been uniformly curative or markedly palliative and beneficial.

As the writing of this article recalls a large number of individual cases, I am strongly tempted to report many of the more striking ones, but I forbear. One

case, however, still under treatment, so forcibly illustrates the value of this remedy from a comparative standpoint, that I feel sure a brief notice of it will be profitable.

About the first of last June a lady came under my professional care who, eight months before, had sustained severe burns upon both upper extremities, with several patches upon the chest. Both arms were deeply burned over three fourths of their surface, as was also the fore-arm of the right side. The left fore-arm was badly burned in its upper third, the lower portion escaping. During all these months she had been in charge of one of our most skillful physicians, who, to my personal knowledge, had exhausted the list of ordinary remedies in such cases, both lotions and ointments. Acetate of lead, sulphurous acid, simple cerate, cocoa butter, bismuth and glycerine, zinc ointment, etc., had been applied without avail. The failure to heal was finally attributed, as I understand, to pregnancy, and the hope entertained that after labor the process of cicatrization would begin. On the contrary, after delivery, which was natural and prompt, she failed faster than before, and one month subsequent to the birth of her child I found her in a most pitiable and unpromising condition. The ulcerated surfaces were terribly painful and irritable, and covered with a very offensive aplastic matter, which was abundantly secreted, with dark blood oozing freely from various points, and an entire absence of proper granulations. The slight attempts at new skin-formation reported to have occurred at times during the past winter had left no trace, but instead, all along the edges were unhealthy sores, secreting foul ichorous fluid. In short, the surfaces were as unpromising in appearance as they could well be after so long continued and fruitless trial of remedies. Her general condition was correspondingly bad. She had well pronounced hectic fever, loathed all food, and had a troublesome cough, which, in view of family tendencies towards phthisis, gave me unpleasant apprehensions. Indolent pustulations here and there over the body, sore eyes and lips, wandering pains, and a constant elevation of temperature told of serious blood poisoning. Scores of grafts had been inserted, but all failed.

The sores were kept constantly soaked in a saturated watery solution of boracic acid under oiled silk, until in three days the surfaces were clean. I then substituted the ointment containing a drachm of the acid to the ounce, which has constituted the dressing ever since. The change has been, to speak moderately, most remarkable. To be sure, I put her simultaneously upon a tonic and supporting plan of general treatment, but the local changes were too great and sudden to allow the faintest suspicion even that they were not due to the local treatment. So marked was the improvement in every way, that even the attendants, from the first, noticed it from day to day, and exclaimed with astonishment. To-day the surfaces are everywhere healthy, secreting a moderate amount of laudable pus. All pain is gone, and both marginal and central cicatrices are rapidly forming. Already, in some places, patches of new skin measure by inches, and only eight weeks have elapsed since the acid treatment began.

The hectic is entirely gone, temperature normal, appetite excellent, cough has disappeared, as have the unhealthy mucous and tegumentary inflammations and wandering pains, and she is rapidly gaining strength.

One most distressing symptom was an almost continual "throbbing" in the arms, which at last extended all over the body, and caused her great suffering. This long ago disappeared.

But after all, this statement must, in all fairness, be accompanied by another, which only shows how careful we must be in passing judgment on a new therapeutic agent or plan, and how necessary it is to consider all the circumstances in each case.

For five or six months previous to my assuming the care of her, and in order to prevent the contraction that was dreaded as a probable contingent of the healing process, she had been in the habit of daily exercise of the limbs by forcible flexion and extension, pulling on ropes, etc. This performance, to use her own language, "gave perfect torture at the time and increased pain and soreness, often with bleeding, for hours afterward." But being fully convinced of its necessity, and possessing wonderful courage, she persisted in the practice in spite of the suffering. Now, one of the first things I did was to put the arms at rest, and to this end I constructed baskets or cradles of wire webbing nicely padded with oakum, in which the limbs find even support, and these, being suspended by elastic cords and pulleys, give grateful and perfect rest to the suffering members. I need not say that in estimating the treatment as a whole, this element of even, elastic support, and absolute rest, must be credited for whatever it is worth. Making, however, allowance for all possible influence from this source, the evidence is most convincing to my own mind that boracic acid has been the principal factor in the curative process.

INTERNAL ADMINISTRATION.

My experience with this drug as an internal remedy has been comparatively limited. I have, however, sufficient proof of its value to warrant reporting my observations.

Let me state in this connection what I think is a very important fact. In all the trials of boracic acid upon which this paper is based, I have used it, whether internally or topically, *alone*. So that, aside from the vehicles of its administration, my conclusions are not embarrassed by the possible concomitant action of other remedies.

In a few cases of diphtheria and in many instances of tonsillitis and diphtheroid throat affections, that is, in cases characterized by pain, swelling, and dark color of the fauces, with fetid breath and adynamic fever, yet lacking the distinguishing sub-epithelial exudate, the acid treatment has proved very satisfactory.

In chronic dyspepsia with fetid eructations decided improvement has immediately followed its exhibition.

In two cases of chronic cystitis, instead of using it topically in washing out the organ, and with no topical treatment, I have given it by the mouth with undoubted good effect. In cases of inflamed or irritable prostate its free internal administration has given results corresponding with those obtained in the management of mucous inflammation.

In septicæmia I have sufficient reason to give it great confidence.

In pyæmia and rheumatism, I have not improved opportunities for trying it sufficiently to warrant a decided opinion, but only to justify me in asking for it a trial at the hands of my professional brethren.

From its beneficial action upon syphilitic ulcers

and eruptions, I can but hope that it may prove a valuable remedy in general syphilis. But I have not as yet put it fairly on trial in this disease.

GENERAL REMARKS.

Boracic or boric acid is a compound of boron and oxygen, and is obtained principally by decomposing the borate of soda or borax with sulphuric acid, which, having a stronger affinity for the soda, unites with it, forming the sulphate of soda, displacing the boracic acid. The supply is therefore abundant and its manufacture cheap, hence it is sold at wholesale for from forty to fifty cents per pound. It occurs in white scaly crystals, which, in their glistening appearance and peculiar saponaceous feel under trituration, resemble somewhat those of benzoic acid. It is odorless and almost tasteless and gives colorless solutions. It is peculiar as to solubility. Cold water dissolves only nineteen grains $\frac{1}{2}$ to the fluid ounce, and hot water dissolves eighty grains to the ounce, but on cooling precipitates all but twenty-three grains, while alcohol holds only a fraction more than hot water. Hot glycerine, however, dissolves a little more than three drachms to the fluid ounce, and *holds it perfectly on cooling*.

I am aware that a certain most worthy author makes the following statement: "It" — boracic acid — "is soluble in twenty-six parts of cold and in three parts of warm water, and is freely soluble in alcohol." I do not understand this remarkable and certainly mistaken statement. For my own statements as to solubility I am indebted to my friend, Mr. William J. Bragdon, an excellent young pharmacist of this city, who has kindly interested himself in the matter and whose experiments I have repeatedly witnessed; and although the results are not absolutely accurate, as such precision was not essential for my purpose, they are to my personal knowledge approximately correct, and sufficiently so for practical use. Vaseline, cold or hot, does not affect the acid, but at high temperature unites readily with the saturated glycerite, and the union remains perfect on cooling without any precipitation.

As to doses for internal administration I do not know the limit. It is a curious drug. Locally, although so decided an antiseptic, and powerfully alterative, yet a saturated watery solution does not in the least irritate a fresh cut surface. Nor does the same solution, which I have said is almost tasteless, having only the slightest saline flavor with a suspicion of acidity, in any way disturb the stomach. I have repeatedly given four fluid ounces of saturated solution as a dose, which contain about eighty grains of the acid, and in several instances patients have taken much more. I have never known any ill effect from it in any way. My ordinary dose for an adult is from twenty to thirty grains, but when I desire prompt saturation of the system I give from one to two drachms every four hours. In internal exhibition I have used it only in aqueous solution or in powder, — given usually in cachets, — directing the patient to drink water freely immediately afterward. There could be no objection to giving the glycerine solution in certain cases, but it is to be borne in mind, that the addition of water, and of course the same would happen in the stomach if water was taken subsequently, will precipitate the acid.

It is of its local use that I speak most confidently. As a topical remedy I have applied it in form of solution, — I have preferred to confine myself to the watery and glycerine solutions, as it is difficult to differentiate

the action of the alcohol from that of the acid, — both aqueous and glycerinous, and in ointment. For continued application the latter is best. My plan is in a general way the following: In foul sores, simple or specific, whether ulcers or eczematous or ecchymatous surfaces, I keep the parts soaked in the aqueous solution, or, if very foul and unhealthy, in the saturated glycerite of boracic acid, for a few days, until the surfaces become clean and free from foul odor. I then dress with the boracic acid ointment. In very indolent sores the occasional free brushing or sopping with the glycerole as the ointment is renewed is advantageous.

In the treatment of erythematous or erysipelatous inflammations the application may be by wet compresses under protective dressing or by the ointment. In gonorrhoea and cystitis I have used the saturated watery solution, except in a few cases of obstinate urethritis in which I employed the acid glycerole with excellent effect. In diphtheria and diphtheroid affections I have generally used the full strength of the glycerine solution.

In preparing the ointment I have used vaseline as the basis, adding a little wax or spermaceti, or both, if a firmer mixture is desirable. As I have before said, the vaseline does not dissolve it, but properly prepared the acid is so finely levigated and intimately and evenly mixed that its thorough contact with any surface is insured. I have, however, lately made the ointment directly from saturated glycerite. Cold vaseline and glycerine will not mix, but at a high heat it unites perfectly with the glycerole, and forms a permanent union when cold.

For example, take saturated glycerole of boracic acid two parts, spermaceti and white wax each one part, vaseline six parts. Melt vaseline, wax, and spermaceti together, and add the glycerole slowly with trituration while cooling. This makes a dressing of ordinary strength, and is a most beautiful pharmaceutical preparation. Of course the strength may be increased indefinitely. Under such dressing, which never adheres to the raw surface, granulations prosper, skin grafts thrive, bad odors cease, and pain and irritation rapidly diminish.

I want to say a word here, parenthetically, about vaseline.

I have said that I have always employed it in making boracic-acid ointment. I will also say that for a long time I have used it altogether as the base of all unguents whatever, merely adding a little white wax or spermaceti if I desired more firmness. I doubt if physicians generally are aware of the excellence of this wonderful product of petroleum distillation. Odorless, perfectly bland, in itself a most grateful and wholesome protective dressing, it is stable under all ordinary temperatures, is not affected by morbid secretions or by chemicals, and never becomes rancid or changed in density by age or exposure. With these qualities, and without a single feature that is objectionable, it can but commend itself at once as a substitute for all fats or oils in pharmacy. And the surgeon cannot realize the comparative advantage in comfort and neatness, both to himself and to his patient, until he tries it. If in haste and the hands are covered with it, a thorough wiping with a dry towel will make them practically clean for work in an emergency, and freedom from any odor is not a slight point in its favor.

I have for dressing purposes every ointment of the pharmacopœia in my office, all made with it, and I feel

sure that if any surgeon is led by this statement to make trial of it as a substitute for grease he will thank me for this brief testimony for vaseline.

It may be truly said that the ointments of vaseline, wax, and spermaceti are of themselves good and oftentimes sufficient dressings in the management of ulcerated and inflamed surfaces. In all my testing of the qualities of boracic acid I have not for a moment forgotten this fact, nor have I overlooked the action of glycerine. It is important to remember that glycerine is one of those topical remedies with regard to which there are many idio-syncrasies, and that to many sores where it would seem indicated it is a most powerful and distressing irritant. Not only is this true, but in the same case its action is so modified by otherwise unappreciable changes in the disease that careful watching alone will enable the surgeon to use it at the right time and in the right place. What I have said of the action of the acid is from careful observation with all these facts constantly in mind.

I believe I have not spoken extravagantly. If in one or two instances my language is emphatic, it is because the facts warrant it. I do not pretend to anything like a full knowledge of the indications for its use or of its therapeutic power, especially as an internal remedy. As a topical application I have yet much to learn as to its power, range of adaptation, and the desirable degrees of strength and modes of combination in different cases and under different circumstances. But I know already that it is a medicine deserving high rank in the materia medica as a disinfectant, parasiticide, anti-ferment (a saturated (watery) solution surely destroys all germs), and a most excellent alterative to unhealthy surfaces, correcting unhealthy processes of inflammation and ulceration, and promoting the exudation and organization of sound lymph. And I sincerely trust that my professional brethren throughout the world will so thoroughly test its virtues as to give it its definite and deserved place in the pharmacopœia. Fortunately its cheapness, its freedom from all unpleasant taste or odor, its stability, and its lack of any irritating or poisonous quality, at least within the limits of ordinary doses, render such trial very easy and safe.

PORTLAND, July 26, 1880.

WHAT CONSTITUTES THE "DEAD BODY OF A PERSON" ?¹

BY MEDICAL EXAMINER A. F. HOLT, M. D.

SOME time last summer there floated ashore, a few miles down the coast, a human leg. The attention of one of the medical examiners for the county in which this occurred was called to it, and he viewed it. The question at once arose, Could this leg be considered the dead body of a person? Out of this grew the question, What does the term "dead body of a person," as it occurs in the new law, mean?

When this question was first put to me, I was inclined to answer much as I heard a physician in court, a few days ago. This physician, being asked, What is spinal irritation? replied sharply and promptly, Irritation of the spine, sir. So I was inclined to say that the dead body of a person was the body of a person

¹ Read at the February meeting of the Massachusetts Medical-Legal Society, 1880.

that had ceased to live. This definition would no doubt cover its common meaning. The law seems to give it a somewhat wider one. What that meaning may be, I have tried to determine in this paper.

The question seems to be rather a novel one. Of the many medico-legal works I have consulted, only one mentions the subject. Caspar, in his great work on legal medicine, asks the question, What is a dead body? in especial relation to the Prussian law regulating burials; and gives a single page to its discussion.

The first question relating to this subject, as I have put it, — that of mutilated remains, — notwithstanding it is a discretionary one, does not seem to me to admit of much discussion. The second — that relating to fetuses in the early stages of development — is, as I view it, a technical one, and answered by the law. The questions this matter raises are more legal than medical. In deciding such I have relied on members of the legal profession.

The statute of 1877, chapter 200, section 8, abolishing the office of coroner, and creating that of medical examiner, provides that "whenever a medical examiner has notice that there has been found, or is lying within his county, the dead body of a person that is supposed to have come to its death by violence, he shall forthwith repair to the place where such body lies, and take charge of the same." Other parts of this and the succeeding sections of this act give clear and definite directions as to what his duties shall be in all cases that are likely to arise in the discharge of such official duties. But the law does not designate, nor anywhere indicate, what he shall consider to constitute the dead body of a person. This omission, whether intentional or otherwise, leaves the matter wholly to the determination of the medical examiner. This being so, the first question that will present itself in all cases where he is called officially will be, Is this "the dead body of a person," within the meaning of the law? If he determines that it is such a body, then he can proceed to make such examination as the case may seem to him to require. But if he decides that it is not such a body, then, as the law under which he is acting specifies only that it is with dead bodies he shall have to do, his official connection with it, at least, ceases.

In a large majority of cases this question will present no difficulties. The body will be mature; it will be whole, or nearly so; and its general appearance and condition will be such that the examiner can determine at once and certainly that it is the dead body of a person. The only conditions under which this question may become difficult, or give rise to any difference of opinion, are perhaps two: first, where mutilated remains or fragments of a body are brought to the notice of the examiner; second, where he is called to view the body of a fetus in the early stage of its development.

There is possibly one other condition of the body where the question, Is this a dead body? may present itself, and that is, where death is simulated in such a way as to make it difficult to determine whether the body is dead or quick. Popular opinion would have us believe that this is a very common occurrence. The story of the burial of a live person is one of the horrors that occasionally gives the round of the public press. After looking up this matter, I am well satisfied that cases of simulated death that would deceive the expert are the rarest of occurrences, even if they occur at all. Ogston, in his *Lectures on Medical Juris-*

prudence, says: "It must be admitted that most if not all of the cases that have hitherto been selected as illustrative of the reality of such occurrences, are not such as will endure any close scrutiny."¹ When we consider the vast number of deaths that have been observed, and the small number of cases where any difficulty has been found in determining whether death was present or not, we must conclude that such a case is little likely to come to us, in our official capacity. If such a case should occur, the medical examiner has at his command a sure and certain means of deciding it. The law says he shall take charge of the body. It would only be necessary to retain it under observation, and in any such temperature as humanity would dictate that it should be kept if there was a suspicion that life was present, it must soon show signs that would be unmistakable, if it were really dead.

To come then to the first question. Are all mutilated remains found under suspicion of violence, and brought to the notice of the medical examiner, to be considered as the dead body of a person? The medical examiner, being a creature of statute law, must in the performance of his official functions be governed by the law that has created him and defined his duties. But in this case, as there is no specific rule for his guidance, it is evident he has some discretionary power in the matter, and it is expected that he will follow the dictates of reason. If, for example, he is called upon to view a human head, severed from the body, and a careful examination fails to reveal the whereabouts of the remainder of the body, it would clearly be his duty to take action in such a case. He has positive evidence in his possession of the death of a person, and this head alone may furnish the most conclusive proof that the death was the result of criminal violence. It may be all that remains of the dead body of such person, and a proper examination of it will accomplish the object of the law. The same may be said of any other vital part.

What is to be the action of the medical examiner when small parts of a body are brought to his notice, such parts, perhaps, as might not necessarily destroy life in their removal from the body? This question, being a part of the one just discussed, is like it, of course, a discretionary one, and to be answered according to the purposes of the law. The great object of a medico-legal examination is to assist in the detection of crime, and the medical man is selected by the law as the most competent person to determine what evidence the dead body presents of a crime having been committed. His duties are by a careful and painstaking examination to determine, as well as may be, the cause of death, and thereby whether crime has been committed or not. If there has been, it is his duty to carefully preserve such evidence of the crime as the body may furnish. He is also to note all marks or peculiarities that may assist in identification. There can be no doubt that the law intended he should do this in all cases, no matter whether the body is whole, or badly mutilated, or whether only fragments of it can be found. If it can furnish evidence that may be of service in the detection of crime, it is clearly his duty to take cognizance of it.

This being the duty and object of his office, the practical question would seem to be, Can such small parts of human remains furnish such evidence as shall lead, or assist in leading, to the detection of a crime

¹ Lectures on Medical Jurisprudence, page 361.

committed on the body of which such remains were a part; or may they be of assistance in leading to identification? It appears from the following cases that very small parts of a body may furnish evidence of a positive character. Ogston, in his *Lectures on Medical Jurisprudence*, relates the following:¹ On one of the London bridges were found in a basket parts of a human body, which the utmost activity of the police failed to identify, while no clew was obtained to the party or parties who exposed them, the greatest care having been taken to destroy all traces of their identity. But here, though the head was wanting, as well as the greater part of the spine, the hands and feet, portions of the left side of the chest, and the whole of the viscera of the chest, abdomen, and pelvis, and most of the muscles, Dr. Taylor clearly made out the sex, from the bones and a portion of the corpus cavernosum of one side left attached to the ischium: as also the probable age of the person, his height, the color of his skin and hair (these last from fragments of skin left on the wrist and one knee), and the date of his death approximately. He also showed that the mutilation must have taken place while cadaveric rigidity continued in the body, that is, from eighteen to twenty-four hours after death; that the individual had received a wound in the left side of the chest, over the seat of the heart, while alive or only recently dead; that after death the limbs had been in the distorted state usual in cases of violent death; and that the muscles had been exposed to boiling water, and afterwards salted.

In another case the trunk of a woman was discovered in a sack, the head and legs being missing. The person who examined this mutilated body could find nothing to serve for identification but a malformation of the uterus, the mark of a ring on one finger, and the horny cuticle of one who had been engaged in household work. The bloodless state of the body, however, pointed to the mutilation having been effected before the corpse had cooled. The head, when afterwards found at a different place, exhibited the profile peculiar to the low order of Irish. The lower extremities, when discovered at a still later period, exhibited as a sole peculiarity a dyeing of the skin, as from the wearing of black stockings. The sections of the bones of the thighs and neck, when now compared, were found to exactly correspond. This examination assisted the detection of the murderer, when subsequently arrested on suspicion.

In the famous case, with which most of us are familiar, of the Commonwealth *v.* Webster, for the murder of Dr. Parkman, the remains were found in a badly mutilated condition. In the vault of the privy connected with Professor Webster's laboratory, at the medical college in Boston, were found a pelvis; the right thigh from the hip to the knee; the left leg from the knee to the ankle; and with them were found certain towels with the initials of the prisoner, and similar to those used by him in his laboratory. On the same and following day were also found in the furnace of the laboratory, fused in with the slag and cinders, a great number of bones, and certain blocks of mineral teeth, and certain quantities of gold which had melted. There was also found in one corner of the laboratory a tea chest containing, imbedded in a quantity of tan, a thorax, or entire trunk of a human body, the left thigh, from the hip to the knee. There were missing from this human body, when placed in apposition, the head,

arms, hands, both feet, and the right leg from the knee to the ankle. As is well known, Professor Jeffries Wyman and other scientists, after a careful and painstaking examination of these remains, determined that these were parts of the body of Dr. Parkman. The strong points in the identification were perhaps some peculiarities in the general form, the muscular development of the legs, an unusual quantity of hair upon the back, and the blocks of teeth, which, curiously enough, were not a part of the body proper.

Many other cases could be cited, where the identification was made out from only small fragments of bodies. A leg or arm may answer some very important questions of this kind. For example: What is its general character? Is it that of a child or an adult? Did it belong to the body of a male or female? What is the color of the skin? If an arm, is the hand soft and white, or is the skin tanned and horny? Is the arm fat or lean? What is its muscular development? Are certain muscles developed more than others? What is the appearance of the end that was attached to the body? Is it a smooth cut, or is it rough and ragged? Are there any wounds on the limb, and if so, what are their appearance? Were they made before or after death?

These, and many other questions, that the condition of the limb might suggest, would be answered by a proper examination. Matters that might be of the greatest importance in proving identity, and in sustaining a criminal action, would be settled.

It is in just these cases of extreme mutilation, that the law has made its greatest demands on medical science; and it is in the investigation of some of these, that our science has won some of its greatest triumphs.

It seems to me from these considerations that it is clearly the duty of the medical examiner to take action in any and all cases of mutilated remains, where there is a suspicion of violence, no matter how fragmentary they may be. Any other conclusion must make the law a failure in many cases that may arise. It may be urged, in opposition to such a conclusion, that the medical examiner should act in accordance with the letter of the law, and if such a course did not accomplish its object in all cases to hold the law itself responsible. But the application of all laws is left partly to the dictates of reason, for only in this way can they be made applicable to all cases where it was intended they should apply. In the matter under consideration, for example, it would not probably be practicable to specify what parts of a human body should be held to constitute the dead body of a person and what not, in such a way as to cover all cases that might arise. And so there is no doubt of the wisdom of the law in leaving it, as it does, to the reasonable discretion of the medical examiner, and making him responsible for its proper interpretation.

The only other objection that can be made to considering all remains the dead body of a person for the purposes of the law is that of expense, an objection that can have no weight where such an important consideration is concerned as the protection of society.

Is the dead body of a fetus before it is viable the dead body of a person within the meaning of the law? In answering this question in its usual meaning, it must be said there can be no doubt that a fetus at any stage of its existence is a human being, and if dead it is a dead human being. The law fully recognizes this in respecting its rights at every period of gestation;

¹ Page 71.

for it appears by the legal authorities that it may at any stage be appointed executor, may take as a legatee or under a marriage settlement, or may obtain an injunction to stay waste.

Notwithstanding the law so fully admits a fetus to be a person in every stage of its existence, for certain wise and practical purposes it contradicts this. Bouvier, in his Law Dictionary, says:¹ "A dead-born child is to be considered as if it had never been conceived or born; in other words, it is presumed it never had life, it being a maxim of the common law that *mortuus exiit non est exiit*. This is also the doctrine of the civil law: not to be born and to be born dead are equivalent." Russell on Crimes says:² "Questions of considerable nicety sometimes arise on trials for infanticide as to whether the death took place after the child was actually born or whilst it was in the process of being born, and although the law be clear that a child must be actually born to be the subject of murder, perhaps it is not clearly settled what constitutes actual birth for this purpose. Where, on an indictment alleging that the prisoner was delivered of a child, and that she afterwards strangled it, it appeared that the child had breathed, but the medical men could not say whether during the birth or afterwards, Little-dale, J., told the jury the being born must mean that the whole body is brought into the world, and it is not sufficient that the child respires in the progress of the birth."

So of an indictment containing a count for murder by stabbing before the child was completely born, and a statement that it was born and then died of the stab, Parke, J., said: "The child might breathe before it was born, but its having breathed is not sufficiently life to make the killing of the child murder: there must have been an independent circulation in the child, or the child cannot be considered as alive for this purpose."

Where the prisoner was indicted for the murder of a child by cutting off its head, and a surgeon stated that the child had breathed, Colman, J., said: "In order to justify a conviction for murder you must be satisfied that the entire child was born in a living state. The fact of its having breathed is not a decisive proof that it was born alive: it may have breathed, and yet died before birth. But if a child be actually wholly produced alive it is not necessary that it should have breathed to make it the subject of murder."

Caspar, in relation to the Prussian law regulating burials, says:³ "The royal ober-tribunal has in one case pronounced the following judgment: The meaning of the expression 'dead body' can only be determined with relation to the practical purposes of the law and the ordinary acceptance of the term, and therefore the viability of the child must in every case be ascertained before the term 'dead body' can be applied to it. And in a second case it has decided that a fetus born at the fourth or fifth month, and proved to be unviable, cannot be regarded either according to ecclesiastical usage or civil law as a dead body to which the directions and regulations respecting burial are applicable."

Greenleaf, the eminent American author on the law of infanticide, says⁴ that "to support an indictment for infanticide it must be clearly proved that the child was

wholly born, and born alive, having an independent circulation⁵ and existence. Its having breathed is not enough to make the killing amount to murder, as it might have breathed before it was entirely born. Nor is it essential that it should have breathed at the time it was killed, as many children are born alive and do not breathe for some time afterward." It also appears, from the decisions of the courts of the Commonwealth, that "if a child is born dead it cannot be regarded as having been the subject of violence, even though it were destroyed by human agency, no matter at what age."

It would clearly seem from this that the law, evidently for the purpose of limiting the time at which a murder can be committed to a period after birth, does not recognize a fetus which has not sustained an existence of its own as a person, nor when dead as the dead body of a person. Neither can it be the subject of violence, and with such a class of beings the medical examiner has nothing to do. The very object of his office is to determine what evidence of violence the body presents, and a body that is not capable of receiving violence can in no way be the object of his official examination.

In a case of criminal abortion, even if the fetus, from some injury, furnishes strong proof of the crime, he can have no connection with it as medical examiner. The authorities may summon him to determine what evidence the fetus presents of the crime of abortion having been committed, but not in his official capacity. If a woman dies as the result of a criminal abortion, then he can take notice of the fetus as evidence pointing to violence done on her body, the same as he would of the placenta or condition of the uterus, but in no other way.

He must, however, be able to determine whether a fetus brought to his official notice belongs to this class or not, and if its size and general development is such that he cannot decide at once whether it has lived or not, it is clearly his duty to consider it the dead body of a person until proved to be otherwise. This makes it of practical importance to determine at what period of life a fetus may support an independent existence. Some of the older authors say that cases have occurred where the child has lived, though born as early as the fifth month, but such cases are not well authenticated. The better opinion now seems to be that a child cannot live if born before the sixth month, and to enable it to sustain continued life it must have arrived at a still later period of gestation. As the law only requires that it shall support life for an instant to make it a person, it is only possible to fix the time at which this may occur approximately. As the medical examiner

⁵ It does not seem to be clear just what is meant here by the term "having an independent circulation." If a fetus is born alive and does not breathe, and the attachments of the placenta are not disturbed, its relation to the mother, as far as the circulation is concerned, is the same as it was before birth, and it may live in this way for some time. It has an independent circulation, as it has had for some months in the uterus, and nothing more; for the blood does not seek new channels until the child has breathed, or soon after. It occasionally occurs, however, that there is a short time between the cessation of pulsation in the cord and the commencement of breathing, when its fetal circulation is all it has, but this cannot support life for any length of time, and I hardly think the expression refers to this. The more probable explanation is that this term has been handed down from a time when there was no definite knowledge as to just what takes place when the fetus assumes an independent existence. As the only positive evidence that the child has lived separate from the mother that can be obtained from the body is that brought about by the breathing, the whole matter practically turns upon the point whether it has breathed or not.

¹ Page 432.

² Russell on Crimes, page 485.

³ Forensic Medicine, vol. i. p. 4.

⁴ Greenleaf on Evidence, eighth edition, vol. iii. sect. 161.

would surely neglect his duty if he should fail to make an examination in the case of a fetus brought to his notice that had come to its death by violence, it would perhaps only be safe to conclude that all fetuses born in the first half of pregnancy cannot live for any period, and the body of such an one cannot be considered the dead body of a person within the meaning of the law.

In conclusion, then, from the above considerations it seems to me that the term "dead body of a person," as it occurs in the examiner law, may mean any part or parts of a human body that is supposed to have come to its death by violence.

RECENT PROGRESS IN THE PATHOLOGY AND TREATMENT OF DISEASES OF THE NERVOUS SYSTEM.

BY JAMES J. PUTNAM, M. D.

NERVE STRETCHING AS A THERAPEUTIC MEASURE.

The operation of nerve stretching has now gained for itself such a well-recognized place in the therapeutics of nerve disease, that a few words supplementary to the brief statements made in former reports¹ will not be out of place. In the last report reference was made to a case of *facial spasm* (tic convulsif) — so intractable to other remedies — which Baum had treated successfully by stretching the facial nerve. Since then three other cases of a like kind have been reported by Schüssler, Eulenburg, and the reporter. In all, the method of operating was similar. The nerve is found deep down under the mastoid process, and covered by the extremity of the parotid, which has to be dissected up, and drawn somewhat forwards. Baum's procedure was to seize the nerve with a pair of artery forceps, and pull it with some force, though he lays as much stress on the importance of the pinching as of the stretching, adopting, in that respect, the older view of Vernicil.

Schüssler speaks of raising the nerve on a hook, and giving it a series of pulls, each stronger than the last, until all signs of twitching had ceased, the patient being, as it would seem, not completely narcotized, though unconscious. The paralysis which followed this operation did not, as in Baum's case, pass away immediately, but only after a number of weeks, though improvement began in the second or third week.

In the two last cases, finally, this paralysis was still more persistent, definite signs of improvement not showing themselves until after nearly two months in my case, and nearly four in Eulenburg's, both of them having exhibited meantime the electrical reactions characteristic of the severer forms of facial palsy.

In none of the cases had the spasm returned at the time of the report.

In view of these results I should agree entirely with Eulenburg in saying that this operation, valuable as it is, is not to be set down as trifling, the patient having to prepare himself for the chance of a paralysis lasting some weeks, though certainly, if the final result could be assured, this would be but a small price to pay for relief from the distressing symptoms of spasm. What is needed seems to be some more definite guide than hitherto as to the amount of stretching which is safe and necessary.

As a means to this end it would be well if future operators would use, where practicable, a spring balance to record the force applied. Experimenting in this way on the facial nerve of the dog, supported on a hook, as in Schüssler's case, I found that a pressure of about seven pounds caused a paralysis which began to pass away within forty-eight hours, and that a pressure of nearly forty pounds sufficed to break the nerve, which parted on the peripheral side. It was perfectly practicable with the dog, and would no doubt be the same with man, to recognize the gradual onset of the paralysis by exciting reflexes from the cornea, while still preserving a sufficient degree of anaesthesia to prevent pain.

Of other important cases of nerve stretching, two by Czerny may be mentioned, upon the *trigeminal* nerve, the supra and the infra-orbital branches respectively for neuralgia. In the former case nothing was gained by the operation, though resection of the nerve afterwards brought about a cure; in the latter the nerve was pulled until it tore, and this was followed by keratitis and ulceration of the cornea with severe pain, the final result being, however, improvement. In view of this experience, Czerny rates nerve stretching below resection for the relief of trigeminal neuralgia, and thinks it should be employed only with motor or mixed nerves, where section is hardly admissible, or in cases where it is only necessary to make a moderate impression.

On the other hand, Stewart reports a case in which the infra-orbital, and afterwards the mental, branch of the trigeminal nerve was stretched for severe facial neuralgia, of many years' standing, in a man of seventy, with at last relief to the pain.

Kocher and Masing, likewise, have operated with favorable result on the supra-orbital branch of trigeminal. Spence on the infra-orbital, and Credé on the third division of the same nerve, at its exit from the skull.

It is probable that in some of these cases the stretching amounted to deep section, plus some undetermined "alterative" influence upon the nerve and nerve-centres, for in Kocher's case the cutaneous anaesthesia which followed the operation had not entirely disappeared at the end of three months, and Masing speaks of stretching the nerve on a hook till it hung in the wound like a loop.

Langenbuch, physician-in-chief to the Lazarus Hospital, in Berlin, has reported a case of, it would seem, genuine *locomotor ataxia*, though of very short duration and exceptionally rapid development, where all the four principal nerve-trunks of the lower extremities were stretched in two sittings, with the effect not only of relieving the intense neuralgia, which had been excessively severe for many weeks, but of removing the ataxia as well, as was discovered after the temporary paralysis from the stretching had passed away.

The author thinks that perhaps the disease may have been confined to the peripheral nerves and thus have been within reach of this treatment, but for this we should have to assume that the influence of the stretching was still effectively felt as high as the nerve-roots, the possibility of which has usually been denied, among others by Vogt. Czerny, to be sure, reports a case of spinal paraplegia with severe neuralgia, from Pott's disease, where the spinal symptoms seemed to have been made worse by stretching the two sciatic nerves, and Westphal has briefly referred to an instance

¹ The JOURNAL, vol. xevii. p. 252, and vol. ci. p. 330.

where, to all appearance, a circumscribed myelitis had been set up by traction on the crural nerve and its roots; but these are very exceptional results, if one may judge from the recorded cases.

Another possible explanation of Langenbuch's case is that some inhibitory action upon the spinal cord was set up. This is in accordance with some recent experiments by Hahn, who found that both with frogs and rabbits stretching the sciatic lowered the reflex irritability of the cord.

Westphal has tried stretching the nerves of the axillary plexus in a case of *paralysis agitans*, and though the operation (performed by Bardeleben) did not accomplish what was hoped, it had no consequences which need deter one from trying it again, especially in view of the almost hopeless prognosis in this affection.

To sum up the clinical evidence, it would seem that we have in nerve stretching an operation of great value for the relief of many forms of neuralgia, and muscular spasm, and perhaps neuritis, but that neither the indications for the operation, the best method of performing it, nor its attendant dangers have as yet been sufficiently defined. What degree of traction can the various nerves of the body safely endure? Upon which nerves can the operation be performed with the best chances of success? Are central as well as peripheral lesions susceptible of cure in this manner? Are second operations upon the same nerve practicable? Does it make any difference whether the central or the peripheral portion of the nerve is stretched? Should the nerve be crushed as well as stretched? Is the effect of a series of quick, short pulls different from that of one prolonged stretching? Does the existence of acute or sub-acute neuritis contra-indicate the operation? What are its attendant dangers? In what manner does the stretching act? These are all questions which call for more definite answers than they have hitherto received. As to the *proper amount of traction* to be used, it is plainly not enough to know the power of the nerve as a whole to withstand rupture, for the nerve-filaments give way under a far less force than this, and what is desired is to produce a temporary but not a permanent loss or diminution of functional power. Mitchell has stated that the sciatic nerve of the rabbit bears elongation up to three fourths inch in three inches without entirely losing its faradic irritability, and similar observations have been made by other physiologists. It is, however, difficult to estimate the amount of elongation under the conditions present during an operation, and a better method for practical purposes is perhaps to try and reproduce these conditions in the laboratory. Experiments of this kind on the facial nerve have been referred to above. With regard to the sciatic nerve, the Edinburgh practice in the treatment of sciatica (as described to me orally) is to pull three or four times, with a force about sufficient to lift the leg from the table. In no case which has come to my notice has this been followed by permanent, though sometimes by temporary, paralysis. As to the performing of second operations on the same nerve, this seems to be difficult with the nerves of the face, though not always impossible even there. It was attempted by Stewart with the infra-orbital nerve, but the nerve was found to be so imbedded in cicatricial tissue that it had to be cut. Spence, however, restretched the infra-orbital on the fifth day after the first operation, with successful result.

As to the difference in effect between *stretching the*

central and the peripheral portion of the nerve, it is probable that where some influence is to be exerted on the nerve-roots or the spinal cord, the central stretching is more effective, and in general it might be theoretically supposed that a moderate elongation of the whole nerve would be better than a corresponding or even a greater elongation of a part. On the other hand, it is to be remembered that there is more risk in stretching the central part of the nerve. Thus, as in Westphal's case, a circumscribed myelitis may result, or, where the nerve is imbedded in bony canals, and the length which is susceptible of stretching is thereby limited, rupture may occur, as in Czerny's case. Furthermore, it may often be as useful to interpose a limited stretch of nerve of which the irritability has been thus artificially lowered between the lesion and the periphery, as it is to bring about this condition in the whole nerve. This is perhaps eminently true of neuralgias and spasms of central origin, that is, not complicated with neuritis.

Here, by the temporary interposition of an obstacle to the passage of the nerve-current the diseased centres are shielded for a time from irritation, on the one hand, or prevented from displaying it, on the other, and thus an opportunity is given for rest and repair.

Another argument in favor of local or peripheral rather than central stretching is to be drawn from the fact that crushing (as, indeed, also section) of the nerve sometimes seems to serve as well as stretching it, though it is the opinion of most writers that, on the whole, stretching is much the better and less severe operation. It is well known (Ravvier) that the continuity of nerve-fibres, involving degeneration of the peripheral end, may easily be broken by crushing with forceps, and the force applied is more or less easy of quantitative estimation.

As to the relative merit of *quick and short* as compared with *slow, prolonged* stretching, the data are insufficient for a decision.

The mechanical effects of the former are the greater, and if it is desired to influence the spinal centres this method is probably to be preferred. Thus, Vogt is quoted as saying that in tetanus the operation should be done in this way, and at a point as near as possible to the central organ.

On the other hand, it is probable that a greater elongation is produced by a slow, prolonged pull.

Nerve stretching has not, so far as I know, been used for acute *neuritis*, but repeatedly in subacute and chronic neuritis; thus, by Credé, in a case of neuritis of the radial, following on an injury received twenty months before, with relief of pain and contracture. The principal *dangers* attendant on nerve stretching have already been incidentally alluded to. Besides these, Nussbaum speaks of secondary hemorrhages from the rupture of vessels running with the nerve trunks as an accident to be guarded against, and it is possible that a caution from the same observer against too timid handling, as likely to do more harm than good, suggests a danger not as yet defined. If the fact be true, the only explanation of it that I can find is in the statement by certain physiologists that slight stretching increases the irritability of the nerve.

Usually the operation is a slight and harmless one, as is indicated, for instance, by the statement of a patient who had been thus treated for sciatica, that he would have it done again to obtain relief from a fortnight's pain.

Of the *modus operandi* of the operation, we know definitely but little. Stretching certainly diminishes the irritability of the nerve, and Ott has recently shown that the time which elapses between an electrical excitation and the associated muscular contraction is increased thereby.

Westphal discovered, three years ago, that stretching the crural nerve of the rabbit prevented the usual tendon-reflex (patella) from taking place, even though the voluntary motion and electrical reaction seemed to be unimpaired, and referred the result to the diminution of tension in the muscles concerned, due to the slight impairment of functional activity of the nerve.

Probably at every operation a greater or less number of nerve-filaments are actually broken, and the peripheral ends of these no doubt degenerate. Still there must be many degrees of disorganization possible, short of this, to account for the recovery in periods varying from an hour to several days, yet not long enough to admit of the entire regeneration of the peripheral fragment.

The observations of Hahn have already been referred to.

Vogt¹ maintains that besides the changes in the mechanical conditions within the nerve itself, the walls of the blood-vessels of the nerve are subjected to analogous changes of tension, pressure, etc., especially at their point of entrance into the nerve-sheath, and at tributaries to this the nutritive changes which take place in the nerve-tissue.

All these observations are interesting and important, but hardly satisfactory.

The practice of nerve stretching in tetanus has not been as successful as was hoped, though it still counts its warm adherents. It is still a perfectly justifiable operation where any surgical measures are called for, and may be either combined with nerve section or substituted for it as the less severe operation.

Hospital Practice and Clinical Memoranda.

MASSACHUSETTS GENERAL HOSPITAL.

CASES IN THE SERVICE OF DR. SHATTUCK.

REPORTED BY WILLIAM N. BULLARD, M. D.

PARENCHYMATOUS AND INTERSTITIAL NEPHRITIS COEXISTING IN THE SAME CASE.

DAVID H., a teamster, thirty-five years of age, an Irishman, now living in South Boston, entered the Massachusetts General Hospital October 14, 1879. He had always been temperate and of good habits. His work was laborious, and he was obliged to lift and roll heavy weights. With the exception of a fracture of the left humerus with dislocation of the inner end of the clavicle in 1870, with which he was confined five weeks, he had always been healthy. Two months previous to entrance he had noticed some swelling of the feet, and shortly afterwards of the face, and these had continued more or less ever since. He had lost strength steadily, but had no other definite symptoms till two days before entrance, when he began to vomit without known cause and had considerable headache. On entrance, he complained only of swelling of the feet and great weakness.

¹ Quoted in the *Centralbl. für medicinische Wissenschaften*, 1877, page 544.

The patient was a large-framed, well-built man of healthy appearance, though a little pale. On physical examination a systolic souffle was heard, loudest at the apex of the heart, but no increase of cardiac dullness could be detected. The first sound was inaudible over the aorta. Nothing else abnormal could be found, either in the chest or abdomen. The urine was pale and acid, its specific gravity 1010, and it contained one fourth per cent. of albumen. The sediment consisted of a little blood and an occasional blood, epithelial, and hyaline cast.

Three days after entrance the swelling of the feet was so great that he was confined to bed, and kept there for a week. Ten days after this, October 25th, a peculiar eruption, consisting of several small conical pustules and three or four large, raised bullæ or psudracia, of the size of a five-cent piece each, appeared on the backs of the hands. They were all surrounded by an inflamed areola, were painless, and did not itch. At the same time he was also attacked with severe pain in the dorsum of the right foot. The vomiting, too, returned, and lasted almost incessantly for a week. At the end of this time, however, he became somewhat better, but meanwhile his sight had grown suddenly dim, and on ophthalmoscopic examination by Dr. Wadsworth hemorrhages and ill-defined white patches were found about the disks of both eyes, with brighter, more sharply-defined, and smaller spots in the macular regions.

November 6th. The patient was eating and sleeping well. The examination of the urine showed the same characteristics as before, except that the amount of albumen had somewhat diminished, and the sediment contained considerable blood and fatty renal epithelium.

November 18th. The urine contained one fourth per cent. of albumen. The sediment consisted of very few hyaline casts, with an occasional fatty renal epithelium cell adherent.

About the middle of December the patient had begun to improve very much, the œdema had disappeared, and he had gained three pounds within a week. The urine remained as previously. On the 14th of January the patient was discharged, feeling at that time perfectly well, though still somewhat weak. The urinary sediment contained very few hyaline and an occasional epithelial and blood cast, with very little free blood. The other characteristics were the same as before.

The average amount of urine since entrance was eighty-four ounces.

The patient was seen again on the 16th of June, 1880. He was then pale and somewhat emaciated. He stated that he had been unable to work since leaving the hospital, although under great necessity to do so. The urine was then pale, acid, of a specific gravity of 1007, and contained over one per cent. of albumen (by estimation). The sediment consisted of numerous blood, epithelial, fatty, and hyaline casts, with a few free blood corpuscles and a considerable amount of free, fatty renal epithelium.

[This case is interesting as being one of those cases of renal disease in which both the parenchymatous and the interstitial forms exist together, and the symptoms are partially those of each.]

CIRRHOSIS OF THE LIVER, WITH ORIENTAL HERNIA.

In January, 1880, there entered the hospital a man sixty-three years old, a Hungarian by birth, but for

many years a resident of Boston. He had been a healthy man until six years previous, when he was thrown off a horse-car and injured his left arm and side. He entered into a lawsuit against the horse-car company, and states that at this time he was ill for a year. About four years before entrance he was taken one day suddenly with hemorrhage from the stomach, followed by jaundice, and shortly after by swelling of the feet, and ascites. He had had pain in the left side ever since the accident. He was in bed at this time for three months, and his abdomen was tapped and clear fluid drawn off. After this he recovered entirely, and was well for a year, when he had a second hemorrhage, this time from the rectum, with a repetition of the former symptoms. He was again ill several months. Last November he had another hemorrhage from the stomach, with jaundice, pain in the side, and swelling of the legs, abdomen, and face.

On entrance he was pale and haggard, quite weak, and slightly delirious. The physical examination was as follows: the heart and lungs apparently normal. Abdomen somewhat enlarged, tense, and dull all over when the patient is lying on his back, except posteriorly in the flanks, where some resonance still remains. Directly below the apex of the xiphoid cartilage a smooth prominence was seen, over which the skin was somewhat discolored. Its lower border was found on palpation to extend to within two inches of the umbilicus, while its lateral boundaries were ill-defined, that on the right blending with the left lobe of the liver, and the other being two to three inches beyond the median line on the left. The tumor pulsed, but there was no bruit. The resonance over it was diminished in comparison with that of the rest of the abdomen. The hepatic dullness extended from the sixth interspace in the right mammary line to the lower edges of the costal cartilages, and that of the spleen was slightly increased. The temperature, pulse, and respirations were normal. The tongue had a yellow coat.

Two days after, his delirium had entirely disappeared, and he was able to be up and about the ward. The urine was of normal color, slightly acid, and of a specific gravity of 1013. The sediment consisted of a very few hyaline casts. There was a very slight trace of albumen. The indican was normal, the amount of urea diminished, and that of the chlorides normal. The patient remained under observation for nearly six weeks, but no troublesome symptoms appeared, and he was finally discharged, "much relieved."

The diagnosis was made of cirrhosis of the liver and omental hernia.

physician, warm-hearted and genial in his relations with all men, and considerate towards the suffering and needy. The Fellows of the society respectfully tender to Mrs. Hall their sympathy in her bereavement."

Dr. CHADWICK informed the society that Mrs. Hall had presented to the Medical Library Association Dr. Hall's medical library and surgical instruments.

Dr. DOUGLAS GRAHAM presented a paper entitled *Massage in the Treatment of Uterine Disease*, with a report of eighty-two cases; a reply in part to the paper of Dr. Wing on the Modern Abuses of Gynecology.

Dr. Graham believed that Dr. Wing attached too much importance to local treatment, and that therein he differed from many others eminently fitted to give opinions on the subject. He quoted from Thomas's *Diseases of Women*, showing how often a wonderful improvement was effected, in cases which had resisted all local treatment, by a sea voyage or a sojourn in the country; and that this improvement is manifest not only in the general state of the patient but locally also, and in some cases complete recovery may be thus obtained. He also quoted from Dr. Weir Mitchell, believing that the latter had clearly shown that many obstinate cases of chronic uterine disease can be fully cured by rest and excessive feeding, made available by massage and electricity.

Dr. Graham wished to show what had been accomplished by massage and properly regulated passive and resistive movements, without special aid from any other therapeutic measure. In all the cases Dr. Graham had personal knowledge of, the best medical advice had been sought before massage was tried as a last and hopeless resort, so that the remedy stood upon its own merits, unsupported by the faith of the patients. The psychical factors were supposed by many to be the sole means of influence in massage, as if they were not common to all procedures, whether medical or surgical. Dr. Graham then gave the results obtained by Dr. Asp (the director of an institution at Helsingfors for treatment of disease by means of massage and medical gymnastics) in seventy-two cases of chronic uterine affections coming under his care in the course of four years. The method was general massage, not rubbing alone, with passive and resistive movements graduated to suit different cases. No local massage of the uterus was used by Asp, as has been done by some others, with reported good results. Cases of chronic inflammation of the uterus formed 35, or 48.6 per cent. of all the cases. Of these, 15 recovered, 13 were much improved, and seven were without result. The average length of time of treatment was 8.6 weeks for single women; 15.4 weeks for the married. Six cured cases had had no relapse as late as 1878. (The date of the recovery not being stated we are left to infer that this still continued after from one to four years.) Three cases had no relapse at the end of a year, and in three cases there was a relapse after birth or abortion. In three cases relapse occurred after two, nine, and ten months without any ascertainable cause. It is interesting to note that Dr. Nostrom, of Stockholm, has endeavored to apply massage directly to the uterus by placing the index finger in the posterior cul-de-sac and grasping the uterus from the outside with the right hand. The uterus is compressed and kneaded and rubbed between the fingers. In 138 cases of chronic metritis Nostrom claims to have obtained 43 complete cures and 70 nearly complete ones; nine cases of hemorrhagic endometritis were cured. Massage acts in these cases

Reports of Societies.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

H. C. HAVEN, M. D., SECRETARY.

MAY 8, 1880. Fifty-eight members present. Dr. F. A. HARRIS in the chair.

The following was unanimously adopted as an expression of the society:—

"In taking official notice of the decease of Dr. Adin B. Hall, the Suffolk District Medical Society desires to record its appreciation of the fidelity and courtesy with which he filled the office of treasurer of the society during the past twelve years, and also to testify to his character as an honorable and conscientious

by counteracting inflammatory stasis and producing resorption of leucocytes which have migrated into the surrounding tissues. It also gives tonicities. The method is repugnant, but Nostrom invites criticism. Dr. Asp also gained good results in chronic catarrh of the uterus. Of seven cases four recovered, two improved, one remained unchanged. The average duration of treatment was 9.3 weeks; the prospect of relapse is worse here than in chronic inflammation. Changes in position of the uterus, with the exception of slight descent, did not present themselves often. Of seven cases two were cured, three improved, and two unaffected. Flexions of the uterus gave less favorable results. The health of the patients was improved during treatment, but the flexion remained the same. The result of the treatment was good in ovaritis and perimetritis. Of the whole 72 cases Asp states 23 recovered entirely, 34 were improved, and in 15 no result was obtained, and he claims that this proves the method deserving of more confidence from physicians. Dr. Graham's own experience of massage in cases complicated with uterine affections was limited. In three cases of young ladies who suffered greatly from headache, backache, and dysmenorrhea complete relief was given by massage. No local trouble had been found in these cases. He also cited two others, which with the former might all be classified under the head of neurasthenia; the sixth case was neurasthenia complicated with anteversion. She improved very much, but still was an invalid. Several other cases which had come under observation were cited, where with marked local trouble, massage seemed to be of great value.

Cases of a chronic or subacute nature are most likely to be benefited by massage. Massage of the back alone seems to increase the menstrual flow. In certain cases of uterine affection massage has succeeded where everything else has failed. The questions to be determined are, in what case to use it, and in what stages it may be employed.

Its influence is preëminently tonic and sedative. It gives rest and exercise at the same time. It increases the area and speed of the circulation without calling on the heart for increased activity. It is powerful for harm as well as good; an overdose may be exhausting. The only rule is, Stop short of fatiguing the patient. A great deal of rubbing passes for massage which is not entitled to the name. Dr. Graham then described the proper method of manipulation. Like medicine, massage is an art, not a science. The same may be said of massage which John Hilton said of surgery: "There is much in surgery which cannot be systematized, which cannot be conveyed from mind to mind in books or articles."

Dr. BAKER opened the discussion. He thought that in order to understand properly the relation between massage and the treatment of uterine cases the latter should be divided into two classes: first, those where the uterine condition is the primary lesion, and the neurasthenia developed subsequently, and dependent in a great measure on it; second, cases where the neurasthenia is the primary trouble, and the uterine lesion follows as a result of the nervous debility.

In the first class massage will accomplish something by quickening the circulation through the muscles and skin, thereby relieving in a measure any local congestion. But he should expect by far the best results from the massage in the second class, for here it is one of the most valuable agents in the restoration of the

nervous and physical strength. Whereas he should be unwilling in the first instance to say that massage would accomplish everything, so, in the second, he should be unprepared to say that special local treatment was entirely uncalled for. He was sure that that practitioner will be most successful in the treatment of uterine cases who makes most clearly the above discrimination.

Recent Literature.

L'Année Médicale (deuxième année), 1879. Résumé des Progrès Réalisés dans les Sciences Médicales. Publié sous la Direction du Dr. BOURNEVILLE. Paris: E. Plon et Cie. 1880.

This volume is a yearly review of progress in the different branches of medicine. The first of the series, which was for the year 1878, met with a favorable reception, and the present volume is improved in several respects, especially by the addition of separate chapters on medical jurisprudence and dentistry, and by the greater attention paid to therapeutics.

The progress, as might have been expected, is largely French progress, but enough is incorporated from the outside world to excite the curiosity, and we least of all should be captious on this point, for there is another handsome notice of litholopaxy taken from the JOURNAL's report of the discussion at the meeting of the Medical Improvement Society last November, in which the name of a former interne des hôpitaux de Paris evidently caught the eye of the *collaborateur* on this branch of surgery.

The book, though written for French readers, is a useful one for general reference. It already covers its ground as well as could be demanded from its size, and yearly improvements are promised; its value and convenience are increased by an index of authors and an analytical table of contents. Dr. Bourneville is aided in its compilation by a large and competent staff.

Lessons in Gynecology. By WILLIAM GOODELL, A. M., M. D. Second Edition. Philadelphia: D. G. Brinton. 1880.

It is a great compliment to Dr. Goodell, for which we are genuinely glad, that a second edition of his work should be called for within six months of the issue of the first one.

It is no more than the merits of the book justly demand; and, judging from the increased value of this edition, we should be surprised if the author were not repeatedly called upon in the same way. The original lessons have been carefully revised and enlarged, and several new illustrations added. Four new lessons have been incorporated, namely, Modes of Examination; Some Affections of the Vulva and of the Surrounding Parts; Of the Causes, the Prevention, and the Cure of Laceration of the Female Perineum; and Ovaritis and Prolapse of the Ovaries. Of these the two latter greatly enhance the worth of the book. But it is difficult to consider well the subject of Modes of Examination, in the short space allowed to it by the author; and we think it in no way up to the general high standard of the other lessons. All that we said in praise of the volume when reviewing the former edition, we would reiterate; and the goodly amount of new material now found therein makes us only the more ready to commend it to every practitioner.

Medical and Surgical Journal.

THURSDAY, AUGUST 26, 1880.

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MORE "CRUELTY TO WOMEN."

THE worn and pallid appearance of many girls and young women employed behind the counter in shops and stores is certainly calculated to excite the interest of the philanthropist, and to suggest to the professional mind the query as to how far this may be the direct result of their occupation and of the long hours which they are compelled to pass upon their feet. Attention has been several times called to this subject, but so far fruitlessly. Two years ago some remarks were made upon it in our own columns, and the London *Lancet* has again taken up the question in an editorial which was reprinted entire in our number for August 5th. The *Lancet* is disposed to divide the responsibility for the cruelty inflicted, if such there be, between the greed of employers who will not hire a sufficient number of saleswomen to do the work demanded of them, and the thoughtlessness and exactions of eager and ungente female shoppers who in the pursuit of choosing and matching are lost to all other considerations.

In many cases their occupation alone cannot justly be made responsible for the pallid faces and wearied manner of shop-girls, and it is moreover so difficult to get at the real facts of the question and to find a *point d'appui* from which to make any practical effort at reform, that it is more than probable that the matter will again be quietly shelved. This is the conclusion to which the result, or rather the want of result, of the recent inquiries of one of the sanitary inspectors of the New York Board of Health unfortunately leads. In the summer of 1877 Dr. Roger S. Tracy was requested by this board to investigate and report upon the health of shop-girls as affected by long-continued standing. In his report, recently submitted to the Board of Health, Dr. Tracy says: "In compliance with this request I began such an investigation, but met with difficulties of such an unexpected and apparently insuperable nature that I was forced to abandon it after procuring, with a great expenditure of time and trouble, the apparently unimportant statements embodied in this report." To avoid the anticipated failure of personal questioning in regard to such forms of disease as might be expected to result from the occupation of shop-girls, circulars were prepared containing questions which were sent to the owners of stores and factories where large numbers of young women were employed. Another set of circulars was put into the hands of the young women themselves. The result, which might also, perhaps, have been anticipated, was eminently unsatisfactory. The employers, even when visited in

person, invariably found some excuse for not filling out the circulars; and the answers of the girls, if received, were irrelevant or jocose, giving the impression that they regarded the inquiry either as impertinent, or as calculated to bring them into trouble with their employers.

Any real information obtained was by conversation with the employers. The hours during which young women are required to be at their places in the large establishments in New York are from eight A. M. to six or seven o'clock P. M., with half an hour for luncheon, and in some places two hours "off" twice a week. By so many employers the apparent debility and weariness of the girls was attributed to bad food and insufficient sleep; to evenings spent at parties, picnics, and balls, and luncheons of cake, pie, and pastry from the neighboring confectionery instead of wholesome food from home. Others attached less importance to the influence of improper food and insufficient sleep, and stated that there was very little sickness among their saleswomen, but that their cashiers, who had to sit all day, were constantly breaking down, and that they were consequently considering the propriety of substituting men for the women thus engaged.

Dr. Tracy then called upon some saleswomen at their homes, and questioned them and their parents. He met, however, with no encouragement, and was obliged to abandon this method also. Seven of the girls visited by him, who are compelled to stand all day, considered themselves in very good health, with the exception of occasional pains in the feet; one felt better when at work than when at leisure, and another had abandoned one place because she had too many holidays. In so far as this testimony has value, it merely shows the difficulty of collecting any which is reliable.

As a last resort, Dr. Tracy sent out circulars from the office of the Board of Health to forty different houses, with blanks for the desired information. Not one came back, though all were accompanied by stamped envelopes. The dispensaries were then visited, but it was found that no record of the occupation of the female patients was kept. In conclusion, Dr. Tracy says: "This was my last attempt to obtain the facts I was in search of. There seemed to be no other available source of information, and so after many months spent in these fruitless inquiries I was forced to abandon the investigation."

HOSPITAL BOARD VERSUS HOSPITAL STAFF.

WE believe the settlement of the dispute between the medical staff and the managers of Guy's Hospital is now in the hands of a committee of arbitration, consisting of some well-known gentlemen, whose decision will be awaited with interest even among those whom it does not immediately concern. It was perhaps fortunate for the staff, though not for the victim, that at a critical stage of the controversy one of the new nurses should have seen fit to "polish off" a feeble tuberculous patient with a disciplinary cold bath, and

should now be undergoing an imprisonment for three months for manslaughter. Before that occurrence there seemed to be much uncertainty as to what might be the final upshot of the quarrel. Our regular London correspondent discusses the situation, as then existing, in his last letter, and expresses the opinion that there can be little doubt which side will win in the long run,—the lay authorities with an assured income of forty thousand pounds a year at their disposal, and caring little whether the doctors resign or not, or the latter, who cannot afford to cut their connection with the hospital and school, whose places would be quickly filled if they did, and who, hence, can do nothing but protest.

Dr. Fothergill, writing to the *Philadelphia Medical Times* a letter in which, spite of the anger of the editor of the *British Medical Journal*, he pursues still further his reflections upon the social standing and professional morale of the English medical man, takes much the same view. He says:—

“Then the reader may ask, ‘Why do not the staff resign *en masse* and bring their opponents to their senses?’ Just for one reason at least, because they know that there would be no difficulty experienced by the governing body in filling their places. They know quite well that in the huge mass of medical men in London there are a sufficiency of men, not unknown to the profession either, to whom the temptation of being on the staff of Guy’s Hospital would be too much for their conscience and their power of resisting temptation. Even in its present position, shorn of much of its glory, Guy’s Hospital could be run with a new staff, by no means contemptible intellectually, at very short notice. Hence it is unavoidable that the staff act warily. To resign *en masse* would be acting suicidally in the face of the facts recorded above, or at least what I apprehend to be facts. It is just this unfortunate fact that medicine offers a peculiarly good field for the polished man devoid of principle, who affects an almost impossible height of virtue, and leads a life of actual depravity, that paralyzes action. The profession knows well what untrustworthy elements there are in it, and the large proportion of men in it who are virtuous from the absence of temptation, but who could not be trusted in the presence of temptation, and they themselves as well as other people know it. In saying this I do not desire to disparage the profession as a body; the bulk of the profession are honorable men, as every one knows. It is the men who vulgarly are called ‘sneaks,’ the men that cannot be relied upon in an emergency, or rather that may be relied upon safely enough to break down like a bad gun-barrel under the government test, that are the plague of the profession.”

On the other hand the *Lancet* comes to us with a vigorous editorial on hospital management, whose brave words we give our readers in another column, which goes straight to the bottom of the difficulties as at present existing in London between the managing bodies and medical staffs of hospitals in general; difficulties which, at no distant day, may possibly

disturb hospital harmony in the largest of American cities.

In the light of the preceding letters and the unfortunate collision between Dr. Pay and Sir William Gull, we suspect this editorial expresses what should be, from the medical stand-point, rather than what is, and it seems somewhat like the whistling which proceeds not from cheerfulness, but from the necessity to sustain a failing courage.

MEDICAL NOTES.

—The *Medical Times and Gazette* writes: “Now that the body is becoming more and more parceled out into little divisions, each, we take it, presided over, as in ancient fashion, by a genius of its own, and when specialists of all kinds are clamoring at the Medical Council to give them a more particular recognition, it was not to be supposed that our friends the laryngologists would be behindhand. They are about to hold their first congress under the shadow of the world-famed Duomo of Milan, or at least as near it as they can get. The language that is to be used is French, and certainly the introduction betrays something more than Gallic verse: ‘La spécialité laryngoiatrique n’est plus une vaine illusion de quelques enthousiastes; c’est un fait.’ We could have told them that a long time ago here in London, for the throat business’ has not only been ‘no vain illusion of enthusiasts,’ but has been a very paying business indeed. Be that as it may, we find that there is a plentiful supply of papers promised, including, as a matter of course, the inevitable ‘Dr. Lennox Browne de Londres;’ but there is a marked absence of some of the best known authorities on the subject. At the same time there will sit in Milan other international congresses,—those, namely, of Ophthalmology and otology. We do not envy the happy visitors. Milan in the first days of September is not likely to be invigorating.”

—The following report of the Hydrophobia sub-committee of the Scientific Grants committee will be presented at the annual meeting of the British Medical Association at Cambridge:—

The report of the Hydrophobia sub-committee has been delayed by the lamented death of Mr. Callender, its chairman. It is, however, the intention of the Hydrophobia sub-committee to present a joint report, showing the result of their labors thus far, early in the autumn. The work of the sub-committee includes a topographical account (with maps) of the distribution of cases of hydrophobia for a series of years, prepared by Mr. Ernest Hart; an elaborate and laborious digest of the literature of the subject has been made by Dr. William Ewart; a series of pathological examinations have been conducted by Dr. Gowers, who showed some of his results at the last annual meeting; another series by Dr. Turner (under the guidance of Dr. Greenfield) at the Brown Institute.

—At the same meeting the Hospital Out-Patient Reform committee will report, through its chairman, Mr. Holmes, substantially as follows:—

It has been strongly urged by some members of the committee that an effort ought to be made to persuade the managers of hospitals to change their out-patient departments into mere consulting rooms, — that is, to abolish treatment of out-patients, except, perhaps, in cases of accidents and discharged in-patients. The change, we believe, would be a great improvement, but we see no prospect of its being adopted in deference to any influence which we can exert; and, in fact, any recommendation of the kind is liable to be, and is constantly, met with the objection that, as the poor have been for many years invited to come in crowds to the out-patient rooms for the treatment of ailments of all kinds, it would be barbarous suddenly to shut the doors in their faces without making some provision for their treatment elsewhere.

In deference to this feeling, the chairman deferred summoning the committee until a scheme had been matured which had been for some time in preparation, under the auspices of a mixed committee, presided over by Mr. Stansfeld. The object of the scheme is to secure the coöperation of the great Friendly Societies in founding a large institution, or confederation, of provident dispensaries, in which all persons above the pauper class can obtain treatment, either at home or at the dispensary, as may be needed, in consideration of a small permanent payment, on the principle of mutual insurance. That scheme is now completed, and steps are being taken to carry it out. It is clear that if such a plan were generally adopted it would provide for the treatment of the ordinary ailments of the working classes, and would justify the public in requesting the managing bodies of hospitals to introduce those reforms into their out-patient departments which are agreed to be desirable. The only question is, whether the details of the proposed scheme are satisfactory; and on this question it is hoped that the Association will deliberate during the present meeting.

Without in any way pledging the committee either to the proposed scheme, or even to the principle of provident dispensaries, it is the opinion of the chairman and of the majority of the members of the committee that the out-patient department of our hospitals and dispensaries will never be adequately reformed until the working classes can be made to see that ordinary illness, like other accidents of humanity, must be provided for by their own exertions, and that it is only under special emergencies that charity ought to be brought into play; and until the medical profession can be brought to acknowledge that a great proportion of the ailments which are now treated in the out-patient department are unfit for hospital treatment at all, and can only be successfully managed by medical men having the same relation to their patients as private practitioners have in other classes of practice.

— In the *Bulletin de Thérapeutique*, June 15th, Dr. Charrier publishes a paper which he read at the Paris Société de Médecine; it terminates with the following conclusions: (1.) In some rare cases, in women who are otherwise quite well, the utero-vaginal secretions are quite sour, as is seen by their reddening litmus.

(2.) This acid may prove an absolute obstacle to fertility, as spermatozoa are killed in even a slightly acid medium. (3.) This abnormal state is to be remedied by an alkaline treatment, by means of alkaline drinks and baths, and tepid alkaline injections. (4.) When this acid condition has been neutralized, conception may take place. (Two cases in point are detailed.) (5.) This disappearance of acidity under the influence of alkaline treatment may explain the success which is obtained at alkaline and sulphuro-alkaline mineral water establishments in the treatment of sterility. In a note in the *Bulletin* of June 30th, Professor Pajot entirely confirms this statement, and says that for many years past he has been in the habit of prescribing injections of Vichy water in these cases of acid vaginal discharges. He observes that in fair women, and especially those with a red complexion, and more rarely in brunettes, the acidity of the secretions sometimes reaches such a point that, in spite of the extremest cleanliness, the acid odor is perceived during the passage of the speculum. Dr. Charrier says that the best liquid for injection in these cases is that devised by Byasson (water 1000 grammes, the white of one egg, and fifty-nine grammes of phosphate of soda), in which he was able to keep spermatozoa alive for twelve days at a temperature of 36° C.

— The *Edinburgh Medical Journal* translates the following from the *Anzeiger d. Wiener Gesellschaft d. Aerzte*, 1879: Langer has studied the white glancing atrophic lines found not only on the abdomen, but also on the lower extremities, of pregnant women. As the epidermis over these is entire, they must depend on some solution of continuity or other change in the cutis. The interlacing of the areolar tissue bundles of the corium is not an irregular felting, but these are so arranged as to form rhombic meshes, whose long axis on the trunk corresponds in some degree to the direction of the ribs. The cutis can therefore be more easily stretched in a direction perpendicular to the long axis of these rhombs than in the reverse. When the distention of the abdomen is slight the stretching occurs in the above-named direction, and is soon compensated. It is otherwise when the stretching is considerable, if, in addition, the elasticity of the tissue is destroyed. Then the texture of the cutis assumes permanently a different arrangement. Thus sections parallel to the surface show fibres in lines almost side by side in the strivæ, and it is to this that the silky glance which these exhibit is due. There is no solution of continuity, but a permanent alteration in the arrangement of the tissues, owing to tension. The papillæ and vessels experience similar changes; the former are flattened out, the latter run across the strivæ in lines more or less straight. At Langer's suggestion, Krause and Felsenreich have investigated the direction of tension of the abdomen during pregnancy, and found that beneath the umbilicus tension takes especially the transverse direction round the umbilicus in all directions alike, and at a distance of ten centimetres beyond in a radiating direction. The silvery white lines follow in their arrangement the same law.

— A correspondent of the *Physician and Surgeon*, writing from Dresden, says: "I had nearly forgotten to mention that I have not seen a homeopathist's sign, or heard any mention of a homeopathic physician, during the week I have been in Dresden. I am told by a very intelligent gentleman here, well informed in matters pertaining to our profession, that homeopathy has almost entirely died out in this region of its birth."

NEW YORK.

— The registration of physicians for appointment on the new night medical service has just closed, two hundred and eighty-six names altogether having been handed in to the various captains of police throughout the city, who are authorized to receive them by the act of legislature providing for this service. Each name registered is to be submitted to the registrar of vital statistics, who is required to ascertain whether the applicant is in good and regular standing, and report thereon. In any case where the patient attended by the members of the service is unable to pay the physician's fee, this will be furnished by the board of health.

Thus far only about three hundred and fifty physicians have complied with the requirements of the medical act passed by the legislature shortly before its adjournment. This provides that every medical practitioner in the State shall publicly register his name, age, place of birth and residence, and the date and source of his degree of M. D. Neglect to register is punishable by a fine of fifty to two hundred dollars for the first offense, and from one hundred to eight hundred dollars or imprisonment for from thirty to ninety days, or both, for the second offense. One half of the fine goes to the person securing the conviction and the other half to the county treasury. The time for registration expires October 1st.

— On the 14th, a patient, recently from Galveston, Texas, who was supposed to be suffering from severe jaundice, was admitted to Bellevue Hospital, where he died on the 16th. There was a suspicion of yellow fever, however, and an autopsy was held. This did not show conclusively that the latter disease had existed, but the same precautions were taken as if such had really been the case. On the certificate made out after the investigation by the coroner the cause of death was stated to be "collapse from supposed yellow fever."

— The sanitary commission appointed to investigate the recent outbreak of sickness at Princeton College have made the following report through Dr. Edward G. Janeway, of the New York Board of Health, president, and Dr. Ezra M. Hunt, of the New Jersey State Board of Health, secretary: "The sanitary committee appointed by the trustees of Princeton College to examine into the cause of the late sickness are fully satisfied that it was owing to defects in the construction and oversight of the sewer system. Radical changes have been made, and all the former indoor appliances have been removed. The sewer connections have been taken up, and the cess-pool system has been abandoned. Thorough provision has been

made for additional water supply, although the former was found not to be contaminated. We are able to report such removals and constructions as put the college in a thorough sanitary condition. With these changes we now certify that the college property and buildings are in a proper sanitary state. The same thorough attention has been extended to the university hotel and to the town boarding-places of students. We therefore assure the alumni and friends of the college that the causes of the fever have been removed, and that those desirous of sending their sons to Princeton College can do so with entire confidence in its sanitary condition."

Miscellany.

LETTER FROM AN OCCASIONAL CORRESPONDENT.

ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION.

MR. EDITOR. — Yesterday the degree of honorary L.L. D. was conferred by the university in the senate-house upon Dr. C. E. Brown-Séquard, F. R. S., Professor of the College de France, Paris; Dr. Chauveau, of Lyons; Dr. F. C. Donders, Professor of Physiology at Utrecht; Dr. S. D. Gross, of Philadelphia, U. S.; Sir William Jenner, Bart., K. C. B., F. R. S.; Sir William Gull, Bart., F. R. S.; Sir George Burrows, Bart., F. R. S.; Mr. William Bowman, F. R. S.; the Rev. S. Haughton, M. D., F. R. S.; Mr. Joseph Lister, F. R. S.; Dr. Denis C. O'Connor; Mr. John Simon, C. B., F. R. S.; Dr. Andrew Wood, F. R. S. E. Scarlet gowns were worn in the senate-house by doctors of the university on the occasion.

The reception given to the Nestor of American surgery, Dr. S. D. Gross, was most gratifying. The selections for the above distinction from the old university had been so well made that, with a single exception, each recipient of the honor was individually greeted with the hearty applause of all in the senate-house, which was too closely packed to afford standing room to another of the crowd who pressed for admission at the open door and windows. The exception, to prove the rule as to the popularity of the new honorary LL. D.'s, was furnished in the person of Sir William Gull, and exhibited a manifestation of medical *esprit de corps* not easily to be forgotten, and which, it may be hoped, will bear permanent fruit, by causing medical men of all ranks to be careful how they assail before the public the professional conduct of their confrères.

On Sir William Gull entering the senate-house he was met with an unchecked torrent of hoots and hisses. This demonstration ceased and gave place to one of applause as in turn Brown-Séquard, Chauveau, Donders, Gross, and Jenner, after being introduced by the university orator in a Latin speech, were received by the vice-chancellor.

But the temporarily bated storm of disapprobation recurred with renewed strength when Sir William Gull rose to accompany the orator, whose share in the ceremony of Sir William Gull's installation had to be postponed for full fifteen minutes on account of the uproar. When at last the orator was permitted to proceed he did so amidst repeated interruptions from all

parts of the senate-house, by cries of "Turn him out." "Do not gull us," "Where is his nurse?" "Take off the gown," "Let us have Pavy." The cause for such a demonstration will be found by such as have an opportunity of watching the controversy now waging in Guy's Hospital, one of the largest and oldest of the London metropolitan medical schools, between the lay governors, as identified with the treasurer, and the medical staff.

Such is the heat of feeling aroused that I will endeavor to give no clew to my own opinion of a deplorable matter, about which a brief sketch may be interesting.

The treasurer, without consultation with the medical staff, secured the services of an eminently experienced and skilled lady to fill the office of matron, with a view to setting the nursing of the hospital in thorough order. At this, it would appear, the medical staff took grave offense, and as a consequence frequent clashing occurred with them in the introduction of what the new matron considered essential to the carrying out of the purpose for which she had been appointed.

The medical staff and a self-instituted lady champion of the matron rushed into public print, as will be seen from a reference to the *Times* during the last six weeks.

Inquiries were held, and the matron received the support of the governors whilst they made efforts to conciliate the medical staff. However, the cry seems to be, War to the knife. An unfortunate young woman was admitted an in-patient to the hospital under the care of Dr. Pavy; she died under circumstances which led to a coroner's inquest, whereat Dr. Pavy, an old-standing full physician of the hospital, testified to admitting the patient with slight phthisical indications and hysterical symptoms, and recommending that she should be encouraged to exert herself. This patient having soiled her bed, was so conveyed to a bath, which was so administered, by an experienced nurse, that after a careful trial a jury found her guilty of manslaughter, and Justice Hawkins sentenced her to three months' imprisonment.

At this trial Dr. Pavy's evidence was to the effect that the deceased's death, which resulted from tubercular meningitis, was attributable to the treatment she had received in connection with the bath, whilst Sir William Gull, a consulting physician to Guy's, swore that the deceased died from tubercular meningitis, a disease invariably fatal, often having equivocal symptoms, unquestionably present when the deceased was admitted, and which a sound physician ought to have distinguished from hysteria. Sir William Gull's testimony was based on the clinical report kept in the hospital by a ward clerk, more or less from the dictation of Dr. Pavy.

This controversy was at the base of yesterday's demonstration.

Some nine or ten hundred members of the British Medical Association are attending this meeting, which is proving in every way highly successful.

Dr. Bradbury, of Cambridge, and Timothy Holmes, of London, have respectively delivered the addresses on Medicine and Surgery, both of which were eminently successful; each dealt with the progress of his craft, and Mr. Holmes referred especially to the position of joint excision in modern surgery, which was paying the highest tribute to the late Sir William Fergusson,

who had enunciated and consistently advocated the truest principles of conservative surgery. Mr. Holmes eulogized Dr. Gross.

The gold medal of the British Medical Association for distinguished merit was presented to Dr. William Farr, M. D., F. R. S., D. C. L., C. B. The award was made by the Committee of Council in the following terms: Resolved unanimously, That the gold medal of the association be awarded by the Committee of Council of the British Medical Association to William Farr, M. D., F. R. S., D. C. L., C. B., as an expression of their high appreciation of his long, unwearied, and successful labors in behalf of statistical and sanitary science, as a recognition of the light he has thrown upon many physiological and pathological problems, and on account of the extraordinary services his work has rendered to the advancement of the health of the nation.

CAMBRIDGE, ENGLAND, August 12, 1880.

HOSPITAL MANAGEMENT.

AGREEING with the *Lancet* that the question of hospital management, which involves the secondary one of a nursing system, is a great and practical one, though perhaps not so immediately pressing in our large cities as in London; and believing also that nothing but good can come of its being fully and freely discussed, we reprint entire a recent editorial on this subject, in which very clear and decided opinions are expressed:—

Let us go aside awhile, out of reach of the heart and head-aching din, and the acrimonious disputation about the "nursing system" and "hospital management" at Guy's, and try to discover the principles involved, or at stake, in the contention. What makes it especially important to do this is the fact that whereas the grand engagement at a metropolitan hospital is just now the centre of interest, the conflict on this particular field is only one episode in a campaign on the final issue of which the best interests of the sick poor, and of medicine as an art, if not also as a science, depend. We may tell the governors of hospitals generally that medicine has made the hospitals, and if they think to succeed in rendering the simply administrative element, however philanthropic, the foremost feature in these establishments, they are mistaken, and not only in error, but engaged in a ruinous enterprise, which is neither to be tolerated nor endured.

Hospitals are not charities to which medicine contributes something, but, in a special sense, *medical* charities. Nor does medical aid consist of two parts, as certain members of the lay public would seem to suppose. It is not a combination of medicine and nursing, or nursing and medicine. The whole charity from first to last is *medical*. The sick poor are taken away from their homes, and are placed in an establishment which is—or should be—constructed and administered with a single eye to the complete and rapid cure of the cases admitted to its benefits. It is an engine of "cure," and the engineer should be—must be—an expert in the art of curing. This is the principle of the hospital system, and it is this which is at stake in the dispute. The lay governors of hospitals are trying to make these institutions houses of charity, and to treat the medical business as auxiliary! They wish to take charge of the sick poor and to nurse them, with or without the advice of the medical faculty; a corps of women who

in the energy of their discontent at the natural subordination of their sex, have seized on nursing as a sphere for the vent of their emotional natures, being the agents of this lay "sick-tending." The physicians and surgeons of the various hospitals are, forsooth, to be reduced to the level of practitioners called in by the governors to *advise* as to the treatment of their — that is, the governors' — patients. It is well to state this plainly and clearly, and to let it be understood, in a cool moment of reflection, without the irritation produced by that special conflict of opinion which must occur in connection with any particular case. Divested of personal attributes and considerations, the simple facts are as we have stated them: Hospitals are *not* homes for the sick, with medical advice as an adjunct; but institutions wholly medical in their character and purpose, and, therefore, they must be under direct medical control. We are not prepared to indorse or approve any half-measure or schemes whereby the medical faculty of a hospital is under grace of the lay governors to be allowed a muffled voice in the administration. Medicine must be paramount. If the present governors of these medical charities, the name and fame of which have been wholly made by the medical men connected with them, are not prepared to carry on the institutions in which they have a little brief authority on this footing, they must be taught by the logic and force of facts that these, and these only, are the terms upon which the medical profession will continue to regard the hospital as an appliance of *its* work and *its* charity.

We may seem to take high ground. We do so deliberately and after mature and even slow deliberation. The time has come to step outside the special circle of this dispute at Guy's, and appeal to the medical profession as a whole to declare itself on the question at issue. Without such action in concert as we now advise and invite, it is apparently impossible to make the matter clear to the governors of hospitals, who would seem to be strangely in the dark as to their actual position in relation to these charities. It has long been painfully evident that the committees of hospitals do not recognize the men who give time and skill to the service of a charity as among its principal contributors. The vulgar estimate of gold — as of higher value than money's-worth in brains and power — pervades the councils of men who are simply the trustees of the money bequeathed or subscribed by the public for the cure of disease. That money has been left, or is given, to enable the medical profession to carry out its beneficent work as a body expert in the art of healing. The funds collected must, in common sense and fitness, be administered as the medical faculties of the hospital, the representatives of the profession in this matter, desire.

This should be self-evident; but let us look at the question in another way. The object is to cure, and the nursing of a patient is an integral part of his medical or surgical treatment. How then can it come to pass that intelligent and reasonable men presume to think they can fulfill the conditions of their trust by separating nursing from the rest of the treatment, and affecting to take it under *their* control? For ourselves, we must be excused for feeling some reluctance to intervene in this matter. We cannot help seeing the hand of Nemesis in these differences and disputes between the governors of hospitals and medical gentlemen all over the country. It was a short-sighted as well as a scientific blunder to sanction the introduction of independent nursing sis-

terhoods into hospitals. What the true interests of the sick require is not the presence of misguided "ladies" hovering round their beds and taking every "opportunity" to proselytize, but a fair number of women of their own class, trained to do their business as nurses, humbly and honestly, at the bidding of the medical officers. How would it be if the dispensers of drugs were to decline the "modest" duty of making up the prescriptions given by the staff, and take to prescribing on their own account, being supported in their presumption by the governors? The creation of a class of "sisters" who are above the rank of nurses has been a mistake, and we are now reaping the consequences. Apart from this view of the facts, however, there is that which we have already propounded and trust to see debated temperately and quietly by members of the profession whose names will have weight.

DANGEROUS TOYS.

PARENTS and friends purchasing toys for children cannot be too frequently warned of the dangers to which they may possibly expose those dear to them by such gifts. The following from the *Lancet* is to the point: —

A plentiful and cheap supply of toys will, it is generally considered, contribute to the happiness of children and the tranquillity of their parents. The recent action of the authorities in Paris suggests, however, that this result may not always be insured. A toy producing the symptoms of lead-poisoning is not so conducive to the diversion of children and the peace of their parents as the Parisian itinerant vendor of these wares would have us believe. A number of boxes loaded with toys painted in brilliant colors, elastic balls colored and varnished, lead soldiers in every variety of uniform, have been seized by the French police. It has been proved that the color would easily come off, particularly if the children put the toys to their mouths, a habit which seems inherent in every child's nature. These playthings, painted with poisonous colors, had been imported from Fürth, in Bavaria, and a committee of the manufacturers of that town have recently held a meeting on this subject. A circular was at once issued to all the toy manufacturers, urging them to use non-poisonous paints, and reminding them that according to the German law they had exposed themselves to penalties — fines and imprisonment. The *Gesundheit* of Frankfort justly remarks that but for the repressive measures adopted in Paris the German authorities would still neglect to enforce the German law. This apathy, according to the German papers, is all the more reprehensible, as the Fürth manufacturers send their toys all over Germany, and may therefore poison the children of the fatherland as well as the little Parisians, — a consideration which, in the Teutonic mind, must greatly accentuate the gravity of the question. To us the matter is not less serious. It is well known that the majority — in fact, nearly all — of the cheap toys sold in England are imported from Germany, and we regret that it is to the Parisians rather than to the English authorities that we must attribute the honor of seizing these dangerous playthings. We trust that no time will be lost in following this excellent example, and that a more strict watch will be kept to prevent the importation from abroad of poison for the nursery.

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 14, 1880.

Cities.	Population estimated.	Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diarrhoeal Diseases.	Lung Diseases.	Diphtheria and Croup.	Typhoid Fever.
New York.....	1,085,000	627	301	33.33	23.13	6.54	4.62	.80
Philadelphia.....	901,380	333	148	23.42	11.71	1.20	1.20	6.31
Brooklyn.....	564,400	289	169	41.52	33.56	4.15	3.81	.35
Chicago.....	—	—	—	—	—	—	—	—
St. Louis.....	—	130	71	36.15	26.15	3.08	—	3.08
Baltimore.....	393,796	158	80	42.40	19.62	1.90	6.33	4.62
Boston.....	363,938	194	101	47.94	39.17	3.61	3.09	2.58
Cincinnati.....	280,000	119	47	27.73	15.13	6.72	.84	9.24
New Orleans.....	210,000	72	24	25.00	6.94	5.55	2.78	1.39
District of Columbia.....	170,000	77	34	24.68	12.99	7.79	3.90	3.90
Buffalo.....	170,000	53	18	28.30	16.98	3.77	1.89	1.89
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,634	65	39	36.92	20.00	4.61	9.23	—
Milwaukee.....	127,000	54	37	27.78	22.22	3.70	3.70	—
Providence.....	104,862	42	18	33.33	23.81	2.38	—	4.76
New Haven.....	60,000	12	7	33.33	25.00	16.66	—	8.33
Charleston.....	57,000	34	12	23.53	14.71	5.88	—	8.82
Nashville.....	37,000	28	13	32.14	17.86	7.14	—	3.57
Lowell.....	59,340	43	—	39.53	37.21	2.33	—	2.33
Worcester.....	58,040	18	9	38.89	38.89	—	—	—
Cambridge.....	52,860	19	11	31.58	31.58	—	—	—
Fall River.....	48,626	34	11	5.88	—	8.82	—	—
Lawrence.....	39,068	14	10	50.00	42.86	—	—	—
Lynn.....	38,376	21	11	23.81	14.29	—	4.76	4.76
Springfield.....	33,536	11	5	27.27	18.18	—	—	9.09
Salem.....	27,347	22	14	63.64	59.09	9.09	—	4.55
New Bedford.....	27,268	16	7	31.25	18.75	6.25	—	—
Somerville.....	24,964	8	5	62.50	62.50	12.50	—	—
Holyoke.....	21,961	12	10	25.00	25.00	16.67	—	—
Chelsea.....	21,780	9	5	66.67	66.67	—	—	—
Taunton.....	21,145	7	4	71.43	57.14	—	14.29	—
GloUCESTER.....	19,288	10	7	10.00	10.00	—	—	—
Haverhill.....	18,478	8	2	12.50	12.50	12.50	—	—
Newton.....	16,994	—	—	—	—	—	—	—
Newburyport.....	13,470	3	0	66.67	33.33	—	—	—
Fitchburg.....	12,270	1	1	100.00	—	—	—	—
Sixteen Massachusetts towns.....	124,867	50	20	22.00	18.00	2.00	2.00	—

Deaths reported, 2593; 1251 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 874, diarrhoeal diseases 598, consumption 352, lung diseases 115, diphtheria and croup 78, typhoid fever 69, scarlet fever 39, malarial fevers 34, whooping-cough 25, measles 13, cerebro-spinal meningitis 11, erysipelas four, small-pox three. From scarlet fever, Baltimore 12, New York eight, Philadelphia four, Brooklyn, New Orleans, Buffalo, Providence, and New Bedford two, District of Columbia, Pittsburgh, Milwaukee, Newburyport, and Northampton one. From malarial fevers, New York nine, New Orleans eight, St. Louis six, Brooklyn four, Baltimore three, Buffalo two, Philadelphia and Nashville one. From whooping-cough, New York seven, Brooklyn five, Baltimore four, Philadelphia, St. Louis, and Nashville two, Boston, Cincinnati, and Pittsburgh one. From measles, Boston four, Pittsburgh three, Cincinnati and Fall River two, New York and Baltimore one. From cerebro-spinal meningitis, New York and Philadelphia three, St. Louis, Boston, District of Columbia, Lawrence, and Fitchburg one. From erysipelas, New York, two, Philadelphia and District of Columbia one. From small-pox, Philadelphia three.

Twenty-nine cases of diphtheria, 14 of scarlet fever, three of whooping-cough, and two of typhoid fever were reported in Brooklyn; diphtheria 15, in Boston; diphtheria eight and scarlet fever six, in Milwaukee; scarlet fever eight, diphtheria five, typhoid fever four, diarrhoeal diseases four, measles two, whoop-

ing-cough one, in Providence; diphtheria four, in Cambridge; scarlet fever four, diphtheria one, in New Bedford.

In 34 cities and towns of Massachusetts, with a population of 1,026,652 (population of the State 1,783,812), the total death-rate for the week was 25.46 against 30.28 and 31.82 for the previous two weeks.

For the week ending July 24th, in 149 German cities and towns, with an estimated population of 7,671,668, the death-rate was 33.2. Deaths reported, 5538; 3246 under five: pulmonary consumption 469, acute diseases of the respiratory organs 214, diphtheria and croup 98, scarlet fever 91, measles and rubella 71, whooping-cough 59, typhoid fever 52, puerperal fever 20, typhus fever (Thorn, Dortmund three) four; small-pox (Königsbühl, Neuss) two. The death-rates ranged from 14.8 in Mainz to 51.2 in Breslau; Königsberg 39; Munich 35.8; Dresden 31.8; Berlin 41.2; Leipzig 29.6; Hamburg 22.1; Hanover 22.7; Bremen 19.1; Cologne 48.2; Frankfurt 25.6; Strasburg 36.7.

For the week ending August 7th, in the 20 English cities, with an estimated population of 7,499,168, the death-rate was 23.9. Deaths reported, 3431; diarrhoea 711, acute diseases of the respiratory organs 175, scarlet fever 99, whooping-cough 80, measles 50, fever 40, diphtheria 11, small-pox two. The death-rates ranged from 17 in Bradford to 31 in Salford; London 24.2; Birmingham 24; Manchester 28; Bristol 19. In Edinburgh 17; Glasgow 21, Dublin 35.

The meteorological record for the week in Boston was as follows:—

Date,	Barom-eter.	Thermom-eter.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.	
August 8	30.114	69	87	63	74	68	84	75	W	NE	0	10	11	0	C	C	C	—	—	
" 9	29.908	74	88	63	89	42	67	66	SW	W	SW	9	18	14	F	F	C	—	—	
" 10	29.864	75	89	66	85	40	71	67	W	W	0	9	12	0	O	F	C	—	—	
" 11	29.989	68	75	64	65	63	94	74	0	SE	0	0	6	0	O	F	H	—	—	
" 12	30.033	69	84	63	89	44	74	69	0	W	NW	0	7	4	O	F	F	—	—	
" 13	29.932	72	86	63	72	37	75	61	NW	0	SW	9	0	8	H	H	F	—	—	
" 14	29.742	70	82	65	66	68	84	73	SW	SW	SW	10	15	5	F	O	F	—	.01	
Week.	29.940	71	89	63			79		Southwest.									2 20	.01	

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM AUGUST 14, 1880, TO AUGUST 20, 1880.

HAFPERSETT, J. C. G., major and surgeon. At the expiration of his present leave of absence to report to the commanding officer, Fort Ringgold, Texas, for duty as post surgeon. S. O. 161, Department of Texas, August 10, 1880.

TAYLOR, M. K., captain and assistant surgeon. Assigned to duty as post surgeon at Fort Concho, Texas. S. O. 161, C. S., Department of Texas.

O'REILLY, R. M., captain and assistant surgeon. His leave of absence on account of sickness extended four months on surgeon's certificate of disability. Relieved from duty in Department of the South, and at the expiration of his present leave of absence to report by letter to the surgeon-general. S. O. 161, A. G. O., August 16, 1880.

MOSELEY, E. B., captain and assistant surgeon. His leave of absence extended ten days, with permission to apply for a further extension of two months. S. O. 75, Department of the Platte, August 17, 1880.

CARTER, W. F., first lieutenant and assistant surgeon. When relieved by Assistant Surgeon Taylor to report to commanding officer, post of San Diego, Texas, for duty as post surgeon. S. O. 161, C. S., Department of Texas.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—The association opens its annual meeting in this city this week. The programme of the proceedings is as follows, omitting minor details:—

Wednesday, August 25. Meeting called to order by the retiring president, Professor George F. Barker, of Philadelphia; resignation of the chair to the president elect, the Hon. Lewis H. Morgan, of Rochester; invocation by the Rev. George E. Ellis, D. D., of Boston; introductory remarks by William B. Rogers, LL. D., president of the Institute of Technology; welcome by the Hon. Frederick O. Prince, mayor, on behalf of the citizens of Boston; additional words of welcome from his excellency John D. Long, governor, in behalf of the Commonwealth; reply by President Morgan. During the remainder of the forenoon session elections will be held and preparatory routine work done. From one to 2.30 p. m. lunch will be served in the gymnasium hall. In the afternoon there will be addresses by Vice-President Hall and by the chairman of the sub-sections, and in the evening the address of the retiring president will be given.

Thursday, the 26th. Business in the forenoon and address by Vice-President Agassiz. In the afternoon, by invitation of the president and fellows of Harvard College, the association will dine in Memorial Hall at 1.30 o'clock. Martin Brimmer, Esq., will preside at the table. After dinner the association will visit the Museum of Comparative Zoology and other college buildings and places of interest; at four o'clock the botanists will meet in the lecture-room at the botanic garden, when Professor Gray will read a paper on Rocky Mountain Vegetation, and Professor Goodale will offer a few remarks; at the same hour Professor E. C. Pickering will receive the astronomers at the observatory; also at the same hour Mrs. T. P. James will receive at her residence, 91 Brattle Street, each of the members as are interested in lectures. In the evening there will be a

reception at the botanic garden at five o'clock; tea at six o'clock; visit to the observatory; reception of the association by Mr. and Mrs. Alexander Graham Bell, 150 Brattle Street, at 8.30 o'clock.

There will be three sessions for business, reading of papers, etc., at the Institute of Technology on Friday and one on Saturday forenoon. On Saturday afternoon, by invitation of the city of Boston, the association will make an excursion down the harbor; steamer Empire State will leave Foster's wharf at 2.30 o'clock, returning to the city about eight o'clock. Collation will be provided on board. Monday will be devoted to business in the forenoon, and in the afternoon the association will visit Salem and inspect the Essex Institute and the Peabody Academy of Science; also those choosing to do so will visit Rockport and make a geological excursion to Marblehead Neck. At Salem a reception will be given by S. Endicott Peabody, Esq.

On Tuesday forenoon and afternoon business sessions will be held, and in the evening Professor A. Hyatt will give a popular lecture on the transformations of *Planorbis*—a practical illustration of the theory of the evolution of species, with stereoscopic views, in Huntington Hall, at seven o'clock. Wednesday, September 1st, will be the final day for business, and on Thursday, September 2d, opportunity will be given for an excursion to the White Mountains and Mooshead Lake.

AMERICAN DERMATOLOGICAL ASSOCIATION.—At the fourth annual meeting of the American Dermatological Association, which will be held at the Ocean House, Newport, R. I., on the 31st of August and the 1st and 2d of September, 1880, the following papers will be presented: Tumors of the Skin, by Dr. C. Heitzmann; Papilloma Cutis, by Dr. W. A. Hardaway; Mediceal Eruptions, by Dr. A. Van Harlingen; Ainhum (for Dr. Da Silva Lima, of Bahia), by Dr. J. N. Hyde; Date of Evolution of the Erythematous Syphilide, by Dr. R. W. Taylor; Treatment of Eczema of the Hands, by Dr. L. D. Bulkley; Experiments on Epilation, by Dr. C. Heitzmann; Kerion Scelus of Tinea Tonsurans, by Dr. L. E. Atkinson; Pityriasis Maculata et Circinata, by Dr. L. A. Duhring; Case of Polycystic Eruption of the face and Hands, by Dr. A. Van Harlingen; Case of Liehen Planus first appearing on the Penis, by L. D. Bulkley; Scleroderma, by Dr. J. E. Graham; Herpes Progenitalis, by Dr. F. B. Greenough; Notes on Xanthelasma Palpebrarum, by Dr. R. W. Taylor.

ERRATA.—In the Foramina of Monro, which appeared in the JOURNAL of August 12th, the following errors occur:—In the fourth paragraph, Gray's Anatomy should be included among the second set of names instead of the first.

In the list of works referred to, under Hyrtl, for "Zerglied erungskunst" read Zergliederungskunst.

The date of Vicq d'Azyr's Traite should be 1786.

BOOKS AND PAMPHLETS RECEIVED.—Atlas of Skin Diseases. By Louis A. Duhring, M. D. Part VII. Philadelphia: J. B. Lippincott & Co. 1880.

Calcium Salicylate in the Serious Diarrheas of Infants. By Alexander Hutchins, M. D. (Reprint.)

Anæsthesia by Ethyl Bromide. By H. Augustus Wilson, M. D. (Reprint.)

Transactions of the State Medical Society of Arkansas at its Fifth Annual Session. Little Rock. 1880.

Lectures.

CLINICAL LECTURES ON THE PHYSIOLOGICAL PATHOLOGY OF SYPHILIS.¹

DELIVERED AT THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK, SESSION OF 1878-79.

BY FESSENDEN N. OTIS, M. D.,

Clinical Professor of Genito-Urinary Diseases, etc.

VII. TREATMENT OF SYPHILIS.

GENTLEMEN, — Having followed the development and progress of syphilis presented in the clinical cases from the initial lesion, in its varieties, through the active or so-called secondary stage of the disease, in all its typical manifestations; having, still farther, studied with you its influence in connection with the so-called tertiary or later effects of the disease, I desire now to recall the significant fact that in regard to clinical history, physical appearances, and pathological conditions, as far as we have been able to appreciate them, all have been in complete accord with the position heretofore taken by me, claiming the simple nature of the syphilis, — simple in that it is the result of causes and conditions arising from undue activity of natural processes; in short, a simple hyper-genesis of germinal matter, the varied lesions of syphilis occurring, in this view of the case, as the natural mechanical sequences of a localized accumulation of the superabundant material in the affected organism. This, it will be seen, is wholly opposed to the supernatural view of syphilis, heretofore and still supported or tacitly admitted by all writers on the subject up to the present time. With them the so-called SYPHILITIC VIRUS plays the leading rôle from first to last; its origin enshrouded in mystery, its action miraculous, in that it is accepted, by weight of authority, as pervading the entire physical organism at the instant of contact, independently of all known physiological laws, and frequently not apparently implicating the general health of the person affected. Unappreciable to the senses and eluding the most skilled and painstaking microscopical research, it is yet accepted as a vicious physical entity, a sort of corpuscular devil, which speeds through any and every tissue, depositing seeds of the multifiform lesions of syphilis, warranted to bear its fruit in due time, and unmistakably branded with the cloven-foot. This is the conventional idea of syphilis, practically if not literally, and the theory of the treatment of the disease, when any theory is maintained, is based upon grounds not less unphilosophical, not less unscientific, than the popular conception of the syphilitic virus. The theory of the *virus* once accepted, *antidotes* are naturally in demand. Every remedy which aids to cure, or favorably modify, an attack of syphilis becomes an *antidote* of greater or less efficiency. The mode of its operation is not important; the result alone is of interest. This was the case in the fifteenth century, when mercury was first claimed to antagonize syphilis. It is of historical interest to know it was so vigorously used as an antidote then, and from time to time since; that while often recognized as producing beneficial results in the treatment of syphilis, it was alleged by many distinguished contemporaneous writers to have done more harm than good. But with all the abuse which has been heaped upon it,

much of it well deserved, we find as late as 1874, in the great discussion on syphilis which took place before the Clinical Society of London, in January of that year, Mr. Jonathan Hutchinson, senior surgeon of the London Hospital, and one of the most distinguished of living authorities on syphilis, distinctly claiming that "mercury is a true *antidote* to syphilis." Thus he says:² "I will at once express my belief that the drug is a real antidote for the poison, and that, if it is carefully and fully employed, it is capable of procuring the complete extinction of the malady." Mr. Hutchinson then goes on to explain what he means by the term antidote in this connection. For he says: "By an antidote we mean something which not merely conceals, but which counteracts and neutralizes. A chemical antidote effects a combination and produces a harmless compound. A vital or physiological antidote in all probability kills. It is in this sense that I wish to use the term as applicable to mercury in its relation to the living syphilitic virus." He then goes on to say: "The facts that we possess seem to warrant a belief that it (mercury) really destroys *it* (the syphilitic virus); that it prevents *its* breeding in the blood, if that process have not already taken place, and, if *it* have, cuts short *its* life in the tissues." I have thus quoted Mr. Hutchinson's views on the treatment of syphilis, because he is accepted at home and abroad as a great clinical authority; one who, perhaps, more than any other English-speaking writer, represents the present status of syphilitic science.

Mr. Hutchinson's conclusions in regard to the action of mercury as a "real antidote to the poison" of syphilis, it is proper here to state, are based upon purely *clinical* grounds. He accepts the virus of syphilis as a distinct entity on traditional evidence and without comment. *Clinically*, in his experience, mercury "*prevents it* (syphilis) *from breeding in the blood*, if that process have not already taken place, and, if it have, *cuts short its life in the tissues*;" and yet Mr. Hutchinson does not attempt to explain or even to suggest what is the "*it*" which he calls syphilis, except that it is a *living virus*. Mr. Hutchinson speaks of mercury "*preventing syphilis breeding in the blood*," and by the same means "*its life is cut short in the tissues*." The virus is then at times in the blood and in the tissues, but whether as one independent, living animal organism, *sui generis*, or a vegetable spore, we are left to conjecture. We are only told that whatever it is, mercury is its antidote. In his able and extended clinical observations Mr. Hutchinson has recognized the fact "that in practice a good many cases are really cured by mercury, the cure being proved by the restoration to good health, and in some cases by renewed susceptibility to contagion;" "that many cases of indurated chancre treated early by mercury never show any of the characteristic symptoms of the secondary stage;" "that when mercury does not wholly abrogate the secondary stage it exhibits a remarkable power in delaying it," etc. These conclusions, with others resulting from his clinical experience, have induced Mr. Hutchinson to claim and to teach that "mercury is a true antidote to syphilis." It is evident, however, that it is not an antidote in any true sense, and for the reason, among others, that (as claimed by Mr. Lucas, of London, also an authority in such matters)³ in most known antidotes the remedy

¹ Continued from page 197.

² London Lancet, January 17, 1874, page 87.

³ London Medical Times and Gazette, January 31, 1874.

bears some definite relation to the poison it modifies, or at least if added in quantity to the virus it may be expected completely to destroy it; but in syphilis the continuous administration of mercury for months fails to destroy the poison, so that some consider it desirable to continue the drug for two years after infection." Mr. Hutchinson himself says¹ that "in order to secure the antidotal efficacy of mercury against syphilis, it is desirable to introduce a considerable quantity into the system, and to protract its use over a very long time;" and "that pyralism and other evidences of the physiological action of mercury, so far from being beneficial, are, if possible, to be carefully avoided, since they prevent the sufficiently prolonged use of the remedy." In any case it is quite clear that no advantage has been gained by the assumption of Mr. Hutchinson that mercury is a real antidote to syphilis. No indication of any practical value is suggested by it in the treatment of the disease, that had not already been acquired from clinical experience. On a previous occasion the venerable and renowned syphilographer, M. Philip Ricord, announced before the Clinical Society of London the conclusions to which his clinical experience had then brought him, namely, that the *cure of syphilis was possible; but only through the systematic administration of small doses of mercury, always falling short of pyralism, and continued for at least one year.* This without any suggestion of the manner in which the mercury was supposed to act. He had found out this plan by careful experiment and intelligent observation. Mr. Hutchinson was led to the same conclusion and plan through the same or similar influences. The suggestion or claim that mercury acted as an antidote to syphilis was, then, without value in a practical point of view, and was objectionable, inasmuch as, under the influence of such an idea, the temptation to over-dose with mercurials would always present itself unless the practitioner had been chastened by a long and intelligent practical experience. Baimler, a distinguished and recent German authority, is inclined to accept the antidotal view. Thus he asks,² Are there remedies which act as direct antagonists to the virus of syphilis? And he answers, "In accordance with the experience of the last three centuries in the treatment of syphilis the answer to this question must be that *mercury appears to be such a remedy;*" but a little further on (page 278) he says "the intimate nature of its action is still veiled in obscurity."

My object in calling your attention thus specifically to the teachings of these recent eminent authorities is twofold: first, to bring you to appreciate the great value in which the mercurial treatment, first begun over three centuries ago, is still held; second, to show that this valuation has resulted from a clinical observation alone, and not from any real knowledge or appreciation either of the true nature of the syphilitic virus or of the manner in which the curative changes recognized as following its judicious use were effected. In other words, the present mode of its use as considered most judicious, and commended for general adoption by M. Ricord, Mr. Hutchinson, Herr Baimler, and all who accept their teachings, is still experimental and thus without scientific basis. *Mercury is administered because experience has shown that it cures syphilis.*

What we require now in order to make this knowl-

edge scientific is an explanation of its action based upon the known powers of mercury in its relations to living organisms and tissues, and an appreciation of the true nature and composition of the material which constitutes what we call syphilis. After a varied observation of over three centuries clinical experience has failed eminently in affording us this knowledge. Every clinical effort to penetrate the mysteries of syphilis through the assumption of a virus has proved futile. Modern science has applied the microscope in search of a syphilitic virus, and has become weary with its failures to discover a specific material or organism as its representative. Occasional suggestions that syphilis might possibly exist independently of any specific property or virus may be found in medical history. Broussais, the founder of what was known as the physiological school in France, made a profound impression upon the profession at large by denying (in accordance with the doctrines of his school) the existence of a virus in syphilis, and claiming that the treatment suitable for ordinary inflammatory affections was sufficient for the treatment of syphilis. Eminent medical men in Germany and England have also from time to time practically supported this view, and condemned the use of mercury in the treatment of syphilis. But the denial of the existence of a specific virus by Broussais and his followers was based upon purely theoretical grounds, and did not furnish any logical explanation of the nature or peculiar characteristics of the disease. The only practical result attained by this school was (through elimination of mercury from the treatment) to demonstrate that persons affected with syphilis might recover without the use of mercury. Mercury may thus be looked upon as a power to aid in curing the disease; although in abeyance at times to some extent by reason of injudicious use of the drug, and the fact that in accordance with Broussais's claim the disease would sometimes go on to recovery under simple treatment, it has nevertheless retained its reputation, and as a remedial agent is at the present day esteemed by the most experienced and judicious surgeons and medical men throughout the world as the remedy of greatest value in the treatment of syphilis. At this point, gentlemen, I would like to suggest that in full agreement with what has been said in regard to the nature and behavior of syphilis, it appears to me quite possible to accept the foregoing statement as to the value of mercury in the treatment of syphilis, and this, too, without accepting the assumption that mercury in its curative effect on syphilitic disease acts alone, or even chiefly, as an *antidote* to the so-called syphilitic virus.

A pregnant suggestion in regard to the mode in which mercury may act in curing syphilis is made by Mr. Clement Lucas, in the *London Medical Times and Gazette*, of January 31, 1874, in a reply to Mr. Hutchinson's claim that mercury acts as an antidote in syphilis. There, after remarking that even Mr. Hutchinson considered that the continuance of the mercurial treatment for a year might be necessary to obtain security against a relapse, he says: "During all this time the remedy circulates through the tissues containing the poison, yet fails to eradicate it, so that on omitting the remedy the symptoms again appear." "Surely," says Mr. Lucas, "the facts are far more consistent with the hypothesis that mercury attacks only the effects of the syphilitic virus, which in time exhausts itself upon the tissues, — that, in fact, the action of the drug is to *dissolve the tissues of the products of a specific inflam-*

¹ London Lancet, January 31, 1874, page 159.

² Ziemssen's Encyclopædia, American edition, 1875, vol. iii., p. 275.

nation, and in this way to bring about an apparent and perhaps a permanent cure."

We have a work here suggested which is eminently in the line of the recognized power and influence of mercury, namely, to relieve tissues encumbered with superfluous and obstructive material. The question as to whether this material may be properly designated as "the products of a specific inflammation" is not important for us to raise at this time; or whether it is, strictly speaking, the effect of a virus or not is not now at issue. Of one thing we are certain, and that is, of the power of mercury in hastening metamorphosis of tissue, of bringing about a fatty degeneration, and thus favoring the elimination of its living animal material, normal and abnormal. We know that while tissue change is favored by various conditions — by various medicines — mercury stands at the head of the list as an agent in effecting it. Consequently, if we had the tissues in syphilis encumbered with superfluous and obstructive living material of whatever character, the only way known to science whereby it could be physiologically eliminated would be through a tissue metamorphosis which mercury in various forms is best capable of inducing. In such case the mercury would still remain the remedy par excellence in the treatment of syphilis, — not with the purpose of antidoting a virus which may or may not have produced the difficulty, but with the legitimate and scientific object of adapting the best known means to the accomplishment of an intelligent purpose.

It is hardly necessary for me to remind those of you who have followed this course of lectures from their commencement that the first evidence of syphilitic action in all cases is the accumulation of superfluous living material in the tissues; that the first evidence of its effect, as shown you in repeated clinical instances, is in *encumbering the tissues*, producing in the initial lesion, by simple mechanical pressure caused by its presence, the various interferences with nutrition which result in the different appearances and grades of necrosis which are found characteristic of the initial lesion of syphilis. What has been presented to you clinically has been illustrated and enforced with the results of microscopic examinations of able and distinguished scientists. I propose now to put a practical point upon this view of syphilis, by directing your attention to an uncomplicated initial lesion in this young man, whom you may indicate in your note books as —

CASE XIV. The exposure in this instance was about four weeks ago. On the morning following he noticed a slight chafe just within a somewhat redundant prepuce. This healed promptly under the use of a little simple dressing, and no further attention was paid to it until yesterday, when this little hard lump, about the size of a small pea, was discovered. It is, as you see, quite free from inflammation; not sensitive to the touch; movable in the loose cellular tissue of the prepuce. This, in connection with a suspicious exposure a month ago, and several enlarged and painless glands in either groin, warrants us in considering the nodule, although entirely free from tissue necrosis, an initial lesion of syphilis; we again see here that the process of ulceration is not essential to the initial lesion of syphilis. Having settled this point, the next is the question of treatment.

In the first place, we can assume that there is not the least doubt of the sort of material making up this nodule. The microscope has settled that. It is made up

of cells closely packed in the tissue, so that, with the development of perhaps a few of the best of them into connective tissue, the mass is indurated in a characteristic way. The bulk of the little tumor is composed of cells which are possessed of the capacity to infect with the peculiar syphilitic influence. I have alluded on a previous occasion to the fact that all cells are capable of a sort of infection, an influence which may be exerted favorably or unfavorably when brought into contact with other cells. In this case, the cells have proliferated hastily, and in excess of the necessities of nutrition of the part — hence the accumulation; hence, also, the induration. The effect, then, of contact of the hastily generated cells composing this nodule with healthy white blood cells, such as they would always come into contact with when applied to any living human tissue, is found to be to induce them to a similar hasty proliferation. This, I desire distinctly to be understood as claiming, is all there is of the so-called virus of syphilis. It is an *influence*, and not a material substance. Degenerated cells impressed in some unknown way with the tendency to hasty development. Living too fast, they lose in this way in greater or less degree their formative capacity — their ability to develop into useful tissue. Their natural infective power is increased with their degeneration, and this power or influence is no more a material virus than is the manner by which a vicious human being exerts a pernicious effect upon those with whom he is brought into contact. This position is amply fortified by the results of microscopical and clinical observation. As a natural consequence of the proliferation of such degraded cells, we find them heaped up in the tissues at the point of first introduction. What we term the point of *inoculation*, and the first result capable of clinical appreciation, is a nodule like the one under consideration. We call it the initial lesion of syphilis. If there is anything more of the initial lesion than what I have just told you, it has not been demonstrated, and the claim to it is based upon the purest conjecture. What we have to deal with practically is the accumulated mass of cells composing the initial lesion. This view of the case has been virtually supported by Auspitz, in 1877, and Kölliker, during the last year (1878), who claim to have prevented systemic infection by excision of the initial induration, in some cases, and modified the course of the disease in others. And this fact Auspitz very naturally regards as a proof that "*the initial sclerosis is not a pathological result of a preëxisting general systemic infection, but a starting-point, or an original depot, for the infective material by which syphilis is transmitted.*"

The number of cases reported by Auspitz and Kölliker, some forty in all, do not, however, seem to me to be sufficient to warrant any positive claim to the prevention of general infection by excision of the initial lesion of syphilis. The manner in which infection takes place (any moment after which might carry an infected or degraded cell into a lymph vessel and thus out of reach) would appear to render it, at the least, highly improbable that every infecting cell could be removed by removal of the initial lesion. But the procedure is in complete harmony with our view of the case, and it is what I practice, when agreeable to the patient, and advise in all cases when the initial lesion is situated upon or in loose tissue, as in the present case. Under favorable circumstances, as in the present instance, the operation is a very simple one. Thus:

the indurated mass is raised between the thumb and finger and encircled with a bit of fine silver or malleable iron wire, being careful to include the entire induration. Now, with a narrow, sharp-pointed bistoury, pierce the tissues at the centre, beneath the compressing wire, and cut well under and out, including all the induration and a little of the sound tissue. Then, reversing the knife, the remaining half of the nodule is excised, again also carefully including a little sound tissue, so as to make sure of getting rid of all the indurated material. Three or four interrupted silk sutures secure perfect coaptation of the edges of the wound, and we may confidently expect union by first intention. In about a dozen operations of this sort I have never failed to obtain union by first intention. Under similar conditions the operation is equally applicable to *open* initial lesions. As illustrative of one of the collateral advantages of this mode of treatment, I will cite the case of a gentleman who came to my office some time since, presenting a classical initial lesion on the loose tissue, just behind the fossæ glandis. The induration was as large as a large almond, and the tissue necrosis had excavated a space in it the size of my thumb nail and a quarter of an inch in depth. He had been under local treatment for this nearly three months. His constitutional symptoms had been progressing favorably under a mild mercurial course, but the sore refused to heal. A cable dispatch received from his wife the day previous, announcing her intention to take that day's steamer for home, had occasioned a somewhat sudden determination to solicit a change of treatment. After thoroughly cleansing the lesion and bathing it with a five per cent. solution of carbolic acid, I excised the entire mass, closed the wound with a half dozen sutures, applied a simple carbolated dressing, and sent him home, with directions to keep the recumbent position for three days. At the end of that time I removed the stitches and found union by first intention throughout. By the time of the arrival of the steamer there was not the slightest trace of induration; a faint red line alone indicated the site of the former trouble.

Now, if the syphilitic material were always within reach of the surgeon's knife, the treatment of it would be greatly simplified. Unfortunately, even the cases where we can remove the initial lesion *en masse*, the same degenerated cell material which alone constitutes it has found its way, in the manner previously described to you, into the adjacent lymphatic channels and glands, inevitably destined to gain access to the general system, in quantity greater or less according to the peculiar circumstances and idiosyncrasies of each individual case. Notwithstanding, then, that we may successfully remove the initial lesion of syphilis with the knife, and by this means, as I believe, favorably modify the subsequent course of the disease, it is still necessary to use other measures to eliminate the remaining degenerate cell elements from the system.

With the acceptance of the material views of syphilis as here taught, every manifestation during the active stage of the disease, excepting the syphilitic roseola which has been claimed as a physiological phenomenon, is just as much the result of the mechanical presence of a vitiated cell accumulation as is the induration, and the consequent different grades of necrosis of the initial lesion in its varieties. What we want, then, for the treatment, for reducing in the first place

these enlarged inguinal glands, for instance, is some means or measure capable of breaking down and eliminating this newly-formed germinal material which makes up the enlargement, of hastening the tissue metamorphosis, by which means alone it can be removed from the affected system.

Mercury has been shown to be such an agent, and we administer it here, not in an empirical way as an antidote to a hypothetical virus, but, in accordance with known scientific principles, for the distinct purpose of effecting the disintegration and elimination of the cell elements which alone have been recognized as the source of trouble. Clinical experience has taught us that small doses of mercury administered for a long period is the mode of treatment which has proved most effective and harmless. Scientific deduction from the presenting conditions as shown by the microscope, and the known nature and powers of the proposed remedy, bring us logically and inevitably to the same conclusion. We have, for instance, an excessive living cell material encumbering the tissues, — a material hastily generated, and hence holding its life by a feebleness of tenure than healthy living cell and tissue material. We have also an agent acknowledged to stand first in its power to hasten tissue metamorphosis, and to bring about the fatty degeneration of healthy tissue. Paris, in his *Pharmacologia*, informs us that the characteristic effect of mercurialization upon a healthy person is an excessive flow of saliva of a peculiarly fetid character, and that this factor is due to the decomposing fat which has resulted from the rapid tissue metamorphosis which the mercury has induced. If, then, mercury is recognized as effecting the fatty degeneration and decomposition of *healthy* structures, we may readily accept it as in a higher degree capable of effecting the same result in material of similar nature, but degenerated, and hence with less power of resistance. It is at once seen that such an amount of mercurial as would effect the metamorphosis of the hastily generated and weaker material might fail to affect the normal healthy structures in any appreciable degree. And it must also be equally apparent that such an administration of the agent as would strike just this happy medium would constitute a treatment of the highest excellence. We are led then at once, and logically, to precisely that method of prescribing mercury in the treatment of syphilis which the most experienced and wisest of our profession have been years in arriving at. It only remains to test by actual experience the amount of mercury which can be borne without damage in a given case, to know the most judicious and effective way of curing the disease.

Again, by arriving at this plan of treatment not empirically, but as the legitimate result of scientific deduction, we are not tied to a remedy which experience has shown to be beneficial, or which is warranted to act as a specific, an antidote, or a tonic in the cure of syphilis. It is the principle which guides us, and upon this principle we make legitimate use of other agents which are of known power in inducing tissue metamorphosis, such, for instance, as the iodide of potassium, which by a curious coincidence, second only to mercury in its known power of setting up fatty degeneration, is also second only to it, in the estimation of the highest authorities, in its curative influence on syphilis; and again, when, on account of condition or idiosyncrasy, the system of the patient is found to be wholly intolerant of the use of mercury, or of the iodide of potassium,

other medicines and means which are known to act in bringing about the same result.

It is a significant fact, and one which gives great strength to our position in this matter, that every medicine or mode of treatment, which during the last three centuries has found even temporary favor in the treatment of syphilis, is now recognized as of value, greater or less, in hastening tissue metamorphosis.

Thus the ancient sweating cure by use of decoctions, which was in vogue during the whole of the sixteenth century,¹ and is still esteemed in various countries; and also by baths in conjunction with other remedies, as at the Hot Springs of Arkansas, so justly famed at the present day; the starvation cure and treatment by laxatives, greatly employed by the Portuguese to the exclusion of mercury,—in fact, the treatment chiefly by laxatives, as the Zittman's decoction, is esteemed by the Germans at the present day; then the syphilization cure, of which Professor Böck was the great exponent, and in opposition to this the tartar emetic or so-called tartzarization cure, pustules in the former produced by inoculation of unhealthy (syphilitic or chancreoid) pus, and in the latter by the application of the potassio-tartrate of antimony,—all these remedies and measures will at once be recognized as chiefly capable of inducing or hastening fatty metamorphosis, and hence, through the manner explained, to a greater or less degree would promise to be curative in syphilis.

In view of the weight of evidence, then, which has been brought to show the value of the mercurial treatment of syphilis, we shall find it advisable to prescribe it in the case before us. The evidence of syphilitic action is here distinctly present in the glands of the groin. As yet there are no characteristic gland enlargements in the cervical region. While we can scarcely hope to prevent these, we can at least hope to modify favorably any subsequent manifestations of the disease by the judicious use of mercury. Our usual formula in these cases is the one originally recommended by the late Professor Bumstead, namely, two grains of mass hydrarg., with one grain of the desiccated sulphate of iron made into a pill, three to be taken daily, one after each meal. At the end of a week we may find some evidence of the mercurial action in a slight sponginess of the gums. The patient will be directed to note such occurrence, and if before the end of the week, to omit the pills until we see him. Simple nutritious diet and avoidance of spirituous drinks and tobacco are advisable in all cases of syphilis, from the commencement to the termination of the active stage of the disease.

CASE XV. In this young man we have a clear history of a suspicious exposure four months since. He presents an open initial lesion, occupying the central part of the corona glandis; the induration, about the size of a half filbert, is perfectly characteristic; the inguinal glands are distinctly enlarged and painless, also those in the cervical and epitrochæan regions. He has here on his forehead, as you can see, and also on his breast and shoulders, very much like Case VII., papules, varying in size and of a coppery color. This is the papular syphilide previously described. As we examine his mouth we find several distinct mucous patches, simply a variety of papule before described. This patient may be said to be in the midst of the active period of syphilis; his treatment, according to his own account, has been very irregular and inefficient. The initial lesion, the gland enlargement, and the eruption

are all well marked, also the mucous patches. It is of common occurrence to find these lesions present together, and yet you will see many cases where in this stage only the gland induration is present, as in Case XVI. Here I show you the initial lesion equally well marked, also the enlargements of the groin and cervical region. I also discover in this case a small mucous patch inside the mouth, near the left labial commissure. Now, in regard to treatment, with the exception of the local measures especially necessary in regard to the mucous patches, we shall prescribe just the same pill as ordered for the first patient, and for reasons that you probably already appreciate, but which I will again call your attention to on another occasion. The local treatment of the open initial lesions is not important, as there appears to be no inflammatory complication in either case; keeping them dry by dusting calomel over them, and protection from friction of the clothes by application of a little lint, is all that will be required. Only when inflamed do they require special attention, rest, poultices, and sedative dressings. The real cause of the persistence of these open lesions is the induration dependent upon the cell accumulation; this we can only hope to reach by our internal remedies. The mucous patches we will touch thoroughly with a solution of nitrate of silver, one drachm to the ounce of distilled water, and reserve the especial reasons for this until our next session.

Original Articles.

THE MEDICO-LEGAL RELATIONS OF ALCOHOLISM: ITS PATHOLOGICAL ASPECTS.¹

BY G. K. SARINE, M. D.

I. ACUTE ALCOHOLIC POISONING.

The pathological anatomist meets with two classes of cases of alcohol poisoning, the acute and the chronic. The former is not unfrequently the immediate cause of death, the latter rarely so. That fatal cases from acute poisoning are not so rare as might be supposed is shown by the fact mentioned by Taylor, that in four years (1863-1867) thirty-five deaths from this source occurred in England and Wales alone.²

In describing the post-mortem appearances it will be necessary to describe those belonging to the two classes separately. The statements of different observers vary greatly in regard to these appearances, and in many respects are entirely contradictory. This is due, no doubt, to the want of making a proper distinction between the acute and the chronic forms, many symptoms thus being considered as due to acute poisoning which are in reality met with in chronic cases only.

Within a short time the effects of the different kinds of alcohol in poisonous doses upon dogs has been thoroughly investigated by Dujardin-Beaumetz and Audigé. These investigations were carried on by means of more than two hundred and fifty experiments upon as many different animals, and the general conclusions drawn from them were as follows:—

“In animals which succumb to acute alcoholic poisoning anatomical lesions are constantly found, which vary in intensity with the strength of the alcohol. These lesions occur especially in (1) the digestive organs; (2)

¹ Read at the annual meeting of the Massachusetts Medico-Legal Society, June 8, 1899.

² H. C. Wood, Therapeutics, Materia Medica, and Toxicology.

¹ Bäumler, Ziemssen's Encyc., vol. iii., p. 279.

the circulatory and respiratory organs; (3) the nervous system; and (4) the kidneys.

"(1.) *Lesions of the Digestive Organs.*—In regard to the stomach the changes are less marked when the alcohol has been administered subcutaneously, and then only a slight redness towards the pyloric extremity is perceptible. But when the alcohol is administered by the œsophagus the lesion is more marked, and, in certain cases, the mucous membrane is more or less softened; the effects depend on the strength of the alcohol, being much more marked when the alcohol is concentrated, and therefore more caustic.

"The alteration in the small intestine is more constant and more marked when the alcohol has been administered hypodermically; it exists more especially in the upper part of the intestine, but when death is protracted it occurs throughout its whole length. The intestinal mucous membrane is then softened, its surface of a dark-red color, and it presents, in the majority of cases, more or less abundant hæmorrhages. These appearances may be accounted for by the elimination of the alcohols by the intestinal glands.

"In the large intestine a hæmorrhagic appearance is met with, especially towards its inferior extremity and on the longitudinal bands.

"The liver is the gland most seriously affected in acute alcoholic poisoning; this organ, always very quickly congested, is soft throughout and friable; it can be torn between the fingers and the hepatic cells may be destroyed in a great measure. The spleen is also engorged with blood and its tissue softened. Finally, in a certain number of cases, the head of the pancreas is found to share in the congestion presented by the duodenum.

"(2.) *Lesions of the Circulatory and Respiratory Organs.*—In acute alcoholic poisoning, the blood is essentially altered; it is blackish and forms more or less abundant clots in the heart. The pulmonary lesions are characterized by a distention of the vascular system. This congestion is frequently more marked when the alcohol has been introduced by the stomach, and in these cases there are ecchymoses at the base of the lungs.

"(3.) *Lesions of the Nervous System.*—Lesions of the cerebro-spinal axis are characterized by considerable venous congestion of the meninges. In the brain the veins and the sinuses are engorged with blood and the gray matter is also somewhat congested. These cerebral lesions are more pronounced the longer the comatose period continues.

"(4.) *Lesions of the Kidneys.*—These lesions are but slightly marked when caused by fermented alcohol, but when due to œthanolytic and caprylic alcohol are more pronounced. But it is above all in acute glycerine poisoning that they attain their greatest intensity; there exists then not only a congestion of the organs, but a certain quantity of blood is found in the bladder."

Lallemand, Perrin, and Duroy (*Alcohol et des Anesthésiques*) state that "marked anatomical changes are found in animals which have died from the administration of alcohol. The mucous membrane of the stomach and of the upper part of the small intestine is inflamed, sometimes quite violently. The liver is much more congested. The lungs show no signs of asphyxia or even real congestion. The right side of the heart and the large veins are filled with very liquid, dark blood. The meninges are engorged with blood. The alcohol is diffused through all the tissues and se-

cretions, but the brain, cord, and liver contain a much larger proportion than any of the other tissues."

So much for poisoning in the lower animals.

POISONING IN MAN.

On inspection, the dependent portions of the body are found discolored by hypostatic congestion. It has been claimed by some that decomposition sets in very slowly, but this is denied by others.

"The general appearances resemble more or less closely those of asphyxia; the right side of the heart, the pulmonary arteries, and the systemic veins being loaded with blood, while the left cavities and the arterial system are comparatively empty, the blood which they do contain being dark.¹ The sinuses and the whole venous system of the brain are turgid with dark blood."²

The blood is very fluid or imperfectly coagulated and of a dark color.³

The mucous membrane of the stomach is usually found very much injected, as indicated by either a bright⁴ or deep red⁵ color, covered with coagulated mucus (albumen),⁶ and sometimes ecchymosed.⁷ The congestion usually extends both into the œsophagus and into the small intestine.⁸

The action of strong alcoholic liquid on the mucous membrane of the stomach so closely resembles the effects produced by arsenic and other irritants as easily to give rise to the suspicion of mineral irritant poisoning.⁹

The amount of alteration in the gastric mucous membrane will vary, of course, with the quantity of alcohol taken, its degree of concentration, and the amount of food, etc., in the stomach.

A very few cases have been reported in which the mucous coat has been found in a sloughing condition. According to Baer frequently no lesions are perceptible. In such cases the fluid has been taken very much diluted.

Alcohol is found to be present in the contents of the stomach in variable quantity or entirely absent¹⁰ from the same, according to the quantity ingested, the rapidity of absorption, and the time which has elapsed between the last potations and the death of the individual.

The length of time that portions of it may remain in the stomach is consequently very uncertain. Taylor mentions a case in which a pint of spirits was taken and a fatal effect produced in eight hours, but no traces of it could be detected in the stomach. That it may entirely disappear from the stomach long before it is eliminated from the other organs is proven by a number of cases of more or less chronic poisoning related by Magnan. In one of these three days and six hours had been passed without excess in drink; the liver and

¹ Carpenter on Alcohol.

² Woodman and Tidy, *Forensic Medicine and Toxicology*; Carpenter on Alcohol.

³ Casper, *Forensic Medicine*, vol. ii.

⁴ Taylor on Poisons; Christison on Poisons; Birch-Hirschfeld, *Lehrbuch der Pathologischen Anatomie*.

⁵ Wood, *Therapeutics, Materia Medica, and Toxicology*; John M. Reese, *Manual of Toxicology*; Oesterlin, *Heilmittellehre*; Taylor on Poisons; Woodman and Tidy, *Forensic Medicine*; Birch-Hirschfeld, *Lehrbuch der Pathologischen Anatomie*.

⁶ Oesterlin, *Heilmittellehre*.

⁷ Wood, *Therapeutics, Materia Medica, and Toxicology*; Oesterlin, *Heilmittellehre*; Birch-Hirschfeld, *Lehrbuch der Pathologischen Anatomie*.

⁸ Woodman and Tidy, *Forensic Medicine*.

⁹ Taylor on Poisons.

¹⁰ Oesterlin, *Heilmittellehre*.

brain contained alcohol, but none was found in the blood or other organs. In another patient who had died fifty hours after his last potation, alcohol was found in the liver, brain, and blood in very appreciable quantity; the lung also contained traces.

When present, as it probably almost always is,¹ at the time of death in cases of acute poisoning, the contents of the stomach will of course possess the odor of the liquor ingested, unless masked by some other substance present.

The mucous membrane of the respiratory tract exhibits a widely spread and intense injection of the blood-vessels;² the bronchi are filled with frothy mucus;³ more or less hyperemia of the lungs may always be expected;⁴ they are very often found in a state of œdema;⁵ still more frequently hypostases and hepatisation are discovered in their posterior and inferior portions.⁶

The liver, kidneys, and spleen are usually found loaded with venous blood.⁶

The presence of alcohol may be detected in the liver even after it has entirely disappeared from the stomach and all the other organs with the exception of the brain, for it is these two organs which show the greatest affinity for it.⁷

Nearly all authorities state that the veins of the cerebrum and cerebellum together with their membranes are engorged with blood.⁸ According to Birch-Hirschfeld, however, the substance of the brain itself is frequently found anæmic and celeratous.

According to some an effusion of serum⁹ is frequently found within the ventricles or beneath the arachnoid, and according to many others an effusion of blood¹⁰ is very apt to take place, especially in the latter locality. It is probably somewhat doubtful how frequently these effusions take place in the most acute cases. The statement that hæmorrhagic apoplexy occurs quite constantly seems to be founded on a very limited number of cases.

Through the kindness of Dr. Harris and Dr. Amory, of this society, I have been enabled to obtain the autopsy records of two cases of undoubted acute alcohol poisoning, which fell into their hands for examination, and Dr. Wood, of the Medical School, has kindly furnished me with an account of the result of the chemical analyses in the same cases. Dr. Draper has also published an account of the examination of a more or less chronic case in the Transactions of this society, volume i., No. 1.

Dr. Harris's Case.—Two women of bad character were induced in the evening by sailors to go on board a vessel lying at one of the wharves, where they drank a large quantity of Spanish rum, known as *aguardiente*.

¹ Christison on Poisons.

² Boehm, Ziemssen.

³ Carpenter on Alcohol.

⁴ John M. Reese, Manual of Toxicology; Casper's Forensic Medicine; Woodman and Tidy, Forensic Medicine and Toxicology; Wharton and Stillé's Medical Jurisprudence; Lallemand, Perrin, et Duray, Alcohol et des Anesthésiques.

⁵ Boehm, Ziemssen.

⁶ Carpenter on Alcohol.

⁷ John M. Reese, Manual of Toxicology.

⁸ Oesterlin, Heilmittellehre; John M. Reese, Manual of Toxicology; Wharton and Stillé's Medical Jurisprudence, Part I.; Casper's Forensic Medicine; Taylor, Treatise on Poisons; Birch-Hirschfeld, Lehrbuch der Pathologischen Anatomie; Lallemand, Perrin, et Duray, Alcohol et des Anesthésiques.

⁹ Oesterlin, Heilmittellehre; Carpenter on Alcohol; Taylor on Poisons; Manual of Toxicology, John M. Reese.

¹⁰ Wharton and Stillé's Medical Jurisprudence; Tardieu, Étude sur l'Empoisonnement; Taylor on Poisons; Woodman and Tidy, Forensic Medicine and Toxicology; Christison, Treatise on Poisons.

At two in the morning one of the women was found dead.

Autopsy fourteen hours after death.

Rigor mortis marked. Lividity of dependent portions of the body. An abrasion of the mucous membrane in the lower part of the vagina, one by one and one half inches was discovered. No other marks of violence.

Section. The lungs were bound to chest walls, especially posteriorly, by not very firm adhesions. The heart presented no very unusual appearances except that the muscle was a little lighter colored than usual. The abdomen contained about one ounce of dark-colored fluid. The lungs were slightly congested, and the bronchi contained a little frothy mucus.

The kidneys were firm, quite dark in color, with the pyramids very strongly marked. The internal surface of the stomach was intensely congested, the contents (about two ounces) smelling strongly of rum. The brain was of normal consistency, the vessels of the pia mater not overloaded; the puncta cruenta were, however, strongly marked. The uterus contained free, dark blood, and in the right ovary was a corpus luteum of menstruation. The intestines and bladder presented nothing unusual. The spleen presented appearances of old inflammation. The liver, brain, stomach and contents were reserved for chemical analysis, the kidneys, part of heart and uterus for microscopical examination.

Dr. Wood isolated from the contents of the stomach one half cc. of alcohol, 0.825 specific gravity, which contains eighty-nine per cent. of absolute alcohol, and from one half of the brain two cc. of alcohol of the same strength. This corresponds to four cc. in the whole brain, and since eighty-nine per cent. is about double the strength of ordinary spirituous liquors, the amount found in the brain corresponds to about eight cc. of ordinary liquor.

Dr. Amory's Case.—A man about forty-two years old left home in the company of a friend. Two hours later, after visiting a number of places where liquor was sold, and drinking freely, he was brought home in a comatose condition, and died shortly after.

Autopsy seven hours after death. Body well developed. Face livid. A superficial cut just beneath left orbital ridge, from which a small quantity of blood was slowly oozing. Thick layer of fat under the skin. The deceased wore a truss for double inguinal hernia. Left inguinal canal open, the right closed. Diaphragm on the right side opposite the fourth rib and opposite the fifth on the left. Pigmentary deposits in both lungs. Old pleuritic adhesions on posterior surface of right lung chiefly confined to the lower lobe. Pericardium contained about one half ounce of serum. Left ventricle contracted, right flaccid. Mitral valve admitted two fingers with difficulty, tricuspid three readily. No clots in heart or large vessels. The posterior portion of the lower lobe of right lung engorged with blood, but pressure caused crepitation. A small cyst about the size of a pea on the periphery of right kidney. The external surface of stomach considerably congested the internal intensely reddened, showing the action of some irritant substance. The rugæ quite prominent. The contents consisted of fragments of meat, potatoes, and carrots, and about one and a half pints (by estimate) of fluid smelling of alcohol. No clot found in any part of body or blood-vessels. Vessels of pia mater moderately filled with blood.

Dr. Wood isolated from the contents of the stomach 33½ cc. of eighty-nine per cent. alcohol, and about one half cc. of the same strength from one half of the brain.

The medical examiner meets with another class of cases much more frequently than with the preceding. These are cases in which the subjects have been addicted for a long time, during life, to alcoholic excess and have died during a debauch, the immediate cause of death being either some exposure to cold, some chronic disease caused by the long-continued use of alcohol, or the continued dose of alcohol in a system already very much weakened by its excessive use.

In these cases one is apt to meet with certain appearances which belong to cases of acute poisoning, if alcohol has been recently taken, such as redness of the gastric mucous membrane, fluidity of the blood, etc., and either few or many of the signs of chronic poisoning may also be present, but no one of them is constant or pathognomonic.

RECENT PROGRESS IN URINARY SURGERY.

BY THOMAS B. CURTIS, M. D.

LITHOLAPAXY.

THE new operation for stone in the bladder, called by its inventor *litholapaxy*, known also as "rapid lithotripsy with evacuation," or simply as "Bigelow's operation for stone," has lately been performed many times, both in this country and in England, with more success than its most enthusiastic advocates could have anticipated. Many cases have been reported during the last twelvemonth, not only by specialists in urinary surgery, but also by surgeons in general practice, and several important papers¹ have been published by recognized authorities, setting forth their experience and opinions. We propose to place before our readers a synopsis of the fresh testimony which has accrued since our last report upon this subject.

With regard, in the first place, to the originality of the discovery that a medium-sized stone, or even a stone of large size, could safely be crushed and removed in one sitting, not only without the patient being killed, but actually with less damage and danger than attended any other operation previously known, — with regard to this point it is now distinctly recognized without contestation that litholapaxy is a new opera-

tion, differing entirely and fundamentally from the old dilatory, would-be cautious, many-sitting method. The only resemblance between the old and the new lithotripsy lies in the fact that lithotrites, catheters, and washing-bottles constitute the armamentarium in both methods. These instruments, however, have all been greatly modified and improved, the principal and essential changes comprising, first, an enlarged catheter, and, secondly, a more powerful rubber bulb, whereby a larger and stronger stream of water, carrying fragments, can be drawn from the bladder. The instruments, although greatly improved and rendered much more efficient than before, have undergone less modification, perhaps, than the manner and object of their use. Teevan admits that "even if we had possessed Bigelow's perfect instruments we should not have dared to perform his operation if he had not shown us the great amount of instrumental interference the bladder will tolerate if we only take care to remove all the fragments at once. This is the grand point, and to Bigelow solely belongs the great merit of the discovery." As now executed, with the design of accomplishing, if possible, the entire removal of a stone in one operation, the new lithotripsy differs completely from the old. "The principles upon which it is founded," says Teevan, "are as widely opposed to those upon which ordinary lithotripsy was established as are the two poles to each other. The old method was sometimes spread over a period of months; the new one is the work of a certain number of minutes, and in this respect resembles lithotomy, the advocates of which operation used to urge that one of its great advantages was that, unlike lithotripsy, it rid the patient at once of his trouble." Dr. E. L. Keyes is equally explicit upon this point. "It is therefore," he says, "wide of the mark to imagine that Professor Bigelow's operation is a modification of any old procedure. The operation is a totally new conception, a new design which disclosed itself to its discoverer, a design which may be executed equally well with different instruments from those with which it was first performed. . . . Its success does not depend upon the instrument, but upon the method; the method is the operation. The method is prompt and entire fragmentation of the stone, immediate and if possible entire evacuation of the debris. No matter by what safe means through the urethra these ends are accomplished, litholapaxy, in Bigelow's sense, is performed."

The apparatus for crushing and evacuating the stone is constantly being modified, both by the inventor of the method and by others. The various changes, however, which have been made since Dr. Bigelow first made his method known have all related to unessential details, in regard to which every one is free to follow his own natural bent in the direction of simplicity or complexity. However great the diversity of instruments from which the lithotritist can now choose, all have certain essential characteristics in common. The lithotrite, it is agreed, often needs to be larger and stronger than was formerly necessary; and it must be so constructed as to be incapable of becoming clogged or impacted to any considerable extent. The evacuating tubes must be as large in calibre as can safely be introduced through the urethra. The rubber bottle must be stout, so as to exert a sufficiently powerful suction; it must be securely trapped, so as to retain fragments; and it must be tight at all the joints, so as neither to leak nor admit air. Sir Henry Thompson's

1 W. F. Teevan. A Case. The Lancet, October 25, 1879, page 611.

R. Harrison. A Case. The Lancet, October 25, 1879, page 614.

W. J. Coulson. A Case. The Lancet, November 8, 1879, page 687.

G. Buckstone Browne. Three Cases. The Lancet, December 13, 1879, page 687.

Thomas Smith. Clinical Lecture and Case. The Lancet, January 10, 1880, page 43.

Sir Henry Thompson. Clinical Lecture. The Lancet, January 17, 1880, page 79.

Berkeley Hill. New Washing Bottle described. The Lancet, January 24, 1880, page 184.

E. F. Weir. On Litholapaxy. American Journal of the Medical Sciences, January, 1880, page 130.

W. F. Teevan. Lettsonian Lecture. The Lancet, July 31, 1880, page 162.

E. L. Keyes. Rapid Lithotripsy, with Evacuation. American Journal of the Medical Sciences, April, 1880, page 269.

E. L. Keyes. Litholapaxy. Annals of the Anatomical and Surgical Society, June, 1880, page 209.

W. W. Greene. Ten Cases. Boston Medical and Surgical Journal, July 15, 1880, page 51.

Sir Henry Thompson. Practical Lithotomy and Lithotripsy. Third Edition. 1880. Page 182.

new bottle, which he calls a modification of the aspirator of Clover, certainly works admirably well in his hands; but most surgeons prefer to have a flexible tube interposed between the heavy bottle and the catheter. Sir Henry Thompson discards this flexible connection (which Teevan considers the great improvement in Bigelow's aspirator above all others), on the ground that the route to be traversed by the fragments is lengthened by this addition. Experience shows, however, that the efficiency of the aspirator is not diminished thereby in any appreciable degree, while the manipulation of the apparatus is rendered easier and less fatiguing to the operator as well as safer for the patient. Sir Henry Thompson has not yet wholly adopted the single-sitting method, inasmuch as he limits the duration of an operation to thirty minutes, and devotes more than one sitting to the removal of the larger stones. He is therefore not yet quite prepared to appreciate the relief afforded in a prolonged sitting by the short flexible tube. One of Dr. Bigelow's latest aspirators is provided with double stop-cocks at the junction of the catheter with the flexible tube issuing from the rubber bulb, whereby all leakage is prevented during coupling and uncoupling. It has also a long flexible vent-pipe, by which air can be expelled and water drawn in when desired. Berkeley Hill's bottle is identically that of Clover, somewhat enlarged, slightly altered in shape, and with a stouter rubber bulb.

The evacuating tubes successfully used have varied somewhat in shape and size. Dr. Bigelow much prefers straight tubes, both for facility of introduction and for efficiency in evacuation. Coulson and Weir agree with him in regard to this matter. In size Dr. Bigelow's tubes are as large in every case as can safely be introduced, and their calibre generally ranges between 28 and 31 (French). Sir Henry Thompson uses the largest tube the urethra will admit. He advises tubes varying from 26 to 28, but adds that if a larger one can be introduced without violence so much the better. He states, however, that for small stones, such as are most common in practice, the largest instruments, lithotrites and tubes, are not necessary. Keyes has generally used curved tubes rather than straight ones. He finds that they "render the fragments less well, but often pass more easily." The size of the tube to be used in the healthy urethra should, he thinks, be adapted to the calibre of the second point of physiological narrowing at about the third inch, which, unlike the meatus, ought not to be cut. With regard to the apparatus by which litholapaxy may be performed, Keyes shows that the method is not to be considered as necessarily identified with the particular instruments originally used by the inventor. "Professor Bigelow," he says, "naturally prefers his own instruments for its execution, but they are not essential. With or without an anæsthetic any lithotrite may be used, any evacuating catheter, any washing bottle, and the operation remains the same, providing the aim of the operator is to relieve the bladder entirely of debris by aspiration without taking into account the time consumed."

The results which have been recorded thus far have been surprisingly good. In Keyes's paper, published last April, one hundred and seven cases were got together, among which were six deaths. To these cases may be added four recent operations by Sir Henry Thompson, one by Teevan, one by Harrison, and a fine series of eight operations (in which the average weight of the debris amounted to four hundred and thirty-two

grains) by Dr. W. W. Greene, all without a death. Two successful cases by Dr. C. B. Porter (one unpublished), and two additional unpublished cases by the author of this paper, bring the total up to one hundred and twenty-five, with only six deaths, making a mortality of 4.8 per cent., or one death in twenty-one cases. These data are, perhaps, not yet sufficiently numerous to allow the value of the new method to be accurately determined, but they appear very full of promise, especially when the size of many of the stones successfully dealt with is considered. By way of comparison it may be recalled that Sir Henry Thompson's "analysis of five hundred operations for stone in the bladder of the male adult" yielded a mortality of one death in every thirteen cases of the old lithotomy, and one death in every two and three-fourths lithotomies in cases unfit for the crushing operation.

Not only has the success of the new operation been remarkable, as shown in the low rate of mortality yielded by the foregoing statistics, but there is reason to believe that the subsequent condition of patients so treated is likely to be better than was commonly the case after treatment by the old method, when a successful course of lithotomy was so often succeeded by protracted or incurable chronic cystitis, with phosphatic deposits and recurrence of calculus. Sir Henry Thompson expresses a belief that "if the principle of crushing and removing all the calculus at one operation, when practicable without excess of manipulation, and always performed with delicacy and care, be adopted, the best guarantee is obtained against the existence of chronic cystitis afterwards."

After thus exhibiting the success of the new method, it is proper to notice what is said of its difficulties and dangers. Almost all those who have earned by personal experience a right to pronounce judgment agree that the operation is not an easy one, and that it should not be lightly undertaken by surgeons inexperienced in lithotomy. Sir Henry Thompson says that the extra work to be performed at a single sitting especially demands a practiced hand to do it safely, the operation, if the stone is hard and weighs four hundred or five hundred grains, requiring more skill and experience to accomplish it safely and successfully than the old operation by several sittings. Keyes asserts that the general surgeon is not competent to perform rapid lithotomy well until he has first learned how to manipulate the bladder carefully by a training at slow lithotomy. "The operation," adds Keyes, "promises to become general among surgeons, and in this protest that ordinary surgical training does not fit a man to operate in the bladder under ether I think most lithotritists will join." Weir also is of the opinion that litholapaxy needs more skill than is required in lithotomy, inasmuch as the danger of mechanical violence to the bladder is some ten or fifteen times greater than in an ordinary sitting of lithotomy. None but those, he adds, who have had experience in lithotomy, or who have familiarized themselves on the cadaver beforehand with all the required instrumental manipulations, should undertake the operation of litholapaxy. Cudge's opinion is that "the new plan should not be attempted by any one who has not already acquired by plentiful experience on the living, and by repeated experiments on the dead body, all the little knacks and tricks which go to make up successful lithotomy." Gouley and Green testify to the same effect.

The danger attending the operation consists mainly

in the liability to injury of the deep urethra during the repeated passage to and fro of large instruments distending the urethra, passing with difficulty, and acting with a powerful leverage. Injury to the bladder is less likely to occur, and is better borne. "The bladder," says Keyes, "is very patient when left empty after the injury has been inflicted. The deep urethra, on the other hand, resents violence much more positively. It is wise to inflict no injury in either locality, but if choice must be made, the deep urethra calls for the greater forbearance."

A question in regard to which differences of opinion and practice exist relates to the limit of time to be occupied in a single sitting. Dr. Bigelow's practice and precept have been to operate without much regard to time, with the object of completing the evacuation, if possible, in one sitting. In most cases the greater part of the stone is removed in a comparatively short time, perhaps in a few minutes; the remainder of the operation is devoted to seeking, chasing, and securing a few small, last fragments; and, finally, to a careful exploration of the bladder, whereby the completion of the undertaking is verified. Sir Henry Thompson, on the other hand, prefers to shorten the duration of the operation at the risk of leaving fragments requiring an additional sitting. Thus, in one case, where the stone weighed 521 grains, he first removed 329 grains in one sitting, lasting twenty-five minutes, and three days later, in a second sitting of thirteen minutes, he removed the remainder, weighing 192 grains. In another case, 308 grains were evacuated in eighteen minutes, and three days later, 15 grains more were removed. In yet another case, a first sitting yielded 158 grains, and a second 29 grains, a day or two after. Keyes has adopted no fixed limit, but proposes to operate as promptly as possible, and in a general way to accept one hour as the limit at which the sitting should close. If the patient's condition is good, however, and the ether is well borne, he thinks it would be better to prolong the sitting another half-hour, rather than leave angular fragments of any considerable size in the bladder. This is evidently a point in regard to which each operator must, in each case, use his best judgment.

Lastly comes the question of indications and counter-indications, and here we find that the introduction of litholapaxy has revolutionized the operative treatment of vesical calculus in adults of both sexes. Not only is the old "many-sitting" lithotripsy henceforth entirely superseded,—for no surgeon familiar with the new method could now think without repugnance of leaving the fragments of a partly crushed stone in the bladder,—but the domain of lithotomy is invaded and largely curtailed. With regard to the limits of size within which calculi may now safely be dealt with by lithotripsy, estimates vary somewhat. Teevan says that "in the present state of our knowledge and experience, enlarged and improved as it is by the introduction of Bigelow's operation, it may be said that any stone up to two inches in diameter may be crushed." In corroboration of this statement several striking cases may be cited. Thus, Thomas Smith in one case removed in a first sitting three ounces of stone, and in a second sitting, six days later, another ounce, the entire stone when removed weighing 1920 grains (124.4 grammes), or more than four ounces; four days after the second sitting the patient was discharged. Dr. C. B. Porter

four and five days, 1802 grains (116.7 grammes), the patient being discharged, well, five days after the last sitting. Dr. Greene evacuated from an adult female bladder 1015 grains (65.7 grammes) of stone; the patient recovered without an unpleasant symptom. Such are the resources afforded by the new method in favorable, uncomplicated cases.

When complications exist, additional difficulties and dangers are encountered. *Urethral stricture* is by no means an insuperable obstacle to litholapaxy, as the canal can be enlarged by various means so as to admit a tube sufficing for the evacuation of a small or medium-sized stone. Sir Henry Thompson advises gradual dilatation of the stricture by means of a tied-in catheter, after which a tube, No. 11 (English), may be used to remove the stone carefully reduced to a fine *débris*. Keyes advises a preliminary treatment of the stricture by dilatation or urethrotomy. *Hypertrophy of the prostate* rarely impedes the performance of the new operation, and the inability to empty the bladder, which is characteristic of this disease, renders indispensable the artificial evacuation of the fragments by aspiration. When *renal disease* (interstitial, suppurative nephritis, chronic pyelitis, pyonephrosis, "surgical kidney") exists as a complication with vesical calculus of long standing, manifesting itself by a liability to severe constitutional disturbance (rigors, severe urethral fever, diminution or suppression of urine) from sources of local irritation, the conditions are in the highest degree unfavorable for any method of operative treatment. In such cases, where formerly Sir Henry Thompson used to advise either a cautious performance of lithotripsy with short sittings, separated by long intervals for recuperation,¹ or else an immediate resort to lithotomy,² as the alternatives between which the surgeon could choose, unless, indeed, the conditions appeared so hopeless as to preclude all attempts at operative treatment; in cases so complicated by renal disease, he now recommends dealing with the stone in one operation by the new method of lithotripsy with evacuation.³ According to Teevan, "no kind or amount of renal disease forbids Bigelow's operation if the patient be physically fit for it."

NEPHRECTOMY.

A case of nephrectomy by abdominal incision was recently reported to the Royal Medical and Chirurgical Society by Mr. A. E. Barker.⁴ His patient, an unmarried female aged twenty-one years, had suffered for several months from severe lumbar pain and profuse hæmaturia. The diagnosis was movable kidney affected with encysted cancer. An operation resembling ovariectomy in almost every respect was performed under strict antiseptic precautions. The pedicle was transfixed and ligatured in two portions with silk, the ureter being tied separately. There was very little hæmorrhage and the subsequent shock was slight. Thirty-two hours after the operation, the condition of the patient till then having been promising, prostration and dyspnoea set in; she died within forty-eight hours. The autopsy showed thrombosis of the pulmonary artery, as the only cause of death, the condition of the abdominal cavity being found very satisfactory.

¹ Practical Lithotomy and Lithotripsy, second edition, 1871, page 242.

² *Ibid.*, page 280.

³ *Ibid.*, third edition, 1880, pages 199 and 239.

⁴ The Lancet, March 13, 1880, page 402.

Mr. Barker's report of his case is accompanied by a careful historical review and statistical analysis of all the cases of nephrectomy hitherto recorded. He had collected from all quarters twenty-eight cases in which, for various reasons, removal of the kidney had been performed or attempted. There were six cases of mistaken diagnosis, of which five terminated fatally. In two cases of neoplasms the operation could not be completed. Of the remaining twenty nephrectomies, deliberately undertaken and carried out, the motives and results were as follows: two operations were for fistula of the ureter, both successful; two for acute renal pain, one recovery, one death; two for calculous pyelitis, both fatal; three for injury of the kidney, two complete recoveries, one death; six for acutely painful movable kidney, with four complete recoveries and two deaths; four for neoplasms, with three recoveries and one death; and one for pyonephrosis, perfectly successful. Of the whole twenty-eight cases there were fourteen recoveries and fourteen deaths; but excluding the six cases of erroneous diagnosis, there were thirteen recoveries and nine deaths, two of the latter being desperate cases in which the operation could not be completed. In all the successful cases, recovery was complete, except as regards the possible recurrence of neoplasms. Of the thirteen successful operations, nine were lumbar, four ventral sections. Of the nine fatal cases, five were lumbar, four ventral. From his examination of the records, Mr. Barker was convinced that nephrectomy was not attended by any peculiar risks apart from those accompanying most grave operations, and that in proper cases it was a suitable and useful procedure. He thought that the lumbar incision was best suited for the removal of healthy or comparatively healthy kidneys, for cases where there had been much perinephritic inflammation, for pyonephrosis and hydronephrosis, and perhaps for the smaller neoplasms, especially if fixed. On the other hand, the ventral incision appeared best suited for the removal of movable kidneys, healthy or diseased, especially when the seat of a voluminous neoplasm; also for ordinary cysts not fixed by inflammation. The difficulty in the case of neoplasms of removing the diseased lymphatic glands about the hilus of the kidney would be much less with a ventral than with a lumbar operation.

In the discussion which followed the reading of Mr. Barker's paper, Mr. Knowsley Thornton alluded to the case of a girl seven years old with hydronephrosis. Six pints of fluid had been evacuated by aspiration. The cyst was removed by laparotomy with an incision extending from one inch above the umbilicus to an inch and a half below it. After laying open the peritoneal capsule, the cyst was shelled out, and its pedicle brought into view. The renal artery and vein were tied separately, about an inch from the aorta, and the whole pedicle was secured by three ligatures. The child was up on the eleventh day. Mr. Thornton thought that in cases of hydronephrosis abdominal section was to be preferred to the lumbar operation advocated by Mr. Barker.

Mr. Clement Lucas was of the opinion that extirpation of the kidney by either method was perfectly justifiable; it had been shown that one kidney could be removed successfully. The choice of the operation would depend on the size of the mass to be removed. The chief dangers were from secondary hemorrhage and thrombosis.

Mr. Holmes called attention to the fact that the autopsy in Mr. Barker's case showed that the cancer was

already generalized; and questioned whether so formidable an operation was indicated under such circumstances.

Prof. A. Martin's case of nephrectomy¹ for encephaloid disease of the kidney was one of the cases passed in review by Mr. Barker. The patient, a female, aged fifty-three, suffered from retention of urine, hæmaturia, and pain in the right renal region, where a movable, non-adherent tumor, dull on percussion, was found. Antiseptic laparotomy was performed on December 10, 1878. The tumor was of the size of two fists. The pedicle was tied with nine silk ligatures. To remove the organ, which weighed seven hundred and eighty-four grammes, the incision had to be carried two inches above the umbilicus. Convalescence proceeded with very little disturbance. On the twelfth day the highest temperature (100.4° F.) was recorded. On the eighth day the patient got up, and on the seventeenth day she went home. Six months later she was still well. Mr. Barker, however, alluding in his paper to this case, said that Professor Martin had lately informed him that there were then (March, 1880) some indications of recurrence taking place.

Czerny² has reported two nephrectomies. In the first case, the patient, a man aged fifty years, had a large abdominal tumor, apparently involving the left kidney. Laparotomy being performed, the tumor was found occupying the meso-colon; it was very vascular and soft. A profuse hæmorrhage occurred, which was arrested by ligature of the aorta. Death, preceded by paraplegia, occurred in six hours. At the autopsy a tear of the renal artery was found. In Czerny's second case, a female, thirty-two years of age, had pyonephrosis and perinephritis of the right side, with renal fistula. The fistulous tract was slit up, and to gain more room a portion of the eleventh rib, three and a half inches long, was resected. The hand was then introduced, and the kidney was enucleated, the pedicle being tied with silk and an elastic ligature. The wound was left partly open, and plugged with thymolized gauze. The subsequent course of the case was satisfactory; at the end of four months the patient had recovered her strength, though the wound had not yet wholly closed.

Zweifel³ (of Erlangen) has reported a successful case of removal of the kidney through a lumbar incision, after the method of Simon, performed on account of an incurable fistulous communication between the left ureter and the uterus. Great difficulty was experienced in separating the kidney from its surroundings, and there was considerable hæmorrhage. Four months after the operation the patient was discharged, the recovery being complete.

RETENTION OF URINE SUCCEEDING INJURIES.

A temporary retention of urine, succeeding operations in the ano-perineal region, such as the ligature of piles or the incision of anal fistula, is a common occurrence, familiar to all surgeons. Dartigues, a pupil of Professor Verneuil, of Paris, has reported several cases in which retention of urine followed various operations in regions remote from the bladder and urethra, such as amputation of a breast, or the rupture of an

¹ Berlin, *Klinische Wochenschrift*, June 2 and 9, 1879, pages 317 and 338.

² *Centralblatt für Chirurgie*, 1879, page 15. *Revue des Sciences médicales*, July 15, 1880, page 224.

³ *Archiv für Gynäkologie*, vol. xv., Part I., p. 1. *Revue des Sciences médicales*, July 15, 1880, page 224.

anched elbow. Sabourin¹ reports five cases in which retention supervened as a complication of various accidental injuries, and adds some remarks upon the nature of the disturbance. The injuries which in his cases were followed by temporary retention of urine were the following: a supra-condyloid fracture of the femur; a contusion of the rim of the pelvis; a fracture of the ribs; a contusion of the hip; a fracture of the leg. In all these cases retention of urine occurred soon after the infliction of the injury, and lasted a day or two. In one case it lasted five days.

Temporary retention occurring under such circumstances has been attributed to a reflex spasm of the vesical sphincter. Sabourin, however, taking into consideration the absence of any obstacle to catheterism and the feebleness of the stream issuing from the catheter, infers that the inability of the bladder to evacuate its contents is due to a temporary paralysis of the nervous centre from which the muscular fibres of the bladder derive their stimulus.

Hospital Practice and Clinical Memoranda.

MASSACHUSETTS GENERAL HOSPITAL.

CASES OF ACUTE PNEUMONIA IN THE SERVICE OF DR. MINOT.

REPORTED BY WILLIAM N. BULLARD, M. D.

CASE I. Michael M., an Irish laborer, forty-six years old, and living in Taunton, entered the hospital February 28, 1880. He was a strong, vigorous-looking man, and had always been well until the present illness. He was not accustomed to use alcoholic liquors. Five days previous to entrance he had had a severe rigor, followed by the usual symptoms of high temperature, and two days afterwards severe pain in the left side on long breath. No cough had been noticed until the day preceding entrance. On entrance he was flushed and cyanotic, and lay in a stupid condition. The skin was lemon-colored all over the body, and there was a slight tinge of yellow in the conjunctivæ. The expectoration was moderate in amount, thick, viscid, and of a brilliant grass-green color. The tongue had a thick green coat. Examination of thorax showed dullness, bronchial respiration and bronchophony over the lower lobe of the left lung. The evening temperature was 102.8° F.; pulse 97; respiration 40. The patient was placed on milk diet, and ordered ten minims of compound tincture of ipecacuanha every four hours during the night, as required.

February 29th. On examination of the urine a trace of bile pigment was detected, and there was the usual evidence of passive renal congestion.

For several days after entrance the patient lay in a drowsy condition with marked cyanosis and dyspnoea, but the evidences of jaundice gradually decreased, and the temperature grew steadily lower, until on the 4th of March, the eleventh day of the disease, it was only 99° F. both in the morning and evening. Modified respiration, however, still remained over the lower left back, and subcrepant râles were only noticed in the upper portion of the dull region. From this time the temperature was nearly normal, and the patient recovered rapidly. The jaundice disappeared entirely

and the other symptoms steadily improved. On the 28th of March there still remained a circum-scribed point just above the lower angle of the left scapula where there was modified respiration with subcrepant râles. On the 3d of April the percussion and respiration were normal everywhere and the patient was discharged, well. No medicines were given throughout the whole course of the disease except the liquid Dover's powder to restrain cough and restlessness in the beginning; and later, after convalescence was fairly established, the tincture of the chloride of iron as a tonic.

CASE II. On the 19th of March, 1880, Edward C., seventy-four years old, a cooper, born in Maine but now living in Boston, was brought to the hospital with the following history: He had for a long time been addicted to drink, and was in the habit of going off for several days at a time. He had had a cough for a long time, but in spite of this had considered himself well, and had seemed so six days previous to entrance. Four days before entrance he was brought home in a very weak condition and vomiting, and since then he has had high fever, cough, dyspnoea, and delirium. On entrance the patient was very feeble, signs of consolidation were found in the upper lobe of the right lung, and evidence of bronchitis throughout the whole chest. The morning temperature was 99° F., the evening 107.8° F.; pulse 112; respiration 32. The patient was placed on liquid diet (milk with lime water or beef tea) and the liquid Dover's powder was ordered morning and evening. On the next day, on account of extreme prostration, carbonate of ammonia, five grains, was given every four hours. There was no expectoration. The urine contained a trace of albumen, and had a specific gravity of 1011. Subcrepant râles were heard over the right front on the second day after entrance. On the 24th of March, the tenth day of the disease, the temperature suddenly descended, being only 97° F. in the evening, and after this it remained between 97° F., and 98° F. for six days. The patient was very weak and both micturition and defecation were involuntary. At this time he had an attack strongly resembling delirium tremens. After this he gradually improved; the carbonate of ammonia was omitted on the 30th of March, and he was allowed the usual hospital diet. On the 4th of April percussion was everywhere normal, but there was modified respiration with moist râles under the right clavicle. The patient could only move with difficulty on account of weakness, and his pulse was scarcely perceptible. He was now allowed a moderate amount of whisky, and on the 12th of April, having entirely recovered from his pneumonia, though with signs of threatening trouble below the right clavicle, was discharged.

CASE III. This case is also that of a laborer, a native of Boston, thirty-five years old. He had never been ill in his life until six days previous to entrance, when he had a rigor followed by fever and cough with reddish sputa. On entrance he was much flushed. His lips were dry and covered with herpes, and the tongue was coated. His temperature was 104.6° F.; pulse 78; respiration 29. His mind was clear; there was consolidation of the lower lobe of the right lung. He was put on milk diet, and a flaxseed poultice placed over the back. Two days after, on the eighth day of the disease, the temperature had descended to 97.6° F. both morning and evening, the pulse was 52 and the respiration 29. The sputa were viscid and of the color

¹ Archives Générales de Médecine, 1879, page 325.

of prune juice. From this time he convalesced steadily. On the twelfth day of the disease his respiration was normal and he was able to take ordinary diet. He was given some quinine and four days after discharged. well.

PNEUMONIA; RENAL DISEASE; SUDDEN DEATH.

CASE IV. William E., a teamster, sixty years of age, born in Vermont but living in Boston, entered the hospital in May, 1880. He had always been a strong man, except for rheumatism and intermittent fever during the war, with neither of which he had been troubled since. Five days before entrance he felt sore all over and had fever, cough, and dyspnoea, but no chill. On entrance the lower lobe of the right lung was found to be affected, and there was a friction sound near the lower angle of the scapula. There was no evidence of any cardiac disease. The treatment was similar to that in the preceding cases, that is, he was given liquid diet, and an occasional dose of liquid Dover's powder (ten minims) when needed. The next day there being some prostration whisky was added. On the second evening after entrance the temperature was 103° F.; the pulse 124; and the respirations 43. During the night the patient became wildly delirious, and finally jerked himself up suddenly in bed, and immediately died. The urine had a specific gravity of 1011, and contained a trace of albumen. The sediment consisted of numerous hyaline and large and small granular casts, some with fatty renal epithelium adherent, a few fatty casts, free renal epithelium cells, and a few pus and blood globules.

The foregoing cases illustrate fairly the method of treatment of pneumonia which has been long employed in this service. Uncomplicated cases, in patients who were previously healthy, receive little or no medicine beyond anodynes, which may be required for pain or cough. The diet is simple and nutritious, and as abundant as the patient desires, but he is not urged to take more than is agreeable to him, especially during the period of consolidation, when there is usually an aversion to food. Stimulants are freely given in cases of prostration, and to those who have been accustomed to their use. External applications are rarely made, the relief afforded by them being insignificant compared with the fatigue they occasion to the patient. In complicated cases, of course, the treatment varies according to the indication. The treatment in intemperate patients and those affected with chronic renal disease is usually unsatisfactory, and a large number of such cases die.

Reports of Societies.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.¹

H. C. HAYEN, M. D., SECRETARY.

Dr. CHADWICK, in continuing the discussion, said: Dr. Graham seems to me to have given expression to the general opinion current in the profession that gynecologists exaggerate the influence of uterine affections upon the general system, and hence devote their attention too exclusively to local therapeutic measures. This opinion I am fain to confess has been too often true. Dr. Wing, however, only insists upon the

importance of a thorough understanding of the condition of the pelvic organs as indispensable to a proper discrimination in treatment: this full knowledge of the local condition, he affirms, is rarely obtained by the general practitioner, so that in a large proportion of cases he fails to cure his patient. That this assertion is true I have daily illustration in practice. That specialists are not more largely recommended and employed is undoubtedly due to the fact that their charges are higher than those of general practitioners. For this difference I have never been able to see any justification. One man's time should have no greater pecuniary value in consequence of his devotion to one branch of medicine than another's whose sphere of work is more comprehensive, provided their ability, industry, and opportunities are the same.

But to return to the facts adduced in support of his position by Dr. Graham. He cites the results obtained by Dr. Asp by the use of massage in seventy-two cases of chronic uterine affections. These simply go to prove a fact well known to all but the most narrow-minded specialists, that certain classes of cases can only be treated by measures adapted to influence the general system. His results in cases of ante-flexion merely confirm the conclusions already tardily reached by gynecologists, — after indiscriminate mutilations of the womb, it must be confessed, — that the dysmenorrhoea, so often present, is of purely nervous origin, and rarely due to organic causes. Incision of the cervix for dysmenorrhoea has had its day, and been at length very generally discarded. To be sure, the pendulum has swung to the other extreme, and we are just now urged to sew up the lacerated cervix as a universal panacea; yet I already see signs of a healthy reaction from that practice, and predict its speedy abandonment except in extreme and rare instances.

Massage of the womb, so called, I believe to be a misnomer, the effects obtained being attributable, not to alterations in the muscular or vascular system of the womb, but to the breaking up of perimetrial adhesions of inflammatory origin, and the consequent restoration of the womb to its normal position and mobility. Dr. Graham's own cases hardly support his claims of the benefits of massage in the treatment of uterine affections, for he expressly states that "no local trouble had been found" in any of them, and yet there were local symptoms. This apparent contradiction is dissipated when we reflect that of course the pelvic organs participate in conditions which affect the entire body, whether through derangement of the general, nervous, vascular, lymphatic, or other system. The most perplexing cases to which any practitioner can be called are those in which there is profound disturbance of the nervous system, together with uterine disease or displacement. To determine whether the nervous perturbations should be regarded as reflex phenomena dependent upon the local lesion or the uterine symptoms are merely the local manifestations of the general neurosthenic condition will tax his utmost powers, and the decision must govern his whole course of treatment and determine its success. In illustration of this point I will briefly cite two cases which have recently come under my care, in which the local conditions were identical and yet my conclusions diametrically opposite.

The first case has been alluded to by Dr. Graham in his paper. About eighteen months ago I was summoned to New Bedford by Dr. Fairchild to see a young unmarried lady who had been a miserable invalid for

¹ Concluded from page 208.

eight years and had scarcely left her bed for three years. Without going into details I will simply say that I found the case to be a most perfect type of hysteria, complicated with retroversion of the womb. After several hours' investigation at two successive visits I satisfied myself that the displacement was an insignificant factor and might be safely disregarded. At my instance she was ultimately put under the care of Dr. Weir Mitchell, in Philadelphia, where in the course of a few months she made a perfect recovery without any treatment of the uterus. She has since remained in perfect health in spite of the retroversion.

The other case was the wife of a laboring man in South Boston, whom I found bed-ridden, owing to complete nervous and physical prostration. I raised the womb from a position of extreme retroversion, and supported it with a pessary, with the effect of very speedily ameliorating the general symptoms. They recurred several times, however, when the womb was invariably found to have retroverted over the end of the pessary. Its replacement was always followed by benefit. She ultimately regained her full health without other treatment.

I claim that without a full appreciation of the state of the pelvic organs a proper discrimination between classes of cases of which these are types cannot be made. Massage was used in the first of these two cases with inestimable benefit, whereas if it had been employed in the second it must have been utterly powerless for good. The weak point of Dr. Graham's position is that he gives no evidence that he seeks to make this discrimination by a local examination, and must consequently often fail in the application of his method.

In conclusion, I would not be understood as disparaging massage as a therapeutic means, for there is probably no practitioner in the city who values it higher or employs it oftener when the case is suitable.

Dr. WING called attention to the full title of the paper, and said he regretted the absence of Dr. Graham, as the latter was evidently in error in regard to what had been stated in *Modern Abuse of Gynecology*. In that paper he had simply called attention to the ignorant manner in which massage and electricity were sometimes prescribed by practitioners who had no accurate knowledge of the patient's trouble. Far from stating that these remedies were useless, as Dr. Graham had apparently understood, he had distinctly said that through such practice discredit was thrown upon these, in proper cases, valuable remedies. So, in order to refute what he, Dr. Wing, had said concerning massage, Dr. Graham would have to prove *either* that massage was never prescribed and used improperly, while in his own paper he complained of the way in which it was abused; *or* that massage was never of value, a position he was not likely to assume, since he practiced massage as a specialty, and one which every one knew would be nuttenable.

His misunderstanding of the tenor of Dr. Wing's paper had led him to build up a "man of straw," which he had unjustly labeled "Dr. Wing" and then proceeded to knock down.

Dr. Wing agreed with Dr. Chadwick that there was very little evidence that the cases reported by Dr. Graham were cases of uterine trouble.

In regard to massage of the uterus by aid of a hand in the vagina, referred to by Dr. Graham, he felt

that such practice would result in much more harm than good; that, objectionable in all cases, it would be particularly contra-indicated in the case of the unmarried, and that it would be an *abuse* rather than a use of massage. He thought, with Dr. Chadwick, that efforts to loosen and separate pelvic adhesions could not properly be termed or considered massage of the uterus.

Dr. J. B. SWIFT reported a case of empyema treated with antiseptic precautions, which he thought fully illustrated the value of the method.

The patient was sixteen months old, with a clearly-defined history of pleurisy, with effusion, probably purulent, on the left side. The child had been sick about seven weeks. There was complete flatness over the left side, both front and back, even above the clavicle. The diagnosis was confirmed by aspiration with the hypodermic syringe, and later a free opening was made.

For the first eight days, although the general condition of the patient was eminently satisfactory, there was a discharge of pus, rendering a daily dressing necessary; it was then found that in moving the child the mother displaced the dressings. The cavity was syringed out, the dressings replaced, and secured by carbolic adhesive plaster; after that not a single drop of pus was seen. Four days later the tube was forced out by the contracting orifice, and some time during the week following that (the dressings being undisturbed for that time) the opening entirely closed, and the child was perfectly well.

Dr. H. L. BOWDITCH said he had that very day conversed with a man who, in 1840, suffered from a large effusion, and the case just read well illustrated the change which had occurred in professional sentiment as regards tapping. At the former period, although the diagnosis of a large amount of fluid in the pleural cavity was self-evident, and it was plain that unless relief were given death would ensue, only one of *eleven* consulting physicians was bold enough to plunge in a scalpel at a prominent part, and he did it only after much hesitancy, and when selected by the patient. Every one seemed to think that the patient would undoubtedly die, and the sufferer called upon the person he had most confidence would do it. He assumed the task as a species of martyrdom. When the pus spouted out and the patient seemed somewhat relieved, the physician who was supporting the patient asked him how he felt, and upon his saying that he was much better, and *wanted something to eat*, his interlocutor exclaimed, "My God! he will live in spite of all of us!"

Now, tapping of the chest is an every-day occurrence. A few days since President Eliot asked Dr. Bowditch whether he thought that medicine had in diagnosis and treatment kept up with other branches of science and art. Dr. Bowditch thought this case was one instance of the great progress medical science and art had made of late, and proved it had kept fully abreast of the other branches of science. The recent application of the antiseptic method of treatment, as in the case reported, was, he was inclined to believe, a still farther progress.

Dr. BLODGETT spoke of a case operated on by Dr. Minot, some ten years since, which offered a most striking contrast to that of the reader. The relief was, at first, as great, but soon the discharge became very profuse and offensive, so much so that it was a question whether the patient would not succumb to the incident exhaustion. The discharge was of the most

offensive character imaginable. A silver drainage tube was worn for nine months, after which time the discharge gradually ceased. It was two years, however, before respiration could be heard over the base of the affected lung; at present the man is in robust health, and at the last physical examination no difference could be detected between the two sides.

Dr. WEEKS did not consider it fair to compare the two cases as Dr. Blodgett had done. It was well known that the healing process was carried on more quickly in the child. He thought the present tendency was to overvalue the antiseptic method. He had recently operated on two cases of empyema in children; one was entirely well in fourteen days. In the other, owing to the drainage tube slipping out, the fluid reaccumulated; after a second operation, however, a speedy recovery followed.

In reply to this, Dr. A. T. CABOT spoke of a case which had recently been under his care, where the antiseptic method was employed, and where recovery was very rapid, in spite of great impudence on the part of the patient. Dr. Cabot thought a great deal of the discredit which seemed to attach to the antiseptic method in Boston was due to an imperfect and partial following of Lister's directions. He doubted if any one who had seen the freedom with which the knee-joint was laid open in Lister's wards, and the almost universally favorable results obtained, could fail to be convinced of the great value of the method, and also of the importance of carrying out the most minute details.

Dr. WARREN showed a uterine sound, with screw-point, which he claimed greatly facilitated its introduction.

Dr. PARKS exhibited a contrivance which he had improvised in a case of tracheotomy when he was unable to get a tube. It consisted of a wire doubled on itself at the middle and adapted to the curve of the trachea, the ends being bent so as to separate the tracheal wound, and tapes attached as in the ordinary tubes. Dr. Parks claimed no originality, having seen it used in Philadelphia.

Dr. F. A. HARRIS exhibited and explained the working of a model (one third size) of the Chelsea guillotine. In reply to a question, Dr. Harris said that he did not consider it probable that the victim obtained any really anæsthetic effect from the ether used.

MAY 29, 1880. The meeting was called to order at eight o'clock. Dr. HODGES in the chair. Fifty-one members present.

Dr. A. N. BLODGETT read a paper on *Hallux Valgus*, with a report of two successful cases. He described the affection as a complaint consisting in the anatomical element of extreme abduction of the great toe, which, instead of forming a continuation of the line of the foot, is turned outward, is rotated on its axis to a greater or less degree, and, in very marked cases, is found lying either under the other toes, or compressed into an irregular, deformed member, and crowded with the other toes, forming a conical projection from the line of the metatarsophalangeal articulation. The other toes are abducted, that is, are inclined toward the middle line of the body, and therefore more in an opposite direction from the great toe. The great toe shows a decided tendency to lie under the remaining toes, being found in the depression beneath the first phalanx, with the other toes closely folded down over

it and turned downwards, so that their points and the toe-nails rest upon the bottom of the shoe. In connection with the distortion and dislocation of the great toe, there is generally much swelling and protrusion of the tissues about the head of the capitulum metatarsi, which is often the seat of intense suffering from pressure upon the prominent joint. Professor Hamilton considers the condition of the articulation to be that of subluxation, in which the first phalanx, instead of being simply dislocated outward, has partially rotated, so that its proximal end rests upon the outer surface of the capitulum. He also observes that the articulating surface is prolonged outward to a greater or less extent, to form a joint in the new position of the phalanx, and that the synovial cavity becomes obliterated at its internal border.

The large number of cases are produced in a purely mechanical way, by the wearing of ill fitting shoes. The effect may be from two causes: from shoes which are too narrow, and also from those which are too short. The fashion of wearing high heels has a continual tendency to produce or perpetuate the disease, from the tendency of the foot to slide toward the toe of the shoe.

Another cause which sometimes tends to produce abduction of the toe is any affection of the muscles which would shorten them, or in any way interfere with their functional integrity.

A third cause is some lesion located in the joint itself, which causes a change in the shape of the capitulum and often in the head of the phalanx as well.

Chronic arthritis is also a frequent cause of deformity in this joint. Various methods of treatment have been tried with varying degrees of success, but most of these have been discarded as impracticable or useless. Rest in bed will sometimes relieve the inflammation, but will do nothing toward relieving the deformity.

Tenotomy is often resorted to as a means of relieving the deformity, but its effect is only imperfect and transitory.

Amputation relieves the abduction of the toe, but is subject to grave objection from the greater deformity inflicted upon the foot, the unprotected position of the remaining toes, and the disturbance to the equilibrium of the body.

Professor Hueter in his *Clinical Treatise on Diseases of the Joints* discussed the disease, and stated that the head of the metatarsal bone had been excised for caries with such success as to recommend the operation, and he advises it also in extreme cases of abduction of the toe from other causes.

Professor Frank H. Hamilton first called attention to this method of treatment in America by a paper, describing the operation and accompanied by a report of eleven cases, which was read before the Buffalo meeting of the American Medical Association.

The operation, as Hueter performed it, consisted in an incision upon the inner surface of the toe in the direction of its axis, which is carried to some distance on either side of the joint. The capsule is opened, the ligaments are cut, and a subperiosteal dissection of the head of the metatarsal bone is made, the capitulum is removed by bone-forceps or a saw, the toe is brought into a line with the foot, and the wound is left to heal by granulation.

The cases reported by Dr. Blodgett were of the right and left foot respectively of the same person. The history was that of chronic rheumatic arthritis, no doubt

aided materially by wearing improperly shaped shoes. There was a great degree of abduction of both great toes, so that they lay under the bodies of the other toes. There was great pain and almost entire inability to walk. The distal end of the first metatarsal bone was very prominent and knobby, and the articulation between it and the first phalanx was removed from the end of the bone to a point on its outer side. The tissues were stretched over the head of the metatarsal bone; they were red, abraded, and sore.

The right foot was operated on February 26th by an incision 2.5 cm. long in the axis of the first metatarsal bone, and connecting with another incision transverse to the course of the bone, thus forming a right-angled flap. This was turned back and the head of the bone exposed. The joint was opened, and the head of the bone forced from its attachments to such a degree as to allow a thin steel watch-spring saw to be passed behind, when the bone was quickly sawed off at a point about two cm. from its distal extremity. There was but little bleeding. The wound was washed in carbolic water, and three silk sutures were applied, by which the flap was retained in place. A light carbolic compress and bandage were applied. Eleven days after the operation, wound fully closed. Not much tenderness and no pain. Patient beginning to walk on foot.

March 20th. Left foot operated on in same manner as right. Fourteen days after, wound fully healed. Patient is walking without any pain or discomfort.

June 16th. Examination of both feet shows the great toes in normal line with the foot, not sensitive, with extensive motion, the joints not tender, nor in any way causing her any trouble. In fact, both feet are in as good shape and proportion as is found in the majority of so called healthy feet.

DR. C. P. PUTNAM opened the discussion. He said that it was very rare to see an adult foot which was not more or less deformed, and thought that the deformity was due to the shape of the shoes usually worn. He exhibited some casts and tracings of feet showing the way in which the great toe was crowded out of its normal position, producing the deformity described in the paper. He also showed some shoes which were made in a proper manner, to prevent this deformity taking place.

DR. HODGES thought that the health and occupation influenced the form of the foot. In a person in poor health, or where the tissues were relaxed, the arch of the foot gave way, the foot became flattened, and the heel was thrown outward. He did not think that so much depended on the shape of the shoe. In regard to a stiff shank, he thought that it was necessary when walking on hard places, as city pavements, to support the arch. In the case of Indians and country people who go barefoot, they do not need the stiff shank, as what they walk on is soft, and so the ground supports the arch.

DR. BRADFORD mentioned the case of a child with a rudimentary toe, where he took advantage of the way in which a shoe is ordinarily made in order to rectify the position. The great toe, which really consisted of two toes, was placed in such a position that it made an angle with the foot. The pressure made by the boot tended to rectify the position, so that amputation was not necessary.

DR. WING spoke of a case of chronic inversion of the uterus, which he had replaced by continued pres-

sure, where the patient had since become pregnant, and had been delivered of a child weighing nine pounds. He also mentioned another case of chronic inversion of the uterus which had been replaced by continued pressure.

DR. WHITNEY showed some pathological specimens of congenital club-foot and rachitis, and after remarks by Drs. C. P. Putnam, Bradford, J. J. Putnam, and Webber, the society adjourned until the last Saturday in September, 1880.

Recent Literature.

The Waters of Kreuznach. A Work for General Readers. BY CHARLES ENGELMANN, M. D. Third Edition, revised and in part rewritten by FREDERIK ENGELMANN, M. D. London: J. A. Churchill. 1880.

The author of this little book on the modes of application and effects of the waters of Kreuznach was formerly physician at that spa. The second edition being out of print, the author's son, who is now physician at Kreuznach, has published the present one, which is entirely remodeled. The book is designed for general readers, and gives all necessary information about the waters of this spa, whether used for drinking or as baths. It is refreshing to read in a book of this kind a frank acknowledgment "that our mineral water is not a panacea for all sorts of complaints; in a comparatively small number of forms of sickness it is used with good result." The following passage trims a little on the other side, and is a good example of English from a German pen:—

"The first condition for a favorable effect of a stay at Kreuznach will always be the spring is suitable to the illness, and that it is not yet so far advanced as to be incurable. Besides that we expect that the patient is firmly resolved to make good use of his time, often but too shortly measured, and that he fulfills his intention with even the greatest severity, we trust that he will be well informed by his medical adviser at home not to have too much hope of a quick, miraculous recovery from his complaints, which are known to be very obstinate and which have lasted for many years, nor should he distrust the efficacy of the water."

In no hypercritical, but merely in an etymological, spirit we notice on another page that the word thumbler does duty for tumbler. In fact the style, though perfectly comprehensible, reminds one at times mildly of the celebrated Portuguese-English grammar.

—According to the *Philadelphia Medical Times*, Dr. G. C. Wittstein, in an Austrian pharmaceutical journal, explains how to distinguish cream butter from "ox butter" by means of the microscope. Place a small piece of the butter upon an object-glass, spread it out by means of a cover-glass, and observe it under a power of three hundred to four hundred. If it is pure butter the whole field is filled with extremely fine globules, which are entirely destitute of any approach to crystalline form. If the butter is artificial, or a mixture of both, the field presents numerous angular or acicular particles between the globules. These cry-talline particles are derived, no doubt, from the stearine which forms part of the beef-tallow in artificial butter. Lard does not show any such crystalline particles.

Medical and Surgical Journal.

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AN EPIDEMIC OF HYSTERO-EPILEPSY.

A CURIOUS and, for the present day, unusual epidemic of hystero-epilepsy seems to have been developed in an Italian town, Verzegnis, during the year 1878. A detailed account of it has appeared in one or two of the scientific journals of Italy, and Professor Colin, a French epidemiologist, has called attention to it in the *Annales d'Hygiène et de Médecine légale* for July. It appears the outbreak first manifested itself in January, 1878, in the person of a young woman, who had for some years exhibited symptoms of simple hysteria. From the above time, however, these were complicated by convulsive attacks accompanied by cries and lamentations. The neighbors believing her to be possessed by a demon, she was exorcised. From this time she became worse, the attacks more frequent and aggressive in character, and especially provoked by the sound of church bells and the appearance of priests. In the course of seven months three more cases occurred, presenting the same convulsive and declamatory attacks. The attempt at exorcism of a demon was repeated, with the addition of the celebration of a solemn votive mass in the presence of the sufferers; this was followed by a further development of the phenomena. Finally, in December, 1878, about forty women of this village having been the victims of this religious mania, two physicians were appointed by the prefect of the district to investigate the subject. At the time of their visit fifteen women, of ages ranging from sixteen to twenty-six, and three over forty-five years of age, were found "possessed." During their attacks the victims talked of the demon which possessed them, gave the date when they were taken possession of, and mentioned the names of those who had been possessed before them, some boasting that they were prophetesses and clairvoyants, and that they had the gift of languages. The epidemic was quite prolonged and difficult to break up. After the departure of the visiting physicians, a number of new cases appearing, the civil authorities ordered the military occupation of the place, and the removal of the "possessed" to the hospital of the neighboring town.

The situation of this village of Verzegnis, its isolation from the surrounding country, with a consequent difficulty of communication and infrequency of intercourse, taken in connection with the mental characteristics of its population,—there being but little education and much superstition,—offers on a small scale the conditions which in the Middle Ages prevailed

over wide areas. The character and course of the outbreak, though on a small scale, recall the various nervous phenomena in epidemic form which appeared at different times in former centuries in various parts of Europe, some of which have been so graphically described by Hecker, as the frequent epidemics of the "dancing-mania," the processions of the flagellants, etc.

The performances to be witnessed, now less frequently than formerly, at the "camp-meetings" in this country, and among some of the semi-religious organizations which flourish in the United States, belong to the same order of phenomena. Charcot and his fellow workers in the field of disorders of the nervous system have taken these phenomena out of the domain of demonology, of witchcraft, or of inspiration, and in teaching us to compress the abdomen and use the term hystero-epilepsy have made us feel, if not masters of the situation, at least a contempt for it.

THE ADVANCEMENT OF SCIENCE.

SCIENCE has been assiduously advanced by no less than three different associations in as many different countries during the past and the present week. The meeting of our own American Association in Boston has been interesting and very successful, both from a scientific and from a social point of view. At the same time the French Association was in session at Rheims, and the British Association was holding its fifth annual session, which promised to be rather a quiet one, at Swansea, in Wales. It is not probable that its president, Professor Ramsay, will be able to promise his audience such startling achievements from geology dealing with inanimate matter as Professor Barker holds out to us from chemistry and physiology in their dealings with protoplasm, which is to be manufactured by the former science and animated by the latter.

MEDICAL NOTES.

—The death at Somerville of Dr. C. T. Jackson, for many years so well known for his activity as a chemist and scientist, is announced. Most of our readers will call to mind his connection with the controversy over the discovery and application of ether as an anesthetic.

—We learn with regret that Dr. C. S. May has not only felt compelled to resign his position as superintendent of the Danvers Asylum, but also to withdraw immediately from the service.

—M. Trelat, professor of pathology of the Faculty of Paris, has been transferred to the chair of clinical surgery, vacant by the death of Professor Broca.

—The *Lancet* presents itself this week with an extremely attractive table of contents, but with its scanty medical parenchyma so surrounded and transformed by the interstitial inflammation of advertisements that nothing remains except connective tissue. Some one has blundered.

—The mermaid which served to help Barnum on to fame and fortune as a showman, about forty years ago, caused a great deal of talk at the time. Barnum now tells the story, according to a correspondent of the *Indianapolis Journal*, as follows: "Moses Kimball (H. L. C.) came from Boston with what he declared was a genuine mermaid. The lower part was the tail of a shark or some large fish, but the upper part was not of woman's form by any manner of means; it was a hideous head and shoulders, apparently of some sort of ape. Pretty soon a letter was written from Mobile to the *Herald* with the announcement that a man had landed there from the Sandwich Islands, bringing a genuine mermaid. It had not been seen and would not be exhibited, for it was on its way to the London Zoological Gardens. This was copied all over the country. In another week a letter from Charleston announced that the wonder had arrived there on its way to New York, whence it would sail to London. A more detailed account of the wonderful creature was given. This served to swell the curiosity. From Baltimore came still other letters; and then I sent my man to Philadelphia, carrying the mermaid in a close box. He put up at the best hotel and cultivated the landlady. To him, just as he was paying his bill and was leaving, he confided the secret that he was the Englishman who had caught the mermaid. 'Now, see here,' said the landlady, 'you must let me see it.' After much persuasion the mermaid hunter yielded. Then he said, 'See here, you must let me show it to one or two reporters.' After more importunity the weak Britisher yielded, and a limited exhibition was permitted. The Philadelphia papers blazed with it the next morning. The next day it was brought to New York, and the same performance was gone through with at the Astor House. The papers were full of it and the city was all agog. Thousands flocked to see it, but no exhibition was allowed, except to reporters. I was not known in connection with it until the proper time."

—The annual report of the Assistant Commissioner of Police on the operation of the Contagious Diseases Acts during 1879 has recently been presented to Parliament. The report remarks that the women in the several places subject to the acts have attended medical examination with great regularity; that the police specially employed have discharged their duties in a perfectly satisfactory manner, not a single case of excess or violation of duty having been brought to notice; and, though the number of women remaining on the register at the end of the year was seven more than in the preceding year, a total decrease of three thousand and fifty-seven has taken place since the acts came into operation. Whenever a chance exists of reclaiming a woman, every effort is made before she is brought under the operation of the acts, and after she has signed the voluntary submission form the opportunity is still given her of returning to her friends. — *Medical Times and Gazette*.

—Professor A. W. Hoffman has been appointed Rector, and Professor Schroeder Dean, of the Faculty of Medicine in the University of Berlin.

—At the recent democratic convention in Connecticut the responsibility for the passage of the new law, pre-cribing the examination by experts of railroad employees for color-blindness, was thrown upon the republican party.

—The *Medical Times and Gazette* says that the International Hospital, founded in Naples, October, 1877, receives not only sailors of all nations who arrive there sick, but affords travelers of higher rank all the comforts of a private house with the benefits of the attendance of a resident physician (well acquainted with the English language), and trained nurses under the superintendence of an English matron. A first-class patient pays fifteen francs per day, for which he has the physician's attendance, medicines, nursing, the use of bed-linen, and other necessities, an excellent diet when convalescent or when the malady does not forbid it, and, in fact, everything necessary; second-class patients pay six francs per day; third-class, two francs, fifty centimes. These last classes are treated exactly in the same manner as the first, except that they are two or more in one ward, and their rooms are less well furnished. There is an entirely separate portion of the house for infectious diseases. The British Government contributes a donation of sixty pounds a year, on condition that there be an English-speaking nurse kept in the hospital. The British and American hospital was closed in 1871.

—The following are the comments of the *British Medical Journal* on the Hagle case at Guy's Hospital.

The sentence of the judge in this case appears, when the proved facts of the case and the antecedents of the accused are considered, to be far from erring on the side of over-severity. The evidence of Sir William Gull has created a very painful impression throughout the profession. No little surprise is felt that Sir William Gull should have thought it right to go into court to give evidence against a colleague upon a document which that colleague had never seen, and without any prior conference with him as to the actually observed facts, or his interpretation of them; and, still more, that he should entertain the opinion that the prolonged immersion in cold water, and the physical and moral shock inflicted on the unhappy woman, had no share in the sudden exacerbation of her symptoms, and the acceleration of her death. Dr. Pavy has intimated his intention of submitting the facts to the consideration of the Censors of the College of Physicians. Meantime, the opinion of the profession, as expressed on all hands at Cambridge, whether privately or publicly, is one of such extreme and unanimous indignation at the course pursued by Sir William Gull, that it may be hoped he will find some opportunity of stating formally what it is which in his mind constituted the justification of the at present inexplicable evidence which he gave. We can but cherish the hope that this explanation may be forthcoming, and that it may be such as will satisfy the conscience of the profession, which, he must now be well aware, is grievously wounded by what he has done and said in this matter.

— It is reported that Professor Klebs has resigned his chair at the University of Prague.

NEW YORK.

— An apparently well authenticated case of insanity produced by fear has just occurred. The patient was a stowaway on board the steamer *Zuland*, which recently arrived from Antwerp, and after his presence on the vessel was discovered his mind was so affected by some jocular remarks of the passengers that he was to be thrown overboard that he stabbed one of them in the back of the neck, under the impression that if he committed some such crime he would be spared this fate. The wound, fortunately, did not prove fatal, and the man will be sent back to Belgium.

— A remarkable dwarf reached this city from Ireland by the last trip of the steamer *Wisconsin*, of the *Guion* line. It is a female thirty-one years of age, and was born on an island off the coast of Kerry. Up to the age of six months she continued to develop in the usual manner, and then suddenly ceased to grow, with the exception of the head, which is now the size of that of an adult woman, while the body is like that of an infant. The hair is two or three inches long, but is thin and fine, and has fallen out in patches; while she has also lost a number of her teeth. All attempts at training have failed, as she has never been able to walk, talk, or even utter a cry. At the same time she seems to understand conversation, is apparently sensitive to remarks about her person, and has a good memory for faces. Her only food is milk and bread, and she takes but little of this. Her parents are taking her to Mahanoy City, Pa., where they intend to settle with some of their other children, there being nothing abnormal about any of the rest of the family.

— Dr. Ghislanzani Durant, of this city, has been made the recipient of a superb silver cup, manufactured at Tiffany's, from Mr. Edwin Booth, in acknowledgment of his services in curing the latter of a serious disease of the tongue, for which he had consulted several other medical men without relief. It is a three-handled cup, of classic form, ornamented with rich *repoussé* work. One of the figures in relief is that of a faun, with tongue projected, beneath which are the words, "Let the tongue now laugh." Around the upper border of the goblet is the quotation from "Machehi," "The mere despair of surgery he cures;" while at the base is the inscription: "This 'loving cup' is presented by Edwin Booth as a token of esteem to Ghislanzani Durant, M. D." All the lettering is done in raised letters of gold.

— On the 19th of August Dr. Henry Morse Bradford, of New York, died at Richfield Springs. He and his brother Frederick were pupils and successors of their father, Dr. Gunning S. Bradford, the eminent obstetrician, who died ten years ago. Ex-Judge Bradford is another brother of the deceased.

PHILADELPHIA.

— The wily Buchanan, of bogus diploma fame, recently contrived a very ingenious scheme to escape from the disagreeable necessity of answering for some of his many offenses before a court of justice. He was

at large on bail, when upon August 16th, the day before his trial was to take place, a man of his general appearance jumped into the Delaware, from a ferry-boat, at midnight, and disappeared. The next morning the papers announced the death of Dr. Buchanan, but the day had not passed before the impression was general that no suicide had occurred; either he had been rescued, or he had engaged some good swimmer to personate him, who subsequently escaped. The place of the occurrence was not twenty feet from shore. Indeed, an expert swimmer testified in court that an offer had been made to him to personate a man, and to jump from the ferry-boat; and the belief is gaining ground that this is what actually has occurred. Intelligence has been since received that the fugitive is under surveillance in Detroit. It is scarcely necessary to say that the river was dragged for a couple of days in vain by the authorities. His wife has offered a small reward for his body. Although the chief is out of the way, the work goes bravely on, and since his arrest, his son and an associate have been held to answer for continuing the traffic in bogus diplomas. It is believed that if this business is to be broken up, the general government will be obliged to follow up the work it has begun, so as to exercise some wholesome restraint upon the promiscuous distribution of diplomas (for a small consideration), which, in too many cases, also convey to the purchaser a license to practice medicine.

— In Philadelphia there are a large number of irregular licentiates of electropathic, eclectic, and other similar establishments, besides many who have not even a show of authority to practice medicine. A death certificate was brought to the Board of Health office last week for a child whose cause of death was certified to be "colicky faunum." The coroner sat upon the document and the doctor, and decided it to have been a bad spell of "cholera infantum." The physician was a graduate (?) of Buchanan's institution, where he had listened to eight lectures and paid twenty dollars for a diploma. There is nothing mean about Philadelphians, they are apparently willing to let anybody practice medicine on them. It is here the rule for druggists to prescribe over the counter, and even to attend professionally at the patients' houses. It is true that one occasionally gets himself into trouble for instance, a short time since by signing a death certificate stating that a child died of summer complaint, whereas the coroner decided that it died of scarlatina; but such a *contretemps* is rare, for the druggist has learned the homoeopathic trick of retiring from a case shortly before death occurs, so that some physician in good standing shall be called in just in time to make a diagnosis and fill out a certificate.

— Instances of longevity generally occur among the Irish and negroes, where the age is largely a matter of conjecture. The following case appears well supported, and if Thom's conclusions are correct from his investigations into the authenticity of the reported age of celebrated characters, this subject attains a greater age even than Thomas Parr: An inmate of the Baptist Home, named Mrs. Margaret Kale, died on

Wednesday, July 28th, at the advanced age of one hundred and seven years. The old lady was born near Reading, Pa. About forty years ago her husband died, and afterward she followed the occupation of nurse, until old age rendered her incapable of caring for herself. She was admitted to the Baptist Home nine years ago. Her mind was clear till the time of her death, and she was able to carry on a spirited conversation.

Miscellany.

AN ENGLISH LETTER FROM AN OCCASIONAL CORRESPONDENT.

THE IMBROGLIO AT GUY'S HOSPITAL: THE CONVICTION OF ONE OF THE NEW NURSES FOR MANSLAUGHTER.

MR. EDITOR. — The trouble between the medical staff and the nurses at Guy's Hospital, which has for some months been a matter of public notoriety, has at length reached a dramatic climax by the conviction of one of the nurses for manslaughter. If your readers will refer to the pages of the *Nineteenth Century* of some months ago, they will see how bitter was the controversy. That there was some cause of complaint against the old nurses is very possible, but the spirit of the paper of Miss Lonsdale shows clearly enough that however great her administrative abilities may be, her appointment was a most unfortunate one for the hospital. Her article is overflowing with self-assertion, and it is apparent that though she might admit that the medical staff were her collaborators, she had no idea of admitting that she was their subordinate. It requires little knowledge of human nature or of hospital administration to infer that this state of things could not long continue without some public scandal. The present case is, in brief, as follows: There was a young woman, suffering from phthisis of one lung; at least this was the diagnosis. There is reason to believe that she was hysterical and disagreeable. Consumptives are apt to be. In well-regulated hospitals, however, this is not considered as a just cause of grievance to the nurses. On the 5th of July this unfortunate woman soiled her bed, and the nurse was very angry, and, with the consent of the sister of the ward, determined to give her a bath. (Let me state in parenthesis that "sister" means what we should call head nurse, and "nurse" what we should call an "assistant nurse.") The medical staff was not consulted, as, of course, in "nursing," these ladies consider themselves paramount. The bath being, apparently, quite as much a measure of discipline as of cleanliness, the patient was not wheeled or carried, but walked (some accounts say very roughly), to the distant bathroom. She was put into a bath, which was practically a cold one, for at least most of the time, and was never a really warm one. Accounts vary as to the time she was kept in it, but she was out of her bed for more than an hour, and probably most of the time in the bath. A ward-maid found her shivering in the chilly water, and spoke to the nurse, who replied: "Yes, but she is so obstinate she won't help herself; and I am determined I won't help her." The nurse at last took her out, and walked her back to bed, according to at least one account with great

brutality, but the justice at the trial did not think this last point clearly established. Dr. Pavy, under whose care she was, saw her that day, and found her suffering from the effects of this treatment, and directed that the matter should be inquired into. The patient, to make a long story short, went from bad to worse, and died in about a fortnight. At the autopsy tubercular meningitis was found, which apparently was the immediate cause of the death. All this, and perhaps more, for I have omitted alleged details of ill-treatment, was shown at the trial. The most important witness for the defense was Sir William Gull, who, although he could not say that the bath was judicious, implied that the disease all along was tubercular meningitis. One plea for the defense, and which appears a very extraordinary one, is that, the patient being hysterical, a rousing treatment was indicated, and that the nurse was at worst guilty of indiscretion. Hospital management has surely come to a pretty pass when nurses are to decide to what extent patients are to be "tuned up," if you will forgive me the word, and what the nature of the "tuning up" is to be. The jury, on August 6th, after an absence of fifty minutes, found the prisoner guilty of manslaughter, and brought in also the following rider, which was read from the bench: "We think there has been shown negligence on the part of the nurses, and there should be a better supervision by the medical officers of the hospital." As far as I have been able to judge by the daily papers, the verdict, as affecting the prisoner, is considered a just one. Referring to the rider, the *Times*, in a very severe editorial, observes: "We do not quite see where they discovered evidence of 'negligence' on the part of the nurses, since the facts seem rather to point to the mischievous activity of a person rendered rash by ignorance, and released from the restraints suitable to her position." It says also, very judiciously, "The tendency of those who would describe themselves as the 'nursing authorities' of the hospital has been in the direction of repudiating medical supervision or restraint, and it is not a matter of surprise if an assistant nurse, with such examples before her eyes, considers herself able to decide when and in what degree an offending patient should be subjected to disciplinary treatment." The testimony of Sir William Gull would appear a little extraordinary, as he never saw the case, and based his opinion on the clinical record. This at least is the way it seems to strike Dr. Pavy, for in the *Times* of August 7th, the day after Sir William Gull testified, he published the following card: —

"TO THE EDITOR OF THE TIMES:

"SIR, — In the trial of the Guy's Hospital case, just concluded at the Old Bailey, Sir William Gull has cast what I consider an unwarrantable aspersions upon my professional competency. Will you permit me through your columns to call upon him to make a public retraction, in default of which I shall refer the matter to the College of Physicians, to which we both belong?

"I am, sir, your obedient servant, F. W. PAVY.

"35 GROSVENOR STREET, August 6th."

To continue the narrative in the order of events, the prisoner was brought in for sentence the next day, August 7th. There was some evidence offered of previous good character, and counter testimonials of bad temper and disrespect to the medical staff at another

hospital. Mr. Poland, the counsel for the prosecution, hinted that complaints had been received by the medical officers at Guy's of rough treatment by the prisoner, and the following suggestive dialogue occurred between him and the presiding justice, Mr. Hawkins:—

Mr. Hawkins. Then why did not the medical officers display better supervision? Why did they permit patients to be placed under her care? It was a very gross neglect on their part.

Mr. Poland observed that the medical officers had no control over the nurses. Only the "sisters" had that control.

Mr. Hawkins remarked that surely the medical officers who were responsible for the health of the patients had some control over the nurses, and might have remonstrated with the defendant.

Mr. Poland was afraid they had not. The medical officers had no control over the nurses, who were under the authority of the "sisters," who were the governing body.

Mr. Hawkins observed that all he could say was that it was very bad management if the governing body and the medical staff could not run smoothly together in dispensing the relief they had to dispose of.

Mr. Poland. I think it very likely that good may come of this case.

The justice sentenced the prisoner to three months' imprisonment. He would not, he said, add the indignity of hard labor. This, I think, is satisfactory. The mortification of the conviction and the imprisonment is certainly a severe, though a richly deserved, punishment for this woman. Her father was a surgeon; she is, I understand, a member of a semi-religious body, and receives no pay. Great as her fault was, it after all was, perhaps, not wholly her own, but rests in part on the insubordination and conceit which the party backing the new system of nursing at Guy's appears to have fostered. Of course, the end is not yet. Reams of foolscap will be sent to the medical journals, the daily press, and the monthly magazines. Numberless side issues, undoubtedly, will occur. The quarrel between Dr. Pavy and Sir William Gull is already a very pretty one as it stands.

Let us hope that this matter will end in putting the wards under the control of those who, by education and position, are best fitted to command, and that the nursing body may be taught that their place is to obey. D.

DOVER, August 9, 1880.

TRAIN-CATCHING.

THE *Lancet* reminds its readers again of the familiar but real dangers incurred by Paterfamilias, who, having located his family at some "watering-place" within two or three hours of London, intends to take his holiday by "running up and down," and warns them that the practice of hurrying to catch a train is attended with many serious risks. The exertion may not be of long duration, and except on very rare occasions, when it "seems to upset" him a little, the effort may be rapidly over and soon forgotten, but the strain on the heart and blood-vessels is violent while it lasts, and although unnoticed at the time it may work mischief. We have in our recollection cases of grave disease set up in this way, without the cognizance of the sufferer. There is, however, a class of cases, which does not appear to be

generally recognized, and to which it may be well to direct attention. Not only may injury be done to the heart and great vessels by this exceptional straining, but the delicate structure of the nervous centres may be injured. It is a common experience with persons who are laboring under certain forms of incipient or subacute nervous disease, that violent exertion excites them mentally, in some instances producing almost homicidal impulses. There are several hypotheses on which this disturbance may be explained, but the point we are at the moment chiefly interested to bring out is the fact that not only may the rapid flow of blood stir the brain to impulsive action, it may even rouse dormant animal propensities to excitement. The impulse felt by a hurrying pedestrian to push or knock persons in his path is not wholly *impetuous*; it is, in fact, a physically-induced irritability which, being often repeated, may become persistent. Train-catching does not improve the temper, and in some instances it may do remote and very serious mental mischief.

FRATERNIZATIONS WITH HOMŒOPATHS.

THE following editorial from the *Medical Press and Circular* of June 30th we deem of sufficient interest to copy entire:—

"The relations of the profession with homœopaths have been recently the subject of a most animated and important controversy in Dublin, and, as a definite and, we hope, a final opinion has been expressed by the Fellows of the Irish College of Surgeons and by the council of that body, the matter comes to be eminently deserving of discussion by the profession, and of comment in these columns. In the month of August, 1861, the scandal of open professional association between Fellows of the Irish College and other legitimate practitioners with homœopaths had grown to such proportions that a strong feeling in the profession was aroused. Certain leaders of the surgical profession were then to be seen in daily fraternization with irregular practitioners, meeting them as consultants in the sick-room, and presumably aiding and advising them in their treatment, and modifying their own therapeutic method so as to meet the bias of the patient and the special tenets of the infinitesimalists, and the public had begun to assume that there was nothing at all irreconcilable between scientific medicine and Hahnemannism, and to discover that there were surgeons of admittedly high rank who were quite willing to accept fees for consulting with homœopaths, and, if necessary, to make their prescriptions suit the theories of patient and infinitesimalist.

"But then, as now, the Irish College of Surgeons was equal to the occasion, and was not awed into toleration of this fraternization by the fact that the surgeons who drove this sort of trade were nominally leaders of the profession. Accordingly, the council, after much deliberation, adopted the following ordinance, which, by virtue of the college charter, becomes absolutely binding, and disobedience of which would have subjected a Fellow or licentiate to formal censure, and even to expulsion from the college:—

"No Fellow or licentiate of the college shall pretend or profess to cure diseases by the deception called homœopathy, or the practices called mesmerism, or by any other form of quackery; neither shall they or any

of them seek for business through the medium of advertisements or by any other disreputable method.

"It is also hereby ordained that no Fellow or licentiate of the college shall consult with, meet, advise, direct, or assist any person engaged in such deceptions or practices, or in any system or practice considered derogatory or dishonorable by physicians and surgeons; nor shall he, directly or indirectly, have any professional communication with such persons."

"The ordinance thus adopted was then and since sent to every Fellow of the college, and has remained in full force for nearly twenty years, and its effect has undoubtedly been to restrain Irish surgeons from open association with homœopaths, and to restrict the practice of these persons to patients who are content to trust themselves to the sole ministrations of the followers of this line of practice.

"Recently the subject was revived, and became the focus for much controversy, and, in view of a particular case in point, was brought under the notice of the Irish College of Surgeons at its annual general meeting on the last Monday in May. Then and there, with but one dissentient voice (that, we regret to say, of a senior member of its council, an ex-president, and a high official of the college), the Fellows reaffirmed the foregoing ordinance, and, their powers being restricted to a recommendation to the council, did then and there recommend the college executive to increase the force of the prohibition by adding to the ordinance the words 'or directly or indirectly have any professional communication with such person.' At that meeting of the college a forcible legal objection to the ordinance was started by the representative of the college in the general medical council, who pointed out that it was at variance with the twenty-third section of the medical act. That section provides that, —

"In case it shall appear that an attempt has been made by any body, entitled to grant qualifications, to impose upon any candidate offering himself for examination an obligation to adopt or refrain from adopting the practice of any particular theory of medicine or surgery, as a test or condition of admitting him to examination or of granting a certificate, . . . the privy council may thereupon issue an injunction to such body so acting, directing them to desist from such practice."

"The college had, of course, never thought of putting any question to a candidate for its licenses as to his intentions as to practice, but, by its charter, it required all Fellows and licentiates to obey the college ordinances, and inasmuch as the prohibition against quack practice was one of these ordinances, it was held that the college law was at variance with the medical act.

"The recommendation of the college at large was submitted to the council at a special meeting on Wednesday last, and thereupon two notices of motion were placed on the order paper. The first of these was in the following terms:—

"That the ordinance of council of the 22d August, 1861, be and it is hereby rescinded, and instead thereof it be now resolved, That it be an ordinance of the council that no Fellow or licentiate of the college shall seek for business through the medium of advertisements or any other disreputable method, or shall consult with, advise, direct, or assist, or have any professional communication with any person who professes to cure disease by the deception called homœopathy,

or by the practice called mesmerism, or by any other form of quackery, or who follows any system of practice considered derogatory or dishonorable to physicians and surgeons.

"And be it furthermore resolved, that in the opinion of this council it is inconsistent with professional propriety, and derogatory to the reputation, honor, and dignity of the college, to engage in the practice of homœopathy or mesmerism, or any of the forms of quackery as hereinbefore set forth."

"It will be observed that this resolution was intended to confirm and comply with the recommendation of the Fellows, for it contains the words suggested by the college at large. It was also intended to obviate the legal difficulty which had been raised, and it does so by making the practice of homœopathy a matter simply of the condemnatory opinion of the college, while it leaves the consultation with homœopaths a subject of absolute prohibition and of collegiate censure. It will be seen, therefore, that while the council was obliged to modify its ordinance in deference with a law which it neither assents to nor approves, it was asked to do so in such a manner as to leave its disapproval of homœopathic practice as clear as ever, and to emphasize its prohibition of fraternization with homœopaths.

"To this motion an amendment was moved to strike out all words after the word 'method' in the fifth line, the effect of which would have been to withdraw all prohibition, and to license all forms of fraternization with quacks. We learn that after a prolonged debate, at which the whole council, save one, were present, the amendment was negatived without a division, and the motion unanimously adopted.

"Thus the Fellows of the college and its council have deliberately pronounced their determination not to tolerate in any form the professional association with quacks by those under their control; and we venture to hope that this decisive expression of opinion will settle the question for many years, and will be accepted by the homœopathic practitioners, and by those who covet the patronage of such persons, as a final verdict against them, and a warning that the surgical profession in Ireland will not 'touch the unclean thing' under any circumstances. We are gratified and even proud that the higher professional morality of Irish surgeons should have thus asserted itself, and we congratulate the profession on its escape from the proposition that all forms of quackery should be admitted to open public association with them. We are, of course, quite prepared for the howl of 'trades-unionism' which will be raised by the homœopaths, their medical backers, and by the very voluble old lady talkers who support these practitioners. Such a cry is the only possible answer to the emphatic pronouncement of the Irish College of Surgeons, but for any person who is informed as to the tenets of homœopathy it is no answer at all.

"We need not refer to the principles and practice of homœopathy further than to say that if they be even partially true, the therapeutics of scientific medicine must be a criminal deception fraught with death and misery to our patient. It is absolutely and physically impossible that a practitioner can truly believe in or honestly practice both systems, and it is against the dishonesty of attempting to do so that the Irish College of Surgeons has pronounced its anathema. Let us say, for the sake of argument, that homœopathy is

enlightenment and scientific truth,—the therapeutics of our profession are a system of stupid prejudice and rank ignorance. If this be so, it is right and wise to treat sick people with billiunths, and to proceed to cure the disease with what makes the disease. Upon this question the Irish College of Surgeons has not sought to express any opinion, and will not enter into controversy, but it has a perfect right, without pronouncing judgment upon what we will suppose to be matters of scientific opinion, to declare that its Fellows and licentiates shall honorably fulfill their duty to their patients according to their lights.

"That duty cannot be honorably fulfilled if the physician or surgeon descends to a compromise with error, and, we will add, with fraud, in order to earn a consultation fee or satisfy the vagaries of the patient;

and it is against the dishonor involved in such a surrender of principle that the college has declared its ban. The council is the appointed guardian of the 'reputation, honor, and dignity' of the college, to observe which the Fellows and licentiates have sworn, and though one or other of these may forget that to which he has solemnly bound himself, the profession cannot forget what is due to itself. It owes to itself to keep even the skirts of its robe unsullied by contact with a monstrous deception, and it cannot fail to put away from its pale those who are soiled by such contact; and, in our opinion, the Irish College of Surgeons has done no more than its duty, and no less than was expected of it, when it holds out the penalty of its censure over those who might yield to the temptation."

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 21, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from					
				The Principal "Zymotic" Diseases.	Diarrheal Diseases.	Lung Diseases.	Diphtheria and Croup.	Typhoid Fever.	
New York.....	1,085,000	601	304	36.44	22.63	7.49	7.49	.67	
Philadelphia.....	901,380	334	153	26.95	17.96	2.40	2.10	3.89	
Brooklyn.....	564,400	283	157	35.44	27.37	8.77	5.96	.70	
Chicago.....	—	241	150	45.64	29.88	7.88	4.98	1.24	
St. Louis.....	—	160	78	26.88	16.88	1.25	—	1.88	
Baltimore.....	393,796	137	75	29.20	13.14	4.38	4.38	2.19	
Boston.....	363,938	197	104	43.65	32.99	4.57	5.58	2.03	
Cincinnati.....	280,000	108	51	37.96	18.52	5.56	—	9.26	
New Orleans.....	210,000	107	30	19.63	9.35	2.80	.93	—	
District of Columbia.....	170,000	71	39	29.58	9.66	2.82	5.63	2.82	
Buffalo.....	—	64	27	32.81	23.44	—	6.26	1.56	
Cleveland.....	160,000	—	—	—	—	—	—	—	
Pittsburgh.....	156,634	53	32	49.06	20.75	3.77	13.21	3.77	
Milwaukee.....	127,000	52	35	23.08	17.31	7.69	3.85	—	
Providence.....	104,862	39	18	38.46	25.64	12.82	2.56	—	
New Haven.....	60,000	15	4	20.00	—	6.67	6.67	6.67	
Charleston.....	57,000	24	10	20.83	16.67	—	—	—	
Nashville.....	45,543	20	9	25.00	5.00	5.00	5.00	5.00	
Lowell.....	59,340	35	26	48.57	42.86	5.71	—	—	
Worcester.....	58,040	21	13	42.86	19.05	—	4.76	4.76	
Cambridge.....	52,860	31	16	51.61	48.39	—	—	—	
Fall River.....	48,626	27	19	3.70	—	—	—	3.70	
Lawrence.....	39,068	30	16	40.00	26.67	3.33	3.33	6.67	
Lynn.....	38,376	20	14	35.00	30.00	8.00	—	5.00	
Springfield.....	33,536	15	1	13.33	—	—	—	6.67	
Salem.....	27,347	25	13	44.00	44.00	—	—	—	
New Bedford.....	27,268	18	9	44.44	38.89	—	—	—	
Somerville.....	24,964	6	1	16.67	16.67	—	—	—	
Holyoke.....	21,961	13	8	53.85	46.15	7.69	—	—	
Chelsea.....	21,780	17	11	64.71	47.06	—	11.76	—	
Taunton.....	21,145	4	2	25.00	25.00	—	—	—	
Gloucester.....	19,288	17	7	29.41	29.41	—	—	—	
Haverhill.....	18,478	6	4	50.00	50.00	—	—	—	
Newton.....	16,994	—	—	—	—	—	—	—	
Newburyport.....	13,470	11	2	37.27	—	—	27.27	—	
Fitchburg.....	12,270	9	2	33.33	22.22	—	—	11.11	
Eighteen Massachusetts towns.....	143,685	42	18	26.19	19.05	—	2.38	—	

Deaths reported, 2855; 1458 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 982, diarrheal diseases 643, consumption 328, lung diseases 144, diphtheria and croup 127, typhoid fever 56, scarlet fever 49, malarial fevers 42, whooping-cough 33, cerebro-spinal meningitis 19, measles 13, small-pox three, erysipelas two. From scarlet fever, Chicago 12, New York seven, Philadelphia six, Baltimore, Cincinnati, and District of Columbia four, Providence three, Brooklyn, St. Louis, Boston, New Orleans, Pittsburgh, Milwaukee, Cambridge, Springfield, and Clinton one. From malarial fevers, New York and St. Louis 10, New Orleans seven, District of Columbia four, Chicago and Baltimore two, Boston,

Buffalo, Pittsburgh, Charleston, Nashville, New Bedford, and Chelsea one. From whooping-cough, New York eight, Baltimore six, Cincinnati four, Chicago and Pittsburgh three, Brooklyn two, Philadelphia, St. Louis, Boston, New Orleans, Nashville, Lowell, and Worcester one. From cerebro-spinal meningitis, New York five, Chicago, Cincinnati, and Worcester two, St. Louis, Baltimore, Boston, New Orleans, New Haven, Lawrence, Holyoke, and Holliston one. From measles, Chicago four, New York three, Boston two, Brooklyn, Cincinnati, Providence, and Lowell one. From small-pox, Philadelphia three. From erysipelas, New York and Pittsburgh one.

Thirty-three cases of diphtheria, 11 of scarlet fever, four of whooping-cough, one each of small-pox, measles, and typhoid

fever were reported in Brooklyn; diphtheria eight, scarlet fever three, in Boston; scarlet fever nine, diphtheria six, in Milwaukee; scarlet fever 12, diphtheria three, measles two, whooping-cough, erysipelas, and typhoid fever one each, in Providence; scarlet fever two, diphtheria one, in New Bedford.

In 36 cities and towns of Massachusetts, with a population of 1,045,440 [population of the State 1,783,812], the total death-rate for the week was 27.21 against 25.46 and 30.28 for the previous two weeks.

Total number of deaths increased; deaths under five increased; deaths from diarrhoeal diseases increased, all in about the same proportion.

For the week ending July 31st, in 149 German cities and towns, with an estimated population of 7,729,598, the death-rate was 32.2. Deaths reported, 5396; 3168 under five; pulmonary

consumption 432, acute diseases of the respiratory organs 239, diphtheria and croup 101, scarlet fever 73, typhoid fever 61, whooping-cough 59, measles and ritheln 57, puerperal fever 14, typhus fever (Beuthen) one, small-pox (Berlin) one. The death-rates ranged from 15.6 in Karlsruhe to 47.6 in Chemnitz; Königsberg 36.3; Breslau 43; Munich 37.6; Dresden 29.2; Berlin 38; Leipzig 27.2; Hamburg 22.2; Hanover 25.1; Bremen 19.1; Cologne 36.3; Frankfurt 26; Strasburg 43.3.

For the week ending August 7th, in the 20 Swiss cities and towns there were 56 deaths from diarrhoeal diseases, acute diseases of the respiratory organs 19, diphtheria and croup five, measles one.

The meteorological record for the week in Boston was as follows:—

Date,	Barom-eter.	Thermom-eter.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.	
Aug. 15	30.006	61	70	55	74	68	84	75	W	NE	C	10	11	0	C	C	C	—	.01	
" 16	30.340	60	72	47	89	42	67	66	SW	SW	SW	9	18	4	F	F	C	—	—	
" 17	30.355	64	79	52	66	72	65	67	W	C	C	9	12	0	O	F	C	—	—	
" 18	30.254	65	79	54	65	63	94	74	C	SE	C	0	6	0	O	F	H	—	—	
" 19	29.957	68	76	58	89	44	74	69	C	W	NW	0	7	4	O	F	F	—	—	
" 20	29.708	75	85	68	58	66	65	61	NW	C	SW	9	0	8	H	H	F	—	.01	
" 21	29.712	74	85	68	66	68	84	73	SW	SW	W	10	15	5	F	O	F	—	.09	
Week.	30.047	67	85	47				71	Southwest.									4 20	.11	

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM AUGUST 21, 1880, TO AUGUST 27, 1880.

McKee, J. C., major and surgeon. Granted leave of absence for one year on surgeon's certificate of disability. S. O. 177, A. G. O., August 19, 1880.

White, C. B., major and surgeon. His sick leave of absence further extended three months on surgeon's certificate of disability. S. O. 181, A. G. O., August 25, 1880.

Ainsworth, F. C., captain and assistant surgeon. When relieved, to comply with S. O. 89, C. S., A. G. O., in his case. S. O. 100, Department of Arizona, August 10, 1880.

Skinner, J. O., captain and assistant surgeon. Assigned to duty at Whipple Barracks, Arizona Territory, relieving Assistant Surgeon Ainsworth. S. O. 100, C. S., Department of Arizona.

Conrags, E. T., captain and assistant surgeon. Granted leave of absence for four months. S. O. 181, C. S., A. G. O.

Powell, J. L., first lieutenant and assistant surgeon. Granted leave of absence for twenty days, permission to leave the department and apply for ten days' extension, provided he furnish an acceptable substitute, without expense to the United States, during his absence. S. O. 167, Department of Texas, August 19, 1880.

AMERICAN GYNÆCOLOGICAL SOCIETY.—Programme of the fifth annual meeting, to be held in the hall of the Law School, Walnut Street, near Fourth Street, Cincinnati, Ohio, September 1, 2, 3, 1880. The profession is cordially invited to attend the meetings. September 1st. Morning session at ten o'clock. Roll-call, reception of guests, etc. Papers. (1.) What is the Proper Field for Battey's Operation? By Dr. Robert Battey, of Rome, Ga. (2.) Two Cases of Anterior Displacement of the Ovary, simulating Internal Inguinal Hernia. Battey's Operation complicated with Pregnancy. By Dr. H. P. C. Wilson, of Baltimore. (3.) Uterine Massage as a Means of treating certain Forms of Enlargement. By Dr. A. Reeves Jackson, of Chicago. Appointment of the nominating and auditing committees. Adjournment at one p. m. Afternoon session at three o'clock. (4.) A Case of Cataleptic Convulsions cured by Tracheorrhaphy. By Dr. R. S. Sutton, of Pittsburgh,

Pa. (6.) The Value of Quinine in Gynæcic and Obstetric Practice. By Dr. H. F. Campbell, of Augusta, Ga. Adjournment at five p. m. September 2d. Morning session at ten o'clock. (7.) The Instinctive (or Natural) and Physiological Position of Woman in Labor. By Dr. G. J. Engelmann, of St. Louis. (8.) Fifth Annual Address. By the President, Dr. J. Marion Sims, of New York. (9.) Occlusion of the Gravid Uterus. By Dr. J. A. Eve, of Augusta, Ga. (10.) Three Fatal Cases of Rupture of the Uterus, with Laparotomy. By Dr. W. T. Howard, of Baltimore. Adjournment at one p. m. Afternoon session at three o'clock. (11.) Extirpation of an Enecephaloid Kidney. By Dr. W. H. Byford, of Chicago. (12.) The Hot Rectal Douche. By Dr. J. R. Chadwick, of Boston. Adjournment at four p. m. September 3d. Business meeting at one a. m., with closed doors. Report of the treasurer and auditing committee. Report of the nominating committee and election of officers for 1881. Nominations for honorary and active fellowship by the council. Balloting on the same. Morning session at 10.30 o'clock. (13.) Secondary Puerperal Hemorrhage. By Dr. Theophilus Parvin, of Indianapolis. (14.) On the Diagnosis of Pregnancy in the Early Months. By Dr. J. T. Johnson, of Washington. (15.) Ulceration of the Cervix Uteri. By Dr. T. A. Reamy, of Cincinnati. Adjournment at one p. m. Afternoon session at three o'clock. (16.) Freund's Extirpation of the Cancerous Uterus. By Dr. J. R. Chadwick, of Boston. (17.) A Supplemental Contribution to the Pathology of the Cæcivæ of Pregnancy. By Dr. S. C. Busey, of Washington, D. C. (18.) Manual Dilatation of the Os Uteri as a means of inducing Premature Labor. By Dr. W. L. Richardson, of Boston. Adjournment at five p. m. Officers for 1880: President, J. Marion Sims, of New York. Vice-presidents, W. T. Howard, of Baltimore, Robert Battey, of Rome, Ga. Council, W. Goodell, of Philadelphia, E. W. Jenks, of Chicago, A. D. Sinclair, of Boston, A. J. C. Skene, of Brooklyn. Secretary, J. R. Chadwick, of Boston. Treasurer, P. F. Mundé, of New York.

BOOKS AND PAMPHLETS RECEIVED.—Wood's Library of Standard Medical Authors. A Treatise on Common Forms of Functional Nervous Diseases. By L. Putzel, M. D. New York: William Wood & Co. 1880. 8vo.

An Experimental Research on the Physiological Action of Drugs on the Secretion of Bile. By William Rutherford, M. D. With one hundred wood-cuts. Edinburgh: Adam and Charles Black. 1880. 8vo.

Accutres.

CLINICAL LECTURE AT THE HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.¹

BY WM. GOODELL, M. D.,
Professor of Clinical Gynecology in the University, etc.

A CASE OF UTERINE CANCER, WITH REMARKS UPON TREATMENT.

GENTLEMEN, — Mrs. X. presents herself before you complaining of "whites," frequent hemorrhages, and failing health; and gives the following history: She is about thirty-five years of age, married, and has had two children, the younger being a little over eight months old. She has not had any miscarriages, and has been in good health until after the birth of this infant she speaks of. No especial difficulty was experienced in her delivery, and she had a good getting up. Her child is not with her, but she says that it is well nourished and as large as it should be for its age; she is still nursing it. She had not been subject to leucorrhœa, except occasionally after her menstrual periods, until about ten weeks ago, when she noticed a vaginal discharge which was of a watery character, and so copious that for a time she thought her urine was dribbling away. About two months ago she had quite a profuse uterine hemorrhage, which appeared after sexual intercourse. It has been nearly constant ever since, sometimes, indeed, amounting to a flooding, so that she has lost a large quantity of blood. This partially accounts for her sallow and anæmic appearance, but not wholly. She has noticed for the last four weeks that the blood is clotted, and that, mingled with the discharge, are small pieces of flesh. With all this she has not suffered from any pain, yet her general health has failed, and she feels weak; this debility, however, she attributes to the nursing, for she does not feel as well now as she did when the child was born. She appears emaciated, and her skin is leaden and lacks the hue of health. She has, indeed, the appearance of one laboring under some cachexia. Putting our queries further in the direction of her family history, we learn that her father is still living and is unusually vigorous; but that her mother had a malignant tumor removed from her eye, and subsequently perished with secondary tumors in the abdomen. The patient has several sisters, but none are similarly affected.

The history of the patient's disorder, the characteristic local discharges, and the profound systemic disturbance clearly point to malignant disease of the cervix uteri, which inspection only too fully confirms. She is aware of the nature of her affection, and has traveled for some distance in order to get my advice, and to obtain relief by operation, if I think it needful or expedient. A rest of several days in the hospital will be required previous to any interference, and in the mean time I shall decide upon what course to pursue.

For the purpose of convenience of inspection the patient has been placed in Sims's position, and, as I expose the parts with the duck-bill speculum, you can see the large fungous mass of exuberant vegetations springing from the cervix and filling up the whole upper portion of the vagina. This is the source of the copious watery discharge containing granulations; and

from this mass comes the hemorrhage, which she tells us was first excited by sexual congress. I will now dismiss the patient to the ward, while I make a few observations upon her disorder from a clinical point of view.

The only difficulty that could arise in the diagnosis of epithelioma of the cervix uteri would be in its earliest stage. The frequent hemorrhages, alternating with a strong-smelling, colorless vaginal discharge, containing pale vegetations looking like small fragments of macerated flesh, occurring in a woman of about forty years of age, or older, are suspicious symptoms. But the crater-like ulcer having a sharp edge and a dense, rough surface covered with granulations, which are easily broken off and easily bleed, and the form in which a friable fungous growth fills the cervical canal and projects from it into the vagina, equally disclose by digital examination the malignant character of the disease. The speculum even is liable to break off these exuberant granulations, and, indeed, sometimes causes troublesome hemorrhage. Should the cervix feel like fibro-cartilage, and the os remain firm even after the introduction of a sponge-tent, we then have to deal with another form of cancer, more slow in its progress but not the less malignant; for it is generally held that epithelioma, especially the vegetating variety, is the least malignant of all the forms of uterine cancer, and the most amenable to treatment.

The distinction between the several forms of malignant invasion of the cervix possesses much pathological interest, but is far less important from our standpoint than the location and extent of involvement. Having determined their malignant character in general, the next step is to attempt to determine the extent of the disease, in order to decide the questions of treatment and prognosis.

However early the affection may be recognized, it is never too early to get rid of the diseased structure, always going beyond the limits of invasion in order to insure its entire removal. This may be accomplished by the *crasseur*, by the galvano-caustic loop, or by careful and thorough scraping with Simon's curette, and the scissors, or Reamy's gouge forceps. With these instruments the diseased structure is patiently scraped and cut away until healthy tissue is reached. The operation, however, is not completed until the excavation resulting is thoroughly cauterized with the actual cautery or by fuming nitric acid. This latter application need not be made until a few days later, when the sponge tampon introduced after the operation is removed. Since most of you have repeatedly seen me perform this operation, and since I shall soon operate on this woman before you, I shall not go into further details. The subsequent treatment by the mouth is the administration of arsenic, iron, and ergot. Abstinence from sexual intercourse should also be strictly enjoined, for it is liable to cause alarming hemorrhages from the impact of the male organ on the ulcerated sore. At the first sign of a return of the disease medical advice should be again obtained. Should the disease prove to be so extensive as to forbid any attempt at another operation, much may still be accomplished for the relief of the patient by palliation. The constantly recurring hemorrhages require ice-water injections or suppositories containing astringents, which can be employed by the patient herself. If these prove insufficient, a tampon of cotton-wool dusted with alum or tannin, or with dilute Monsel's solution, will be re-

¹ Lecture delivered, June, 1880.

quired; but it should not remain in position longer than about three hours, otherwise it may adhere to the friable vegetations and pull them away, causing fresh bleeding. The insufferable stench from some of these cases may be measurably made less overpowering by frequent vaginal injections of a dilute solution of potassium permanganate or of chloral hydrate. The latter I generally use, as I believe it possesses local anæsthetic in addition to its detergent and disinfectant qualities. The last resource of medical art, euthanasia by opiates, is all that can be offered to advanced cases, and when the sufferings are very severe it is a boon to be gratefully accepted and welcomed by the sufferer.

Total extirpation of the uterus by means of laparotomy is a desperate remedy which offers a chance of relief, but is only justifiable where the disease is strictly limited to a movable womb. This procedure has been recommended by Freund, and has been performed some twenty-eight times, with but nine immediate recoveries. Most of the latter cases subsequently perished from a recurrence of the disease. The prospect, you see, is not encouraging, but in such a fatal disease anything offering a ray of hope is eagerly embraced by the patient.

It is worthy of remark that malignant disease of the cervix occurs most frequently in women who have borne children, and, in my experience, in those who have met with a laceration of the cervix. These facts favor the view of its primary local character. But in addition we have the fact that its subjects are generally women in good health, who are ruddy and well nourished, until the cancer ulcerates. Then by absorption of the products of the disease they lose flesh and become leaden in complexion through a systemic infection sometimes termed the cancerous cachexia, but which in reality, it appears to me, is due more to septicæmia than to any specific impression by the malignant disease; for when the ulcerated surface is removed by an operation, their complexions invariably clear up and they gain flesh.

THE ETIOLOGY OF PERINEAL LACERATION, AND THE OPERATION FOR ITS RELIEF, WITH A CASE.

The next case is one for operation. Mrs. Y., twenty-five years of age, was confined three months ago, and was so unfortunate as to have an instrumental delivery, which left her in the miserable condition in which you see her. The perineum was torn completely through into the rectum, the laceration extending for at least an inch up the bowel. As I separate the labia and buttocks you see this large cloaca; the perineum has wholly disappeared, and the vagina and rectum end in one common opening. The effects of such a rupture as this place a woman in a very unhappy condition. In the first place, it is evident that the sexual functions are seriously impaired. Furthermore, the loss of control of the lower portion of the bowel, owing to the laceration of the sphincter ani, allows the involuntary escape of flatus, and also of the contents of the bowel, which, if at all liquid, soil the patient's person and clothing, and make her an object of loathing to herself. Need I add that the loss of support to the pelvic organs eventuates in prolapse of the uterus and its attendant ill health, so that unless some relief is afforded the afflicted patient is apt to sink into chronic invalidism. Shunned by acquaintances, repulsive to her husband, disgusting to herself, can any state be more abject and pitiable for a young

wife and mother to be in? Since the consequences are such, let me say a word or two upon the subject of the prevention of laceration of the perineum. How can we prevent the perineum from tearing? In the first place, inasmuch as a certain amount of time is required for the perineum to soften (as it does to a marked degree during the descent of the head), we should endeavor to prevent the head from descending too rapidly. It is a hobby with me *not to support the perineum*, as is generally recommended to be done. For many years I have practiced this plan, and have not paid any attention directly to the perineum for the purpose of saving it. When the perineum is very rigid it may be relaxed, as I have frequently succeeded in doing, by passing two fingers into the rectum as the head presses upon the perineum, and making traction forwards, while with the thumb of the same hand I retard the descent of the head. This procedure brings the perineum forwards without injurious counter-pressure, and favors the general diffusion of the strain throughout its entire extent, thus relieving the tension in the median line at the posterior commissure. The same manipulation makes the occiput hug the pubes, and favors the final extension of the child's head necessary for delivery. Other advantages, such as the fact that the procedure is not liable to be interrupted by involuntary movements of the patient, and the freedom of action allowed to the perineum, are also worthy of consideration.

Where the laceration extends through into the rectum you will generally find that there has been a forceps delivery. This so frequently follows the use of forceps, especially in a primipara, that I lay down the rule of practice that, in general (and always with primiparae), the forceps should be taken off as soon as the head rests upon the perineum, unless some very positive reasons exist why the delivery should not at this stage be allowed to be completed by the maternal expulsive efforts. When laceration appears inevitable you may invite a "laceration of election" at the sides of the fourchette by an incision through the thin mucous membrane with the bistoury. Two such incisions, one upon each side, will often prevent, and they of course are much more amenable to treatment than, the ordinary perineal rupture.

After the labor is over you should examine the perineum in every case of confinement that you are called to attend. Do not give remedies for a post-partum hæmorrhage that comes from the lips of a recent perineal wound, — for the transverse perineal artery may bleed freely, — but examine digitally, and if doubt exists inspect the parts. There is no question that small lacerations will often unite of their own accord, yet it is always best not to depend upon nature, but promptly to stitch the edges in apposition. There is also less danger of septicæmia if these stitches are introduced at once, and the raw surfaces saved from being bathed by the putrid lochial discharges. I advise you, therefore, as soon as the placenta is delivered, to close any existing laceration by several points of the wire suture. This is termed the primary operation, and for small or ordinary ruptures is very efficient, but for complete laceration it is not so successful an operation as the secondary one, performed after the expiration of several weeks or months. The fibrous or tendinous point where the sphincter joins the sphincter vagina, and into which the transversus perinei muscles are inserted, is called the central body of the perineum, and

upon its integrity depends the support of the pelvic organs, since these muscles, with the levator ani, guard the inferior outlet of the pelvis. A laceration involving the perineal body, then, would naturally be followed by a gradual and progressive descent of the uterus under the pressure of the abdominal viscera, until, in protracted cases, the uterus may present the condition of procidentia and remain permanently outside of the body, looking not unlike a horse's penis. This condition is generally complicated by cystocele and rectocele.

The object of treatment in such cases is to restore by a plastic operation the perineal structure and posterior wall of the vagina, which form the principal supports for the uterus. In the primary operation this may be readily performed as follows: as soon as the placenta is delivered, and while the perineum is still benumbed by the pressure and strain to which it has been subjected, three or more stitches of well-annealed iron or silver wire are introduced through the edges of the gaping wound. The ends are then twisted, or clamped by a shot, although the latter method is less needed in the primary than in the secondary operation, because the parts are more relaxed and there will be less tension. About an inch from the margin of the wound is the line where the stitches should enter and emerge, each one, excepting the lowest, being also made to include the mucous membrane of the vagina near the edge of the laceration. The lowest stitch is entered below the lower angle of the wound, and is completely buried in the recto-vaginal septum. An anæsthetic is not often needed for the primary operation, since the parts are numb and insensible from the recent passage of the head. The urine must be systematically drawn with a catheter, while the bowels are kept bound by opium, until the sixth or seventh day. The bowels may be opened by a saline on the day after the stitches are removed, after which the use of mild laxative enemata may be of service in preventing any undue strain upon the recent cicatrix. If, upon removing the stitches, there is not primary union, we may still obtain much advantage by encouraging granulation. Indeed, it is not uncommon to find small or superficial lacerations filling up completely by granulation, without any aid from sutures. In all cases of laceration of the perineum it is incumbent upon the physician, in the light of our present knowledge of the causes of puerperal septicæmia, to employ frequent antiseptic and detergent vaginal injections, in order to prevent, as far as possible, the recent wound from being inoculated by the putrescent lochia.

The secondary operation may be performed at any time after complete involution of the parts has taken place, but it should not be too long delayed, on account of the train of evils that I have already referred to. It is better for the patient, however, to be in good physical condition, and for this reason I would prefer waiting until the period of nursing is over.

Our patient appears to be in excellent general health, and as she is not nursing I shall proceed at once to the operation. Yesterday her bowels were freely moved by oil, and this morning she has taken one grain of opium; this is done in order that the rectum shall be empty, and also because we shall require the bowels to be absolutely confined for the next week or ten days. She has taken a light breakfast, and will be kept upon a spoon-diet during her treatment.

The instruments I am in the habit of using are an

ordinary medium-sized scalpel, a pair of scissors slightly curved on the flat, a pair of forceps long-handled and rat-toothed, some perforated shot and a shot compressor, a blunt-edged perineum needle, eyed at the point, silver wire, *serres-fines*, an ordinary suture needle and needle holder, and, finally, a self-retaining catheter, such as the Skene-Goodman, from which a small rubber tube may be carried to the urethra under the bed.

Having fully etherized our patient, she is placed in the "lithotomy" position, and the lower limbs, in a state of acute flexion, are supported by two assistants, while a third attends to the ether. It is also well to have a fourth assistant to sponge the wound, etc. The edges of the wound are now freshened by clipping off the cicatricial surfaces with the curved scissors, commencing at its inferior angle. Partly by snipping with the scissors and partly by dissecting with the knife a large raw surface is gained, somewhat resembling a red butterfly in its outline. From this surface there is free oozing of blood until the stitches are introduced as before described, and traction is made so as to bring the edges in apposition. The *serres-fines* are very useful during the dissection in checking any small vessel which bleeds too freely. After accurate coaptation of the wound you see how well the perineum is restored. In a large proportion of cases this operation is perfectly successful, and the functions of the parts are wholly re-tored.

Great care is demanded during the after-treatment. A self-retaining catheter, however, may be dispensed with, provided the urine can be drawn regularly twice or three times a day by an experienced nurse, for it should not be allowed to dribble over the wound. The patient's diet is restricted to milk, eggs, toast, and animal broths, so as to prevent clogging up the rectum. On the seventh or eighth day I remove the sutures, with the exception of the lowest one, which may not be disturbed until the bowels have been relieved by an enema of four ounces of olive oil. This may be supplemented by a dose of castor oil, and if needed followed by a second clyster of soap and warm water. Afterwards, compound licorice powder may be given at night, or a teaspoonful of Rochelle salt in a large tumbler of water, taken early in the morning, in order to prevent constipation. The lowest suture may be removed on the tenth day. Sometimes, however, I remove all the stitches before opening the bowels.

In conclusion, let me impress upon you the truth that laceration of the perineum is very largely due to precipitation in the second stage of labor, and more particularly to the hasty delivery by forceps. The practical deductions from this are to retard the head until the perineum softens, to aid in extension as the head descends along Carus's curve, and lastly, as a rule, to take off the forceps when the head reaches the perineum, so as to allow the final delivery to be completed by nature. This is safe practice, and as such I warmly recommend it to you.

— Says the *Louisville Medical Journal*: "Hirschsprung thinks that a demonstrable swelling beneath the border of the rib, especially upon the right side, of the consistence and shape of the kidney, which can easily be pushed upward toward the normal position of the kidney, and is freely movable forward and backward between the hands, cannot be mistaken for anything else."

Original Articles.

ON POINTS OF INTEREST IN THE CASE OF JENNIE P. CLARKE.¹

BY MEDICAL EXAMINER J. G. PINKHAM, M. D.

ON the 27th of February, 1879, at about five P. M., an old trunk containing a dead body, afterwards proved to be that of Jennie P. Clarke, of Boston Highlands, was found on the eastern bank of the Saugus River, in Lynn, a few hundred feet below the bridge on the main road leading from Lynn to Boston. The trunk had been weighted with several bricks, and three old porter bottles, one of which, by a curious miscalculation, as it appeared, was empty and corked, thus acting as a buoy. The nose of the victim had been severed by a clean cut, extending from the bridge downwards through bones and cartilages, with the obvious purpose of preventing the recognition of the body in case it should be discovered. That this mutilation was accomplished after death I assured myself from the fact that there was no injection of the edges of the wound, no retraction of the skin, and no traces whatever of the copious bleeding which must inevitably have occurred had it been effected during life.

The hair had been cut, recently and hastily as it appeared, inasmuch as the ends were irregular, and some loose masses adhered to the person of the deceased.

An autopsy held a few hours later developed the fact that the woman had died of peritonitis following, or accompanying, an abortion.

The probable conclusion that this was a case of criminal abortion was one readily arrived at; for the apparently desperate efforts made to conceal the body, and to prevent its identification if found, were in themselves a confession of crime. It was winter, and the frozen state of the ground would render secret burial difficult; an open burial could not be had without a certificate of death, which the guilty parties evidently could not well obtain without risk of exposure. The conclusion, then, that a crime had been committed having been reached, the problem of determining who committed it was one for the officers of the law, with the assistance, perhaps, of the medical examiner, to solve. The task proved in this case to be no easy one, the chief obstacle arising from the fact that for several weeks no identification of the body could be established; but detective skill at last triumphed; and the felony was laid at the door of one Mrs. Goodrich, who was practicing as a clairvoyant physician on Lagrange Street, Boston, a certain "Dr." Kimball, also of Boston, and another man, the supposed seducer of the girl, being named as accessories. These parties were promptly indicted by the grand jury, and the two former brought to trial in September, 1879. The array of evidence was overwhelmingly against the accused, but, thanks to our absurd system of jury trials, they were not convicted, the jury standing eleven for conviction to one opposed. The only reason the one obstinate jurymen would give for not agreeing to convict was that no one saw the parties perform the criminal act. A second trial, which occurred in October following, resulted in the conviction of Goodrich and Kimball, and they are now serving out their sentences, the former of ten and the latter of seven years' imprisonment. The

other accessory has never been tried. There was little of medico-legal interest developed at the trials, the principal line of defense adopted by the counsel for the accused not involving the necessity of overthrowing the medical testimony. It was shown, however, by the witnesses for the government, that Jennie P. Clarke was in the fourth month of pregnancy; that she left the place where she was at service in Boston Highlands on the 12th of February, and went directly to the house of Mrs. Goodrich, on Lagrange Street, where on the same day she was operated upon by Mrs. Goodrich, in some manner not ascertained, for the purpose of procuring an abortion; that at 9.30 A. M., on the following day, February 13th, she went to the house of Miss Forsythe in Somerville; that on her arrival at this place she seemed to be suffering from "a cold;" that on February 14th she was taken quite ill, and "had pains all through her;" that she aborted on the 18th, and, after suffering in the manner usual in cases of puerperal peritonitis, died at two P. M., February 25th; that on the 26th the nose and hair were cut off by Kimball, the body packed into the trunk, and, on the night of the same day, which was dark and rainy, taken in a carriage to the bridge before mentioned and thrown over the railing into the water.

So much for history. I come now to the consideration of some points of especial interest in this case. I do not think it necessary to weary you with all the details of the autopsy, but will bring out the essential facts, as they are needed in the discussion.

IDENTIFICATION OF THE BODY.

In their efforts to prevent the identification of the body the criminals in this case manifested considerable shrewdness in cutting off the nose; for the effect of depriving the face of this important feature is very largely to destroy its characteristic expression. I show at this point two pictures of Jennie P. Clarke, one taken when in health, the other from the dead body several days after the autopsy. In the latter the teeth appear much more than when the body was discovered, owing to some post-mortem retraction of the lips, but otherwise the likeness is quite accurate. While I was making the autopsy a member of the police force in Lynn confidently asserted that the body was that of one Miss C., who was known to be pregnant, who had declared her intention of getting rid of the fetus, and who had disappeared from among her friends some two weeks previously. She had preferred a charge of bastardy against a certain party, and thus these facts became known to the police, who had kept watch of her. In order to make assurance doubly sure, a brother-in-law of the young woman was sent for, and the autopsy suspended to allow him to look upon the face. He came in, excited and trembling, and after some hesitation declared his belief that the dead body was that of his wife's sister; but a few hours later she was found in a boarding-house, concealed from her friends and just recovering from an abortion. This was only the beginning of a long series of positive identifications, all but the last ending either in finding the person alive, or in the development of some other circumstance which disproved the supposed identity. One man from a neighboring town declared the remains to be those of his daughter who was missing from home, he being convinced to the contrary only by the discovery of the erring one in a house of ill-fame in Boston. Another man was sure

¹ Read at the Annual Meeting of the Massachusetts Medico-Legal Society, June 8, 1880.

that it was his niece, but she, too, was found. In my opinion these strange mistakes were the result of the peculiar effect produced by cutting off the nose. Had the mutilation been carried so far as to destroy all the features, those who were seeking to identify the body would have been obliged to depend upon some mark or scar, and in this they would be much less likely to be deceived, although such an occurrence would be quite possible. In death, of course, those peculiarities of expression which result from the play of the facial muscles, and from the eyes, are lost entirely. Jennie Clarke was of medium size, had tolerably regular features, and brown hair, — a description, in brief, which applies to a very large number of young women. Imagine these faces deprived of their living expression, and of their most prominent feature, the nose, and you can understand to what a condition of uniformity all would be reduced, and what confusion might arise from the attempt to identify. As it proved in this case the witnesses to the real identification, while asserting that they recognized the body from its general features, yet had all of them some mark or scar upon which they depended to fortify their conclusions. Among the points mentioned were a small, smooth, somewhat pigmented wart upon the back of the left hand; seven very small moles on the inner aspect of left fore-arm; a linear scar on the left side of the neck caused by the lancing of an abscess; the slight overlapping of the front teeth, etc.

With a stupidity only equaled by that shown in using a bottle empty and corked as a sinker, the girl's ear-rings had been allowed to remain in their places, the corresponding pendants being afterwards discovered at home. These were recognized by a number of persons, and formed an important link in the chain of evidence establishing the identity. Facts like these show the importance of noting, at the autopsy of an unknown person, every peculiarity of appearance, however trivial, that may in any way serve as a means of recognition. A similar importance, in my opinion, attaches to measurements of the body, the length of the arm, the circumference of the neck, of the chest over the nipples, of the waist and hips, the length of the body, a shoemaker's measurement of the foot, etc.; for in case of non-identification before the destruction of the body by the process of decay, these, as serving to show whether certain garments would fit the deceased or not, might be of the greatest value.

AGE.

The general appearance of the body of Jennie P. Clarke was that of a young person. The hair presented no trace of gray, the skin was fair and free from wrinkles, and the teeth in general well preserved. But this description, obviously, might apply to a woman anywhere from age of maturity to that of forty or perhaps forty-five, and could not be relied upon as furnishing data for any calculation approaching exactness. Owing, perhaps, to the effect of the final illness upon the face, the tendency in this case was to overestimate the age. Some even placed it between thirty and forty. But, as it happened, more reliable data for determining the age were furnished by the *dentis sapientie*. On making a thorough examination, after relaxation of the jaws had occurred, it was found that the wisdom teeth of the upper jaw had emerged, while those of the lower jaw were still beneath the gums. One of the latter appeared to have been just on the

point of emerging, for on making an incision through the gum it came in sight. The wisdom teeth are said by authorities to appear usually between the ages of seventeen and twenty-two. They manifest, however, great irregularities in regard to the time of their eruption. An intelligent dentist informed me that he had been not unfrequently consulted by persons from twenty-five to forty years of age, who were having trouble with the eruption of their wisdom teeth. Occasionally one or more of them never appear at all, and they may emerge before the age of seventeen. They are liable to decay early, it being no unusual circumstance for them all to be lost within a few years after their appearance. In such a case one might, perhaps, be deceived by their absence into the belief that they had never appeared. So, also, if one of the other molars should be lost early in life, the gap in this way made might be filled by the eruption of the remaining teeth, and thus, there being but two molars present, the wisdom tooth, in the absence of any of the characteristic appearances of the crown, might be mistaken for the second molar, and the erroneous conclusion arrived at that the former had not emerged. The medical examiner, always on his guard, as he must be, against such sources of error, can make himself sure in regard to all these points by dissection. The conclusion in this case, based upon the statement of averages by the authorities, was that the girl was not far from twenty years of age, and this proved to be correct.

It was not thought necessary to seek for any additional evidence in regard to the age in the skeleton, for this would not perish for a long time, and could, if any important question should arise and make it seem advisable, be subsequently examined.

CONDITION IN LIFE.

The body was clothed in a coarse white cotton night-dress trimmed with Hamburg edging, and a cheap-looking merino under-vest. The person of the deceased had evidently been well cared for by herself during life, as the finger and toe nails were short and clean, while the ears, scalp, and teeth, parts usually neglected by the uncleanly, showed no traces of neglect. The hands were delicate, and there were no calluses upon the fingers or palms indicating that the deceased had been accustomed to any employment likely to cause a thickening of the cuticle. We could not thus exclude house-work from the list of possible occupations, for the reason that the frequent soaking of the hands in soap and water, as in washing clothes and dishes, would have a tendency to prevent the formation of calluses. From the facts given we were, I think, justified in inferring —

- (1.) That the deceased was in humble circumstances.
- (2.) That she did not belong to what can properly be styled a low class.

That she was not a prostitute, unless, perchance, she might be just beginning a career of shame, seemed probable from the fact that she had aborted; for it is well known that confirmed prostitutes seldom conceive, or if they do, that they abort at the next succeeding menstrual period, as a result of the constant sexual excitement to which they are subjected, without being themselves aware of their pregnancy. And besides, the probability was extremely small that any such desperate efforts would be made to conceal the dead body of one who was known as a *nymphe du paré*, for her bad character would in all likelihood be relied upon to pre-

vent any interest being taken in her death, or investigation made of its cause. As subsequently ascertained, Jennie P. Clarke was a domestic in a family of moderate means.

TIME OF DEATH.

Granted the complete cooling of a body, the time of death may be approximately determined by the presence or absence of cadaveric rigidity and of the signs of decomposition. In the case under consideration the body was, when discovered, frozen, the more exposed parts, as the extremities, quite firmly, those protected by the clothing to a less degree. Around the abdomen was a swathe and beneath this the flesh was very slightly frozen. All the joints were stiff, whether from the freezing or rigor mortis, or both combined, I was unable at the time to decide. In straightening out the body to place it upon the table nearly all the large joints, which were in a state of flexion, were forcibly extended; and these thereafter retained their flexibility; but when thawing of the flesh had occurred it was found that the jaws, and other joints which had not been disturbed, retained for a time their rigidity, thus proving that the rigor mortis had not departed. Caspar says, "The stiffness of a frozen body can never be confounded with the rigor mortis; for a frozen body is from head to foot as stiff as a board, while in cadaveric rigidity the extremities, particularly at the elbow and knee joints, always preserve a certain amount of mobility."¹ Surely he cannot mean this statement to apply to a partially frozen body, nor would he accuse of unpardonable dullness one who in such a case was unable to render an immediate decision.

The presence of cadaveric rigidity would place the body in the second period of Devergie, and lead to the inference that death had occurred from ten hours to three days previously.² But evidently great caution was to be exercised in drawing such a conclusion, because the extreme cold to which the body must have been subjected to produce freezing would, if it did not hasten the development of cadaveric rigidity, certainly retard its departure. A similar effect might be expected from immersion in cold water.³ At low temperatures (36° to 45° F.) bodies have been known to retain their rigidity for eight or ten days. Below the freezing point they might, perhaps, retain it much longer.

The body was quite fresh in its general appearance. There was a bluish-green discoloration of the loins, extending at some points over the abdomen nearly or quite to the median line of the body. The skin of these parts was elsewhere of a vivid red. A bad odor was perceived about the genitals, but the subsequent developments as to the cause of death showed that this odor could not reasonably be regarded as the result of post-mortem change.

A greenish discoloration of the abdomen is mentioned⁴ as the first sign of commencing putrefaction, and it appears, on an average, in from one to three days after death. But in estimating the value of this sign in any given case the temperature is obviously to be taken into the account. On the 27th of February, the day on which the body was found, the temperature, as recorded at the City Hall in Lynn, was, at eight A. M., 24° F.; at one P. M. 24° F.; at six P. M. 25° F.

The maximum for the twenty-four hours ending at eight A. M., February 28th, was 27° F., and the minimum 7° F. Thus we see that for twelve hours at least, previous to the autopsy, which took place at eight P. M., the body was exposed to a temperature considerably below the freezing point, and that any putrefactive change would be out of the question. This is based upon the supposition that the trunk had been in its position on the bank of the river during the whole of that day. This is measurably certain, because it had been seen quite early in the morning by a person who thought it a pile of drift-wood, or something of the sort. On the 26th of February the maximum temperature was 19° F., and the minimum 22.5° F. On the 25th the maximum was 35° F., and the minimum 15° F. Previous to this the weather was still colder. We could not of course tell with certainty in what condition the body had been kept before it was thrown into the river, but as the universal custom is to put dead bodies, lightly covered, into a cold room, with, perhaps, the windows open, we are at liberty, I think, to assume that this body had been kept continuously at a temperature which would render the process of putrefaction a very slow one. But there is still another circumstance to be considered. The autopsy proved the existence of an intense peritonitis. It is well known that those parts that are inflamed at the time of death take on the putrefactive process more readily than healthy tissue. Sometimes, indeed, it begins before death, as when gangrene occurs. And in this case, also, the septicæmia, which, perhaps, invariably accompanies puerperal peritonitis, would predispose the body still more strongly to the putrefactive change. The temperature of those dying of an acute infective disease is often very high. Is it not possible that the greenish discoloration of the abdomen in this case, the first sign of putrefaction, as it is called, might have arisen between the time of death and that of the entire cooling of the body? If we should allow the increased tendency to putrefaction resulting from the mode of death to offset the retarding influence of the low temperature, and fall back upon our averages, we should infer that death had occurred from one to three days previously, the same conclusion essentially as that arrived at from the presence of the rigor mortis. As it proved, the girl had, at the time of the beginning of the autopsy, been dead just fifty-four hours, two and one fourth days.

CAUSE OF DEATH.

The cause of death has been already stated as peritonitis following or accompanying an abortion. A brief statement of post-mortem appearances, taken in substance from the record of the autopsy, will show upon what evidences this conclusion as to the cause of death was based: On laying open the abdominal cavity a thin, bloody serum exuded. The peritoneal membrane was everywhere injected, and in places, particularly over and in the neighborhood of the liver, covered with a layer of lymph. The pelvic cavity was partially filled with a thin, fetid pus. The pelvic organs were matted together, and covered with a shredly layer of lymph. On the left side was a sort of sac, formed by adhesions of opposed peritoneal surfaces, and filled with pus. This bag of pus was at first mistaken for an abscess, but a careful examination revealed its true character. The appearances described would warrant the inference that the inflammatory

¹ Forensic Medicine, vol. i. p. 20.

² Taylor's Principles of Medical Jurisprudence, vol. i. p. 80.

³ *Ibid.*, page 56.

⁴ Caspar's Forensic Medicine, vol. i. p. 38. (Taylor's Medical Jurisprudence, vol. i. p. 95.)

process began somewhere in the pelvic cavity, and that it had extended, but a short time before death, to the parts above the brim. The proofs that an abortion had occurred may be summarily stated as follows:—

(1.) The vulva was dark-colored and open, and emitted a bad odor. The vagina was injected, intensely so in its upper part. The os uteri was patulous, sixteen mm. in breadth, margins soft and black.

(2.) The interior of the uterus was covered with a black, shreddy slime. On the right side, near the fundus, was a rough, raised, spongy-looking portion, obviously the point of a placental attachment.

(3.) The uterus was enlarged. Its dimensions, as given below, were taken after it had been kept for some months in alcohol, and must be regarded as slightly reduced from those which existed at the time of the autopsy:—

Outside length	125 mm.
Outside breadth (greatest)	80 mm.
Cavity of cervix, length	45 mm.
Cavity of body, length	65 mm.
Total length of uterine cavity	110 mm.
Breadth of cavity (greatest)	55 mm.
Thickness of wall, cervix	13 mm.
Thickness of wall, body	14 mm.
Thickness of wall at placental site, right side (not including the spongy mass)	17 mm.
Idem on left side opposite placental site	10 mm.
Idem at fundus (prolongation of line of internal measurement)	15 mm.

(4.) The ovaries were dark purple, and in the left was what appeared to be a true corpus luteum of pregnancy, it being superficial in location, firm in texture, easily enucleated, and presenting on section a bright orange-yellow, convoluted wall, 2.5 mm. in breadth, and a glistening white clot with a central cavity. Its greatest length was 21 mm., and breadth 14 mm.

(5.) The breasts were full, and presented areolae of a light brown color, with a few papules. On pressure milk exuded in considerable quantity from both breasts.

In view of all these facts it was to be regarded as certain, from a medical point of view, that an abortion had occurred, and that the inflammation which was the direct cause of death was its sequence.

MENSURATION OF THE THORAX BELOW THE DIAPHRAGM.

BY B. E. HADRA, M. D., SAN ANTONIO, TEXAS.

"WHILST in enlargements of the liver the width can be accurately made out by palpation, and the long diameter by percussion, the transverse diameter can only be approximately estimated by the increase of abdominal volume." The above quotation from Guttmann's *Handbook of Physical Diagnosis* justifies the present attempt to contribute towards improved methods of measuring the thoracic organs below the diaphragm. And although, in the work referred to, as well as in those of a similar character, mensuration of the lower part of the thorax is considered of small account, I deem it of sufficient importance and clinical value at least to merit our attention.

Inasmuch as private practice does not afford opportunity for very extensive research, and especially as examinations of women are almost wholly excluded, the following remarks do not claim to be more than suggestions, and are drawn from observations limited to the male sex.

Mensuration below the diaphragm may be made in

order to compare the circumference in this region with that above, say at the line of the nipple. There will be found a constant difference, the upper circumference being considerably the larger. It is not my intention, however, to speak of this relation, but to compare one side of the thorax with the other, and to show how the comparison thus made can be rendered available as a means of diagnosis.

It is necessary to have standard or fixed points on the thorax, and it seems best to take the median line, immediately below the xiphoid process, as the point in front, and the opposite spinous process as the point behind. The proposed line would therefore strike the eighth or ninth lumbar vertebra and the corresponding rib at its extremities, and run above the middle of the right lobe of the liver. It is of obvious importance to take the measurement on both sides in the same stage of respiration. A further rule ought to be to let the patient stand or sit, and not to take measurement in the recumbent posture, though a difference between these two positions may turn out of diagnostic value.

Now, having dismissed these considerations, the next question is, whether there exists in the healthy condition a constant relation between the two sides. It has recently been found that there are many differences between organs or portions of the two sides of the body in health (lower limbs, for instance); it would astonish no one if the right side of the lower half of the thorax should prove larger than the left, the right lobe of the liver being considerably larger than the left lobe and the spleen taken together. Still, it is only in the minority of healthy subjects that there is much difference observable, a state of affairs which might be explained by the fact that a part of the right lobe reaches over to the left side. On measuring seventy-two healthy persons, both sides were found to be equal, or nearly so, in forty-six cases; in thirteen the difference in favor of the right side was one fourth inch; in seven it was three eighths inch; in four it was one half inch; and in two cases there was found to be a slight difference in favor of the left side. In view of these results, it would seem to be justifiable to consider a difference of not more than half an inch as a natural, normal condition, and any greater or less deviation as indicative of disease.

Doubtless the first objection urged against the proposed mensuration will be that palpation, concussion, and percussion suffice of themselves to lead to a correct diagnosis, and that mensuration is therefore a worthless suggestion. I shall endeavor to show that such is not the case.

As quoted above, the transverse diameter can only be approximately estimated by the increase of abdominal volume. Such is, at all events, the opinion of one good authority. It follows, therefore, that every additional mode which might aid us in arriving at a correct diagnosis is of value. Every one who is familiar with diseases of the liver, and the surprising results developed so often by post-mortem examinations, knows that percussion and palpation anteriorly do not reveal in every case the true size of the liver, as they give little more than the longitudinal diameter and the thickness of the edge alone, and only then when the edge is palpable at all; and still less reliable are the results of posterior percussion. There are many cases in which the transverse diameter is increased, and greatly too, whilst the longitudinal diameter may be found perfectly normal or with only a

trifling deviation therefrom; and *vice versa*. Here mensuration comes into play, and when it shall have been established as a regular mode of examination by physicians who have appreciated its advantages, the entire profession will soon recognize its value.

In order to systematize the proposed method, we might consider the cases in two classes, one in which the right side is relatively large, and the other in which it is relatively small. Thus we might adduce the following division:—

- I. Increase of right side:
 - (a.) Increase of right liver.
 - (b.) Decrease of left liver, spleen, or both.
- II. Decrease of right side:
 - (a.) Decrease of right liver.
 - (b.) Increase of left liver, spleen, or both.

Repeating that men-uration will be of value mostly when the usual means have failed to yield satisfactory information, it will not be necessary to consider the entire number of hepatic disorders, and we shall confine ourselves to such only as might be most benefited in their diagnostic recognition.

I. (a.) *Increase of Right Liver*.—Mensuration is of great importance in hepatitis with or without abscess, diseases which occur in our southern climate much more frequently than is commonly supposed, and generally as sequelæ of dysentery. And it might here be stated that the gravity of the hepatic affection is not by any means commensurate with that of the dysenteric symptoms. In many cases the dysentery may have been entirely cured and forgotten; and not before months and even years have elapsed, does the liver become the source of a worrying, debilitating complaint which presents itself in the form of "indigestion" or "dyspepsia." In such cases percussion and palpation rarely reveal a decided increase of the organ; there being at most an increase of the protruding border, anteriorly in the mesial line, near and under the sternum, and nothing else. But when one has recourse to mensuration, an increase will be found on the right side of from one to two and more inches, and the secret will at once be disclosed. This increase is so constant that it is the most important sign. Of course, it will not indicate the presence or absence of abscess; this must be determined by hectic fever, puncture, etc.; but it will be positive proof of the existence of hepatitis.

The following may be cited as an illustrative case:

Mr. H. B., aged thirty-five, complained of dyspepsia for about two years. Had dysentery four years ago, from which he recovered, as he thought, although he remained in feeble health. Had used different remedies for the relief of epigastric fullness, flatulence, poor appetite, and general debility. Examination revealed distention of the transverse and descending colon, the percussion note over them being highly tympanic. Stools contained mucus in variable amount, oftentimes of ropy character. Liver seemed to be normal in size, at least so far as could be ascertained by percussion. Mensuration showed right side to be seventeen and one fourth inches, left sixteen inches. Diagnosis: chronic ulcers of large intestine and hepatitis, following dysentery.

In cases of similar nature mensuration gave:—

Right side, 16½ inches; left, 15 inches.
 Right side, 14½ inches; left, 13½ inches.
 Right side, 14½ inches; left, 13½ inches.
 Right side, 18 inches; left, 16 inches.

In the last case there seemed to be an abscess, as indicated by the presence of hectic fever. The liver reached downwards beyond the margin of the ribs about half an inch, was dense and somewhat painful on pressure. Puncture was not permitted. In the remaining cases percussion hardly showed any increase of the liver, except at the inner angle of the right lobe.

In cases of chronic hæmorrhoidal trouble an enlargement of the right side, as much as one inch, can often be found, and may, presumably, be in like manner detected in all other cases of impeded portal circulation.

Later, an increase of the right side will be found, due to fluid accumulations within the liver, or which have had their origin therein. In such cases mensuration, under certain conditions, will be of paramount importance. The question will sometimes arise as to whether a dullness above the normal region of the liver be produced by an accumulation in the pleural cavity, or by an enlargement of the liver itself. The difficulty of ascertaining the normal limits of the liver by percussion posteriorly is well known, and in cases where examination in front yields no result and where the organ is not enlarged downwards, the question has to be settled by other means. I have seen an excellent clinical teacher open an immense echinococcus tumor of the liver after having demonstrated to his class that nothing but an old pleuritic accumulation could exist. I had myself treated a man for the latter affection for a considerable period, when post-mortem examination revealed a large sac, filled with detritus and pus, formed by an old abscess of the liver. In such cases there may be no anterior enlargement, and posteriorly nothing is to be elicited by auscultation or percussion. There is dullness merging into the normal dullness of the liver, and there are no respiratory sounds in either condition. But here subdiaphragmatic mensuration shows at once whether the liver is involved or not. If there is an extraordinary increase of the right side below the diaphragm, then, of course, nothing but enlargement of the liver can be the cause of it. Pleuritic effusions might depress the liver somewhat, but never sufficiently to push it below the line of mensuration; in point of fact, effusions or enlargements on the posterior and superior surfaces of the liver press the diaphragm upwards and compress the lung. Thus, if we find an enlargement in the region of the eighth or ninth rib, we may conclude with nearly absolute certainty that it is caused by the liver. I venture to assert that the enlargement of the liver in its transverse diameter is a better and more certain guide than anterior downward increase, the estimation of which is accurate only when excessive, or otherwise when the previous condition is known to the examiner. The relation of the right half to the left is better fitted to form a standard than the relation of the right lobe to the margin of the last rib.

I. (b.) *Decrease of Left Lobe of Liver, Spleen, or Both*.—Little comment is called for in this class of cases. Shrinkage of the left lobe, or of the spleen, are the only possible changes, and both occur too rarely as idiopathic diseases and are of too little diagnostic importance to be seriously considered. Nevertheless the results of systematic research by mensuration might possibly lead to new and important discoveries in this direction.

II. (a.) *Decrease of Right Lobe of Liver*.—Subdiaphragmatic mensuration will be of value not only to show to what extent shrinkage may have already ad-

vanced, but under certain circumstances it will be almost the only means at our command of ascertaining the decrease in size. The liver might retain its area on its anterior surface, it might merely become flattened, in which case percussion would reveal nothing. Or, as in the second stage of cirrhosis, when extensive ascites exists, there is no opportunity for percussion, and mensuration is alone available.

A case of cirrhosis of the liver, complicated with cirrhosis of the right lung, showed two and one half inches in favor of left side, when subdiaphragmatic mensuration was taken. It is true, the spleen was enlarged, but on the other hand, the left lobe of the liver was pushed almost entirely out of the thorax, forming a tumor below the xiphoid process. (Case in the County Hospital; post-mortem examination made.)

Another case of cirrhosis gave only one inch in favor of the left side. General anasarca precluded a correct measurement, the finger making deep impressions in the skin, wherever the measure was applied.

I may mention yet another case, accidentally found when the patients of our County Hospital (under charge of Dr. Chew) were being examined with reference to the subject under consideration. In a man with an ulcer of the foot, who was of healthy appearance, the right subdiaphragmatic semi-circumference was smaller than the left by two inches, and percussion revealed contraction of the liver to an extraordinary extent. Still the man felt well. He was a hard drinker, and it would not be surprising to see him some day suffering from ascites, etc. This would point to the fact that the grave symptoms in cirrhosis of the liver do not establish themselves in some cases until the whole liver is degenerated; or that cirrhosis, in its so-called second stage, may exist without evident symptoms.

Decrease in size of the right lobe can be caused by contraction, succeeding to a healed abscess. As far as my knowledge goes, attention has never yet been called to such a condition. The following is the history of a case seen by me together with Dr. Carothers:—

Mr. H., twenty-three years old, suffering for two years from indigestion, general debility, pain in the region of liver, etc. Bowels had always been irregular. About half a year previously, something, as he says, gave way in his abdomen, and a large quantity of matter passed in his stools. After this he felt somewhat better, but still his appetite is poor, his bowels irregular, etc. Mensuration of right side shows one and one half inches less than left side. Percussion gives normal contour. Diagnosis: chronic ulcers after dysentery; abscess of liver, which had broken through into bowels; contraction of liver. Patient was sent to a mineral spring near by, and was doing well when last heard of.

II. (b). *Increase of Left Lobe of Liver, Spleen, or Both.*—Here the apparently normal contour of the right lobe ought to be determined in the first place by percussion, palpation, etc. If it seem to be normal and if the difference in favor of the left side be striking, the spleen will have to be percussed, when, if found uninvolved, there must be an increase of the left lobe of the liver, or an additional cause for the increase, say an echinococcus or other tumor. There is no reason why the left lobe should not of itself become the seat of disease, the neglect of which seems to me to be due to the difficulty of observing and examining it. There are abscesses, for instance, involving the left lobe as well as the right, and why should they not form

in the left lobe alone? In this latter event the left lobe would be increased in size, and how should we ascertain this but by mensuration? And thus our proposition might help the long-neglected step-brother to its full rights.

These few lines are written in the firm belief that the suggestions are worthy of being thoroughly tested by some one who has better opportunities to study his cases ante and post mortem. It will more than reward me, if at least one point of those made should prove to be of practical diagnostic value to the profession.

SUPPLEMENTARY NOTE ON BORACIC ACID.

BY WILLIAM WARREN GREENE, M. D.,
Professor of Surgery in the Medical School of Maine.

SINCE the paper *Boric Acid in Surgery* went to press certain facts have come to my knowledge which, though they may seem comparatively trivial, I yet desire to record as a sort of addendum.

While I was experimenting two days ago with boric acid, Mr. Frank L. Bartlett, of this city, chemist and state assayer, came in, and on learning what I was handling made the remark, "It is very strange that so little is known of so remarkable a substance." He then informed me that he had experimented with it extensively in a quiet way, and I was gratified to find that his results and conclusions entirely coincided with my own views and with my knowledge, so far as I had investigated from a chemical standpoint. Mr. Bartlett's investigations have been in the same direction as Poli's, whose paper he had not seen or heard of, but his experiments were equally decisive, and his testimony to the efficacy of boric acid as an anti-ferment, antiseptic, and preservative is quite as positive and convincing.

He—Bartlett—has found fresh meats, butter, vegetables, etc., perfectly preserved for an indefinite length of time by simply covering them with cloths wet in a solution containing only ten to fifteen grains of the acid to the ounce of water.

When we remember that boric acid is innocuous, odorless, and practically tasteless, it seems to me that such facts should arrest marked attention.

I cannot avoid the suspicion that if great cost, offensive odor or taste, or any other striking peculiarity of a common character had obtruded it upon our notice, it would have ere this received much more consideration.

Mr. Bartlett's remarks brought to mind one fact that I intended to state in my main paper, but I forgot it, namely, that I have used to a considerable extent a combination of boric and salicylic acids, both internally and externally, and while I am not prepared to claim any advantage from such union in any case, yet I think it desirable to test its quality in varying proportions, more especially as an internal remedy. The two solutions may be mixed, or the two crystallized acids may be fused at a high heat, forming a soluble boro-salicylic acid.

Again, in speaking with my friend E. Dana, Jr., of this city, a most excellent and widely known pharmacist, he suggested the substitution of cocoa butter for waxa spermaceti in making the boric acid ointment, for the reason that wax is not only insoluble, but does not melt at the heat of the body, while cocoa butter

does. For some cases where adherence to the surface is unobjectionable this is a good plan, but the value of the wax is not only to give firmness, but to prevent sticking to the sore surface, which, mixed with vaseline, it does entirely. After considerable trial I have come to the following conclusions:—

(1.) In cases where an aqueous solution of the acid is not needed, or after its sufficient primary use, an ointment is the best form for continuous application.

(2.) In cases where it is especially desirable to avoid any adhesion of the dressing to the diseased surface the following is the best formula:—

℞ Glycerit. acidi boracici sat. ¹	f3ij.
Cera alba	
Cetacci	aa ʒi.
Vaseline	ʒvi.

Melt the last three together, and add the glycerite with trituration.

(3.) *Unguentum acidi boracici*. Where it is essential to make the application as thorough as possible an excellent method that I often employ is to apply either the glycerite of the acid freely to the surface each time immediately before renewing the ointment, which may be done with a camel's-hair brush or by sopping, or if the glycerine is objectionable apply a mixture of pure vaseline with the glycerite (prepared by melting the vaseline, of course) of such strength as is desired, which mixture is soft enough to manage easily with a brush. Then the ointment, spread on some proper material,—there is nothing better than nice sheet lint, spreading on the soft side, as it holds so much and so firmly,—is applied over all.

If, however, adhesion is unobjectionable, as in non-suppurating or slightly secreting sores, requiring infrequent dressing, the following is excellent:—

℞ Glycerit. acidi boracici sat.	f3ij.
Butyr. cocoe	ʒij.
Vaseline	ʒvi.

Melt the vaseline and butter together, then add the glycerite with trituration.

It is well to know that this last preparation requires a long time comparatively—twenty-four hours at least—to cool, or rather harden to its *maximum*.

On the whole, I think the first formula—which is the one published in the first paper—will stand as the representative *boracic acid ointment*, as that which will best fulfill all the indications in the majority of cases, especially when supplemented in the manner I have described with the glycerite or the mixture of pure vaseline and the acid. But in many instances I have no doubt that the second formula will prove an advantageous modification of the regular ointment.

I am aware that after all I have in this note called attention to and emphasized certain points in my original paper rather than brought out anything really new, and it I seem inclined to press my subject with some persistence upon the notice of the profession it is because I believe it worthy of any degree of interest which I may be so fortunate as to awaken.

PORTLAND, August 30, 1880.

—The health department of Chicago are again after the milk dealers. The commissioner claims that he has good proof against the dealers, while the latter declare themselves innocent, and purpose fighting.

¹ It will be remembered that hot glycerine dissolves over three drachms of the acid to the ounce, and holds it perfectly on cooling.

RECENT PROGRESS IN OPHTHALMOLOGY.

BY O. F. WADSWORTH, M. D.

CONJUNCTIVAL SYPHILIDE.

A CASE reported by Sichel² is interesting from its extreme rarity. A man of twenty-eight years presented himself with the complaint of itching at the inner canthus of the right eye, and a sensation as of a foreign body. The inner part of the bulbar conjunctiva was moderately congested, and in the centre of the congested part was a small, oval, firm tumor, which resembled somewhat a developing pteryctenula, somewhat a pinguecula. Sichel only saw the patient nine days later. The tumor had then increased in size, was 13 mm. in transverse, 6.5 mm. in vertical diameter, of horse-shoe shape, its concavity toward the cornea, which it reached but did not encroach on, and situated on the inner and lower quadrant of the globe. It was but little elevated, its surface flattened, excoriated, with slight depressions, and covered with a grayish, muco-purulent secretion. It was elastic, and diminished in size under pressure. To close observation it appeared as if composed of a series of little elevations crowded together. There was much congestion of the tumor and its immediate neighborhood. No conjunctival secretion; no pain.

Inquiry and examination developed a history of recent infection, and a papular and papulo-squamous eruption on arms, body, neck, and chin. Six weeks of mercurial treatment brought about total disappearance of the conjunctival affection; other symptoms were still present.

PRÆCORNEAL TUMOR FOLLOWING EPISCLERITIS.

Mauz³ describes a case of considerable interest from the change of character shown in the growth at its various recurrences. The patient, a man of fifty-seven years, was first seen in 1873. For several years he had suffered from inflammation in the neighborhood of both corneas, and of late a small tumor had developed at the lower edge of the right cornea, firmly attached only at the corneal edge. It was removed, and proved to be a simple granuloma. The inflammatory condition of the two eyes, a form of episcleritis with rather firm infiltration at the limbus and marginal opacity extending into the cornea, was treated for a time and improved temporarily. The following year, however, another, larger, and firmer tumor had appeared, a little more to the inner side than the first. This also was closely adherent only to the limbus, was removed without difficulty, and was of the same character. The episcleritis continued, and in 1875 the man had a granular conjunctivitis, mainly confined to the lids and fold. Then a dense, circum-corneal chemosis formed and was excised by peritomy. Some months later this swelling had returned, and by the end of December, 1875, a tumor covered the cornea to its centre, where perforation had taken place. The eye was enucleated, and the microscope showed now, besides formation of granulations, an active growth of the epithelium, which had begun to send prolongations backward.

In 1878, a tumor of some size, growing from the bottom of the conjunctival sac, apparently not involving the lids or surrounding skin, was dissected out to-

² Centralblatt für praktische Augenheilkunde, May, 1880.

³ Bericht der Ophthalmologischen Gesellschaft, Heidelberg, 1879.

gether with the conjunctiva, and early in the following year another recurrence necessitated evisceration of the orbit with the periosteum. Both these latter growths presented perfectly the character of epithelial carcinoma.

Not many weeks after the last wound had healed, a tumor was again found at the upper edge of the orbit, and the glands in the parotid region and at the angle of the lower jaw were infiltrated.

Manz does not think there was here metaplasia, that an epithelial cancer developed out of a granulation or sarcomatous growth, but that first a chronic inflammation led to the formation of granulations which took the shape of a tumor, then on this granulating surface an epithelial tumor arose.

CALOMEL AND IODIDE OF POTASH IN DISEASES OF THE EYE.

Although calomel has been somewhat extensively employed for many years as a local application in certain affections of the conjunctiva and cornea, no satisfactory explanation of its action has hitherto been given. More than forty years ago Fricke reported cases of severe inflammation of the conjunctiva from the local use of calomel while iodide of potash was being taken internally. Similar observations have been occasionally reported since, but they have excited little attention, and no warning against treatment by the two drugs simultaneously is to be found in the textbooks.

The subject has been investigated by Schlaefke,¹ who gives the following conclusions as the result of his experiments:—

The fact that during the internal use of iodide of potash calomel excites severe inflammation of the external parts of the eye has been repeatedly demonstrated by clinical observation, has, however, always been again forgotten, and appears even now to be little known.

Iodide of potash, taken internally, is rapidly distributed throughout the system, appears in a very short time in the various secretions and excretions, and after a few minutes can be found in the tears.

Given twice daily in the dose of 0.5 gramme, iodide of potash is constantly present in the lachrymal fluid of man in demonstrable quantity.

Calomel is soluble in water to a very small amount; in a three fourths per cent. solution of common salt it is ten times as soluble.

Powdered calomel dusted into the conjunctival sac is gradually dissolved as such by the continual flow of fluid, and therefore exerts a chemical action.

If calomel be thus employed while iodide of potash is present in the tears, protiodide and iodide of mercury are formed.

Both of these, since they are soluble in the presence of salt or of iodide of potash, act as caustics, and excite a vigorous inflammation.

Therefore no outward application of calomel should be made so long as iodine is contained in the lachrymal fluid. Its application should not be begun until about a day after the last therapeutic dose of iodide.

HOMATROPINE HYDROBROMATE.

This new mydriatic, discovered by Ladenburg, possesses, according to Voelckers² and Fuchs,³ advantages

over atropine, so far as the comfort of the patient is concerned, in case it is necessary to dilate the pupil for ophthalmoscopic examination. Both experimenters used a one per cent. solution of homatropine. Voelckers obtained rather quicker and more lasting effects than Fuchs, probably from a difference in the amount used. The latter observed beginning of dilatation of the pupil in twenty minutes, the dilatation reaching its height in sixty to seventy minutes, diminishing again after two or three hours, and generally wholly gone in five hours. A weak solution of atropine (1-5000 or 1-10,000) was placed in the other eye of the same individual. This caused dilatation of the pupil to begin in some thirty minutes, but not always reaching the same degree as was produced by homatropine, and yet always quite evident at the end of twelve hours.

Paralysis of accommodation began at about the same time with each drug in solution of the above strengths, that is, ten to twenty minutes after instillation, and had disappeared at the end of five hours, but the paralysis from the atropine was never so great as from the homatropine. With neither, however, was paralysis of iris or accommodation complete.

SALICYLATE OF ESERINE.

While the sulphate of eserine rapidly loses its crystalline form and decomposes with some readiness in a watery solution, Merck has succeeded in preparing a salicylate of physostigmine (eserine) which remains crystalline and may be kept for a long time dissolved in water with scarcely any change. The action of the new salt on the eye appears from the experiments of Zehender⁴ to differ in an important respect from that of the sulphate. The latter, as is well known, besides its myotic action causes a strong tetanic action of the ciliary muscle. Zehender found the salicylate to cause rapid and great myosis, the maximum effect from one drop of a one half per cent. solution being reached in an hour, and its effect being still apparent at the end of three days. But though the experimentees, two of Zehender's assistants, complained of blurring and double vision while under the influence of the drug, no positive effect on the accommodation could be demonstrated.

Possibly a discovery by Harnack⁵ may help to explain this difference of action of the two salts. In calabar extract there exist two active principles,—physostigmine, which paralyzes; calabarine, which causes tetanus. Harnack showed that calabarine may be formed from physostigmine, and it may be that the action of sulphate of physostigmine on the ciliary muscle is due, in part at least, to some decomposition of the salt and formation of calabarine.

PRODUCTION OF FIBRIN BY IRRITATION OF NERVES.

Experiments of Gruenhagen and Jesner⁶ demonstrate that nervous influences, which they regard as probably vaso-motor, have a great importance in determining the chemical composition of the humor aqueus. Normal humor aqueus is wholly free from fibrin-ferment, and never spontaneously coagulates after its removal from the eye. But it always deposits a coagulum of fibrin after its removal from the anterior chamber if previously there has been irritation of the ophthalmic

¹ Archiv für Ophthalmologie, xxv. 2.

² Centralblatt für Augenheilkunde, page 203, 1880.

³ Idem, page 182, 1880.

⁴ Monatsblätter für Augenheilkunde, July, 1880.

⁵ Archiv für experiment. Pathologie und Pharmacologie, xii. 355.

⁶ Centralblatt für Augenheilkunde, June, 1880.

branch of the trigeminus. Thus the aqueous taken from a recently-killed rabbit coagulates spontaneously when, one half to three quarters of an hour before death, either the cornea, especially its scleral edge, has been mechanically or chemically irritated, or the ramus ophthalmicus bruised within the skull, or the posterior root of the fifth in the medulla oblongata cut. They explain this fact by the supposition that irritation of the ophthalmic branch excites dilatation of the vessels, and in consequence transudation of fibrin-producing elements.

They also have shown that an irritation of one eye which causes in it the secretion of fibrinous aqueous influences the other eye in a similar manner, though not in the same degree. Cauterization of the right cornea or bruising the right ophthalmicus is followed by secretion of fibrin in the anterior chamber of both eyes; in the left to less amount. The relation between such an experiment and sympathetic inflammation of the eye is evident, and it seems that here the purely nervous action of a stimulus applied on one side only causes a reflex effect on the nerves which dilate the vessels on the other.

NUCLEAR OPACITY OF THE LENS AFTER WOUND OF THE CAPSULE.

To study the manner of healing after a wound of the anterior capsule, Leber¹ removed through the cornea of a rabbit a piece of the capsule three mm. in diameter. Opacity in the whole area of the pupil followed, swollen lens substance pushed forward into the anterior chamber and was gradually absorbed, while a light iritis caused several posterior synechiae. Ten and a half months after the operation the animal died, and the eye was examined. There was a central cicatrix of the capsule, two mm. in diameter, from which a dense white opacity, like a thick plug, extended backward. The lens appeared a little shrunken; its central part was densely cataractous, but a peripheral, perfectly transparent layer, three fourths to one mm. thick, surrounded the opaque nucleus on all sides, except where the white plug united the latter to the capsular cicatrix. This transparent layer was sharply defined against the opaque portion, and after removal of the capsule could be lifted away as a whole, showing a round hole at the part corresponding to the plug. It possessed completely the consistence and structure of normal lens substance.

The explanation of the conditions found is that all the lens existing at the time of operation became opaque; then, after absorption of the swollen part which protruded, the wound cicatrized, and finally, since the animal was young, a new transparent cortical layer was formed. This layer could not, however, extend to the anterior pole, since the attachment of the cicatrix to the nucleus presented an obstruction. The likeness of this cataract to zonular cataract is increased by the fact that in the latter occasionally an opacity is seen which extends in an axial direction and ends in a central capsular cataract.

The case offers a strong support to Horner's theory of the production of spontaneous zonular cataract. According to this theory, at the time the cataract is formed the lens is in process of growth; the exciting cause of the cataract formation is active only for a short time, and affects only the most superficial layers. When the cause ceases to act fresh transparent layers

are formed around the opaque ones. Repetition of the process at an interval explains double or triple zonular cataract. But while Horner appears to have believed that the opaque layer is opaque at its formation, Leber points out the possibility that the opacity invades layers originally transparent. This supposition also would afford a satisfactory explanation of the origin of stationary nuclear cataract in the young, a form sometimes found in the same eye as zonular cataract, or in some members of a family, other members of which have zonular cataract.

OPERATION FOR ENTROPION AND TRICHIASIS.

The numerous operations devised for the relief of entropion and trichiasis testify at once to the frequency and troublesome nature of these affections and the insufficiency of the means employed for their cure. Hotz² discusses the mechanical agencies which give rise to them, and concludes that the failure of previous operations has been due to a mistaken idea as to the causal mechanism of the deformity and consequent misconception of the proper measures to be taken to correct it. He believes that in the majority of cases of inversion of the lids the free edge does not change its relative position to the eye-ball, and the so-called rolling in of the free edge is nothing more than an inversion of the external integument. The blepharospasm, which is an essential feature in the production of entropion, affects the skin rather than the tarsus.

Starting from these ideas he has conceived a new operation applicable to all cases where the normal curvature of the tarsus is not changed, and from which he claims to have obtained much better and more lasting results than from those formerly employed.

Whether all the theoretical considerations of the author are accurate need not be questioned here. The principle of the operation described seems to be a good one, the execution is simple, and in the practice of the reporter, also, has been effective in the few cases in which it has been tried, though sufficient time has not elapsed to prove the permanency of the result.

An incision is made through skin and orbicularis along the whole length of the lid parallel to and a little below (for the upper lid) the edge of the tarsus, the ends of the incision being two mm. above the commissures.

Then the skin at the lower edge of the wound is drawn down and a strip of the orbicularis three mm. in width cleanly dissected up and removed. Now four fine sutures are applied, passing first through the lower lip of the wound, then under the aponeurosis at the upper part of the tarsus and the fascia tarso-orbitalis, and finally through the upper edge of the wound. Care should be taken not to include any fibres of the muscle in the sutures. Cold water dressing for twenty-four hours and afterward cleanliness is all the subsequent treatment necessary. The sutures should be removed on the third day.

DEFECTS OF SIGHT AFTER NON-PENETRATING INJURY TO THE SKULL.

Berlin³ contributes a valuable paper on this subject. Very few confirmations of the anatomical cause of clinically observed cases exist, and these are of cranial fracture with injury of the optics. In a very large proportion of cases the disturbance of vision is unilat-

² Archives of Ophthalmology and Otolaryngology, vol. viii.

³ Bericht der Ophthalmologischen Gesellschaft, Heidelberg, 1879.

¹ Archiv für Ophthalmologie, xxvi. 1.

eral. Characteristic of most of these is the suddenness, completeness, and incurability of the blindness. In only a small number of the unilateral cases is there improvement or restoration of sight. The bilateral cases offer a somewhat better prognosis.

The blow is in the majority of cases on the frontal bone, particularly the edge of the orbit, often on the root of the nose, the zygoma, the temporal bone, or the occipital. The force is always great. Gun-shot injuries form the larger part of the cases, blows or falls on the head the remainder. Decided symptoms of cerebral disturbance were observed in all known cases, with the exception of a few in which satisfactory data were wanting.

Among 126 fractures of the skull observed by Hilder, personally, were 88 of the base, and among these latter 80 (90 per cent.) fractures of the roof of the orbit.

In 54 cases the wall of the optic foramen was fractured, in 34 more or less directly by shot wound, while in 20 the fracture was continuous and caused by a fall on the head or shot in the forehead. Haemorrhage into the sheath of the opticus was seen 42 times, but never without accompanying fracture into the optic foramen.

Considering that injuries to the skull which cause loss of sight are always severe enough to cause fracture, and considering the proven frequency of fractures of the roof of the orbit, and that many of these involve the wall of the optic foramen, the hypothesis is justifiable that the disturbances of vision in question depend in general upon fracture, especially upon fracture into the optic foramen. Such fracture must cause a direct lesion of the optic nerve, and a lesion of the nerve would most naturally explain the unilateral, sudden, complete, and permanent loss of sight. Haemorrhage into the sheath might produce the same effect, and both processes may in some cases be combined. Bilateral affection of sight would seldom be due to fracture of the wall of both foramina, usually to fracture through the sella turcica. Probably in the cases in which sight returns there is intracranial or subvaginal haemorrhage of temporary effect.

The different conditions seen with the ophthalmoscope also, the frequently negative result of examination at the beginning, the later atrophy of the optic disk, with or without formation of pigment, the arterial and venous disturbances of circulation in the retina, the retinal haemorrhages, the retinitis and neuritis, may all be reasonably referred to a direct lesion of the nerve or an indirect lesion through haemorrhage into the sheath.

SYMPATHETIC OPHTHALMITIS SETTING IN SOME TIME AFTER EXCISION OF THE EYE.

Nettleship¹ has reported two cases occurring in his own practice and a third in the practice of Mr. Cowell. The first case was in a phthisical man of twenty, upon whose eye the operation of extraction of a fluid, shrunken cataract had been performed. Intra-ocular haemorrhage forty-eight hours later. The eye was excised ten days after the operation, no sympathetic symptoms being present. Healing as usual. Under the microscope inflammatory changes in the choroid, optic nerves, and retina were found, but only doubtful changes in the ciliary nerves. Twenty-two days after excision sympathetic disease began, with failure of

sight. When seen, a week later, there was neuro-retinitis, and shortly afterward severe irido-cyclitis set in. General and local treatment without avail; the eye became glaucomatous, and, in spite of a free iridectomy made six months after the onset, finally blind.

The second case was one of rupture of the sclerotic in a man of sixty-seven. An hour after the accident there was blood in the anterior chamber, but good perception of light. The wound was united with a suture and ice applied. The eye became inflamed, and was excised nineteen days after the accident. Healing as usual. Twenty-three days after excision some pain in the other eye, and on the twenty-ninth day acute iritis, followed in a week by extensive detachment of retina. The eye recovered in two months, and six months later was as good as before, the retina having become reappalled.

In the third (Mr. Cowell's) case, a boy of eleven had a jagged wound near the corneal margin, with adhesion of iris, followed by softening of the eye and purulent cyclitis. Excision twenty-four days after the accident, and healing as usual. Inflammation of the other eye began about twenty-five days after excision, and the boy went through a sharp attack of iritis. Numerous adhesions formed, but the eye recovered fair sight (No. 14 Jaeger).

Nettleship had found only six similar cases published. Of these, aside from one doubtful case, the longest time that elapsed between enucleation and the onset of sympathetic disease was forty-one days; in the others the interval was eight days or less. It might be a question whether the sympathetic disease in these cases was set up by the damaged eye or by the operation for its removal. If the latter, then we should expect occasionally to see it coming on at very long intervals after excision, and this had not been observed. It would probably be equally severe as the ordinary cases, whereas of the nine cases six are known to have recovered; and we should expect some inflammation of the orbital parts to occur between the excision of the damaged eye and the onset of disease in the other, and this had not taken place. Doubtless the process always started from the damaged eye, and had in such cases as these already, before excision, traveled so far beyond the exciting eye as to be beyond the surgeon's reach. The mildness of the induced disease in most of the cases shows, however, that removal of the injured eye, even after its exciting influence has begun to travel, may be of some use in preventing its further action. It is interesting that the induced inflammation appeared to begin as neuro-retinitis in four of the nine cases, but this does not necessarily point to the optic nerve as the path of the disease, for inflammation of the ciliary nerves at their entrance into the eye, leading to choroiditis near the optic disk, would sufficiently account for the appearance noticed.

MENTAL BLINDNESS AND HEMIOPIA.

Munk, after removal of certain parts of the occipital lobes in dogs and apes, observed a peculiar disturbance of the visual function, to which he gave the name of mental blindness (*seden blindheit*). This he attributed to a destruction of those brain cells in which the memory of visual impressions received by the animals had been stored up. His views excited a good deal of attention. Mauthner² criticises Munk's theory, points out certain inconsistencies in it, and explains the vis-

¹ Medical Times and Gazette, vol. i., 1880, page 437.

² Wiener med. Wochenschrift, 26, 27, 28, 1880.

ual disturbance on simple physiological principles. By the operation a part of the visual centres were destroyed, rendering the central district of the retina incapable of performing its function. That this last was the case is shown conclusively by Munk's own statements. The animals were in a condition analogous to that of a man with central scotoma while peripheral vision is preserved. Such a condition readily accounts for all the phenomena observed, without recourse to any new hypothesis.

But while the theory which Munk based upon his observations is fallacious, the observations themselves, whose accuracy is unquestioned, are of great value in another direction, inasmuch as they give a strong confirmation, not only of the partial decussation of the optic nerves in the higher animals, but also of the idea that the proportion of fibres which do not cross to the opposite eye is the greater, the less is the relative divergence of the eyes.

CHROMATIC HEMIOPIA WITH APHASIA.

Galezowski described, a few years ago, three forms of visual affections occurring with aphasia: amnesic amblyopia, where, although there is no diminution of acuteness of vision, the patient can neither read nor write from lack of memory of letters, and there is also loss of memory of colors; homonymous hemiopia, a very frequent defect; and atrophy of one optic disk.

He now¹ reports a case essentially different from the preceding forms, the lesion being presumably of syphilitic origin. The patient had right hemiplegia and aphasia, from which he recovered, but the following year was affected with incomplete left hemiplegia, aphasia, and paralysis of the left facial. He complained of enfeeblement of sight, but nothing abnormal was to be seen in the eye, acuteness of vision was perfect, the field of vision was normal, and his difficulty in reading and writing appeared attributable only to rapid tiring of the mental faculties. The remarkable part of the case was that in the internal half of the field in each eye, from a short distance to the inner side of the point of fixation, all colors were confounded with white except ultramarine blue, this last being well recognized.

Thus the patient, preserving perception of colors in the central part of the field, had lost it in the two internal halves, making crossed hemiopia for colors.

Galezowski thinks the phenomenon cannot be explained by an alteration of the tracts or of the corpora geniculata, but that the syphilitic lesion must have been situated at the spot where the external fibres of the optic, those which do not cross in the chiasma, unite behind the tubercular quadrigemina in the place indicated and supposed by Charcot.

SPONTANEOUS PULSATION OF THE RETINAL ARTERIES.

Of seven cases of pronounced exophthalmic goitre Becker² found in all but one spontaneous pulsation in the retinal arteries. In an eighth case, with but slight enlargement of the thyroid, and in which there was only occasional though severe palpitation, and now and again some exophthalmos of the left eye, the arterial pulsation was seen in this eye during the exophthalmos, but was not present in the right. This case is said to have been cured, and one of the others very

much improved, by the employment of the constant current.

The occasional occurrence of the arterial pulsation in healthy individuals may be attributed in some instances to a particular arrangement of the vessels; in others it seems to find an explanation in an atonic condition of the vessel walls. Thus it is frequently to be observed in chlorotic girls. The idea that the pulsation in such persons, also in exophthalmic goitre, is dependent upon paralysis of the nerves of the vessels is supported by the case of a lady with a variety of nervous symptoms, in whom the pulsation was now present in one eye, now in both, and again in neither. Here there was no heart affection, but her physicians had repeatedly observed that from time to time, on various parts of the surface of the body, larger or smaller red or even bluish patches appeared, remaining visible for minutes, hours, or days, and then vanishing without leaving a trace. These must have been caused by vaso-motor disturbances.

Hospital Practice and Clinical Memoranda.

CLINICAL MEMORANDA.

BY PROF. A. JACOBI,

Of the College of Physicians and Surgeons, New York.

"How old is this boy?"

"Fifteen years."

"What is the matter with him?"

"He has the nose-bleed, and he has a pain in the pit of his stomach."

"How often does his nose bleed?"

"Twice a day."

"And how long does your nose bleed at a time?"

"From ten minutes to three quarters of an hour. It comes drop by drop; never in a steady stream."

"And how long have you had this pain?"

"Ever since the bleeding at the nose commenced."

As you look at the boy you see he is sallow, anæmic. The subclavicular regions are depressed. The veins of the upper portion of the thorax are rather larger than normal. There must be some reason why they are enlarged. There must be some impediment to the circulation so that the cava superior cannot discharge its contents into the heart. There must be some obstacle either in the lungs or in the heart. If you find not only that these veins are of large size, but also that it is only the veins of the upper portion of the body which are enlarged, you would not then be surprised to find headache from passive congestion, also pharyngeal catarrh from the same cause, and also a passive congestion of the mucous membrane of the nose. There is in the Schneiderian membrane an extensive venous network. If it is overfilled with blood the smaller capillaries rupture easily, and so it is that nose bleed is a very common occurrence. So anything which obstructs the circulation may cause the nose to bleed. Constipation may give rise to it by the influence which that condition exerts on the abdominal circulation. Nose bleed is common in school-children who stoop over a great deal, for the same reason, because a stooping posture obstructs the abdominal circulation, and you can often stop a habitual epistaxis in such cases only by taking them out of school, and letting them run about. It is due to the sedentary

¹ Gazette des Hôpitaux, February 21, 1880.

² Monats-blätter für Augenheilkunde, January, 1880.

life. When, however, the veins are permanently enlarged, as they seem to be in this case, then you must look for something in the heart or lungs which would give rise to this obstruction. Let us examine this boy's body, and see what we can find by percussion and auscultation. The spleen measures some four inches by three and one half inches, which is too large. This hypertrophy may be due to impeded circulation, or it may be the result of malarial complications, or it may be an enlargement following typhoid fever.

"Have you been sick lately?"

"I had inflammation of the lungs three years ago."

Let me continue the physical examination. At a point just below the margin of the ribs on the right side, I find pressure gives him pain; also here is another painful region in the epigastrium, just beneath the ensiform cartilage, and another on the left side and in the abdominal cavity, in a line with the umbilicus, and half way between that and the ensiform cartilage. As I mark out these various places with the crayon, there is, you see, a triangular territory over which any considerable pressure causes the boy to wince. Pressure on the bones or intercostal spaces gives no pain, but as soon as I press below the margin of the last rib the pain is evident. The pain corresponds exactly to the portal region, the region where the gall ducts and portal vein run, and also over the left lobe of the liver.

"You go to school, I suppose?"

"Yes, every day."

"For how long a time?"

"Five hours a day. I have no recess."

That is altogether too long a period for children to remain in a sitting position, stooping over their desks, as they do.

As I percuss the region of the heart, I see at once that there is some enlargement, and it does not extend to the left, but the dullness is beyond the right margin of the sternum. If there is enlargement it is, then, enlargement of the right side of the heart. That might be the result of regurgitation or incompetency of the mitral valve, and if we find a murmur present in this case the diagnosis is clear, provided it does not extend over towards the aortic orifice. If we find no murmur we must look for some other cause for the hypertrophy. The heart sounds are not quite normal, but there is no murmur. If I hear no murmur in the carotids then I shall decide that it is functional. I hear about an equal murmur. I think it is functional. It is necessary to have a very high degree of anemia in a child to produce an anemic murmur, and you ought not to call murmurs in a young child functional, for they are almost always organic; but in a boy of this age—fifteen years old—you may reason pretty much as if he were an adult, and I think the sounds which I hear are functional. The hypertrophy might be the result of overexertion, for overexertion will produce hypertrophy of the heart muscle, just as it will of a muscle in any other part of the body. Overexertion on the part of the heart might be occasioned by any great impediment to a free circulation of the blood in the lung. If a large portion of the lung is impermeable to the blood, it requires very great labor on the part of the heart to get rid of its blood. In disease of the lung the heart has to labor hard to get the blood through the lung, and so when you have chronic disease of the lung involving partial permeability, the heart has to overexert itself to force the blood onward,

and as a result of this overexertion you have hypertrophy. As I percuss the chest I find that there is a certain amount of dullness anteriorly and posteriorly over the whole of the right side, and there is also diminished respiration posteriorly, and coarse respiration in the anterior portion of the lung, pointing to induration of pulmonary tissue. There is also some thickening of the pleura, but not much, and in different portions of the lungs we can say from the different character of the sounds that there is a difference in the character of the induration. This change in the lung tissue is the result of a pneumonia, and such a condition is competent to produce hypertrophy of the heart from the obstructed circulation. It also accounts for the persistent epistaxis from which the boy suffers, and for the same reason. The pain in the region of the liver is due to the same cause; the vena cava inferior being obstructed, there is a swelling of the liver from that cause. In obstructed circulation from any reason the liver is almost the first organ in the body to swell, the numerous blood-vessels and veins dilating from the backward pressure of the blood, and so increasing the size of the organ. When the obstruction is temporary the organ diminishes in size rapidly, but when the impediment is permanent the dilatation becomes chronic and effusion takes place, and as a result real chronic hypertrophy of the liver. Now when the liver increases in size it is evident that the peritoneum which envelops it must stretch, and this stretching, together with a hyperemia of the superficial veins, gives rise to the pain in the region of the liver, which is probably due to the fact that the peritoneum does not stretch as rapidly as the liver swells. On percussion, the painful region is seen to correspond exactly to the area of the liver, and it is evident that there is also an enlargement of the liver. Thus it appears that as a consequence of the dilatation of the blood-vessels the contents of the peritoneal bag are too large for the bag, and there is pain as a result. The spleen is also enlarged. It is not a very usual thing to find the spleen enlarged as a consequence of heart or lung trouble. When it does exist, accompanying these diseases, it is not direct, but the result of the liver trouble. A chronic enlargement of the spleen is also consequent upon the shrinking process which takes place in cirrhosis of the liver.

"Have you ever passed blood?"

"Yes, four summers ago."

"Was it of a red color?"

"Yes."

"Did you pass much?"

"No, it came only in streaks. It lasted all summer."

Red blood would not be the result of hæmorrhages in the upper portion of the intestine following morbid processes in the liver. When blood passes from the upper portion of the intestinal canal it is black, tarry; but when it comes from the rectum it is red. The liver, however, might have been the indirect cause of these bloody evacuations, because obstruction of the liver and congestion of the hæmorrhoidal vessels go hand in hand. If, however, he had bloody specks in his passages then we ought to have the following suspicion, namely, that they might have been due to merely local and superficial ulcerations in the rectum, from which there might have arisen a metastatic abscess in the liver. Most of the hepatic abscesses we meet with in our climate are the result of dysenteric ulcerations. A hepatic abscess, however, does not

usually last four years, and there ought to be more symptoms of constitutional disturbance, such as elevation of temperature, whereas his temperature is normal. I do not think that there is any such condition here; nevertheless it is a suspicion which ought not to be lost sight of. The boy says that he has also spit blood, but I hear no cavernous or bronchial respiration, and these trifling hemorrhages are apt to come either from the pharynx, trachea, or nose.

Not what the patient comes here for is to be relieved of this epistaxis, and what must we do for that? If it is copious it must be stopped. It is a bad plan in such a case to use insufflation of ice water or simple cold water, for the openings in the capillaries are closed up by coagula, and the more you wash out the nose the more likely are you to remove these plugs which stop up the openings in the blood-vessels. Oftentimes astringent injections do good, and for that purpose you may make use of solutions of the subsulphate of iron, insufflations of tannic acid, or the application of styptic cotton. In bad cases, where these remedies are of no avail, you will have recourse to Beloeque's tube for plugging the posterior nares. So much by way of local treatment.

As regards the condition which is the primal cause of these various symptoms, you will attend to the circulation and see that it is free, that the boy wears nothing tight about him. Make him respire freely and fully, and fill his lungs, so that as much blood goes to the large cavities of the body as possible, thus relieving the congestion of the nasal and pharyngeal cavities. The indication is to do away with the cause of the obstruction, which in this case is in the lungs, and secondarily in the heart and liver. The lungs have been diseased a long time, and at this late period it is not possible that the interstitial inflammatory products can be entirely removed. If they were the result of syphilis, of course mercurial treatment would do good, but that is not the case here. Besides, the boy is anemic, which would contra-indicate a protracted mercurial treatment. Neither the iodides of potassium nor of sodium would be suitable in this case. The iodide of iron, however, may do good, which is easily digested. The condition of the heart must be attended to, and in such cases a combination of iron and digitalis often relieves the epistaxis at once. In mitral trouble it will often cease after the first few doses. A boy of his age will take at least five or six grains of digitalis a day, or of the fluid extract two minims three times a day.

The muriate of iron is not exactly contra-indicated, but yet its excitant effect is to be feared, and I think it ought not to be given because it is certainly a vascular stimulant. Instead, we may order the saccharated carbonate of iron, or the new preparation, dialyzed iron, or the pyrophosphate of iron in five grain doses combined with the subnitrate of bismuth: for certainly his stomach must be in a bad condition because of the condition of his liver. There must be venous obstruction here. If there was an abscess of the liver here, the temperature would certainly be higher than 99.1° in the rectum, but, as I said before, we ought to be sure that we can exclude that. The more suspicious you have the better for your case, for you have only to exclude them if they prove erroneous. As there is here only a swelling of the liver, and not as yet probably serious structural changes, I should rely for that on the digitalis and on cold applications, changing

them frequently, say three or four times a day. Bismuth will relieve the gastric catarrh.

The liver will swell after every meal when in a normal condition; when it is in an abnormal condition it will swell more. Of course the general comfort is interfered with in that case because of the abnormal condition of the stomach. You must rely, however, for treatment on the palliatives I have suggested and on the general directions which have been given as regards the condition of the primal disorder in the lungs and heart. Let him avoid stimulants and take digestible food only and slowly, milk with salt, milk and barley, milk and oatmeal, an egg or two soft boiled, beef-tea, and toast.

Recent Literature.

Contributions to Orthopedic Surgery, including Observations on the Treatment of Chronic Inflammation of the Hip, Knee, and Ankle Joints by a New and Simple Method of Extension, the Physiological Method, and Lectures on Club-Foot. By JOSEPH C. HUTCHINSON, M. D. New York: G. P. Putnam's Sons. 1880.

A neat little volume bears this title. The latter half is an essay on club-foot and is an addition to the American literature of the subject, being more thorough than Dr. Sayre's monograph, with which in style and size it can be favorably compared. The anatomical details and the principles of treatment are well presented. The author recommends the use of plaster-of-Paris bandages, as furnishing an efficient and convenient means of retention; he insists on the importance of manipulation as an essential auxiliary, believes in the use of tenotomy except in the simplest cases, restricting, however, the operation to the division of the tendo Achillis; he advises early treatment. Unlike many of the best American authorities, he defers any attempt to stretch the divided tendon until four days after tenotomy.

The first half of the book contains a description of Dr. Hutchinson's well-known method for the treatment of joint disease, already mentioned in the JOURNAL. Great credit is undoubtedly due Dr. Hutchinson for his originality in his advocacy of the "physiological" method; it is to be regretted, however, that in presenting an innovation in surgery he has not collected a greater number of confirmatory facts. No cases are mentioned of disease of the knee or ankle joint treated according to the author's method. Of the seven cases of hip disease treated successfully, two are apparently light cases (perhaps synovitis of the hip joint, in which the course is frequently short); the others are not reported as fully as is desirable, nor is the result some time after discontinuance of treatment given. The fact that the kindred affection, chronic disease of the shoulder, elbow, and wrist joints, has been treated according to the "physiological" method by the afflicted themselves from time immemorial with but moderate success does not seem to have occurred to Dr. Hutchinson. Although the writer states that mechanical extension, including the weight and pulley, "irritates the muscles and stimulates them to contraction," he advises its employment during the acute stage, when the greatest care should certainly be employed to prevent such contraction. He considers apparatus cumbersome, and to be abandoned, as the desired re-

sult can be obtained in a simpler way, yet he recommends the use of the cumbersome Darrach's wheel crutch to prevent those too young or too old for ordinary crutches from bearing weight upon the diseased limb. The practical difficulties met in the use of the "physiological" method, the facts that young children are liable, if not certain, after a while to lay aside their crutches, and, unless watched constantly, to momentarily bear weight upon their limb, and that the contraction of the limb is not prevented in certain cases treated in this way, are not referred to by the writer.

The reviewer is more inclined to accept Mr. Adams's opinion, "There can be no doubt of the great value of your suggestion, . . . but the case and the stage must be selected," than to agree with the writer that the "physiological" method is superior to all others for all cases and stages except the neuter.

When the celebrated Mr. Jack Horner made his famous investigations upon the Christmas pie, he obtained immortality because he represented the unfortunate human tendency to announce a discovery before fully considering its actual worth. If Dr. Hutchinson thinks that the essential morcean of the hotch-potch of the therapeutics of joint disease is the "physiological" plumb, it is certainly to be hoped that he is right, but it is to be feared that other less attractive ingredients are needed to make up the pudding.

A Treatise on Comparative Embryology. By FRANCIS M. BALFOUR. In two volumes. 8vo. Vol. I. London: Macmillan & Co. 1880. Pp. xii. and 492; and Bibliography, pp. xxi.

The first volume of Mr. Balfour's work on comparative embryology more than fulfills the expectations we had formed in regard to it. Mr. Balfour is one of the younger naturalists, of the Cambridge School, already known by his able researches on the development of Elasmobranchs, and by an excellent text-book on the Embryology of the Chick, published in conjunction with Dr. Michael Foster. The present work shows that Mr. Balfour has, besides his high scientific attainments, the power of clear and concise exposition and judicious selection in the presentation of a difficult subject. The compilation of a general work on embryology is extremely laborious, and it is not too much to give Mr. Balfour the highest credit for his treatise.

The most serious defects in the volume before us are the wood-cuts and the index. The former are very bad as engravings, except those which are borrowed from foreign sources, and they are all badly printed. It is certainly strange that a great house like Macmillan's should publish a valuable work with illustrations it would be almost impossible to render more inartistic. The figures are, as far as their flagrant crudeness allows, sufficiently accurate, and could hardly have been better chosen. The index, an important adjunct to a work of reference, is nearly useless, for it does not index the *matter*, but only the *words*, of the volume: for example, under *Chaetopoda* the reader is referred to forty-one (!) different pages, apparently to every page on which the name occurs, but there is no indication whatsoever of the part of the book in which the chaetopoda are treated of, although a chapter of twenty-one pages is devoted exclusively to their embryology; yet ten of those pages are specially referred to because the word chaetopoda occurs upon them. In

this worthless fashion the whole index is constructed. Still it might be of some use, were not all the important subjects, except the Latin names of orders and genera, etc., *entirely* omitted from it.

Were these defects removed, there would be little to condemn. There is very much to praise. The work opens with a chapter on the ovum and spermatozoon, followed by a chapter on impregnation and a third on segmentation. Mr. Balfour is fully abreast with the many recent discoveries concerning these phenomena, and presents the many controversies, so far as they secure or deserve notice, with admirable impartiality, while his own attitude is eminently conservative, in that he has a predilection for facts. This must be very annoying to Haeckel, whose widely read works on embryology are conceived in the opposite spirit.

The various classes are taken up in order, beginning with the lowest, and the embryology of each is separately treated. In general, the formation of the germinal layers is first described, and then the larval forms are dealt with. An exception is, however, made in the case of crustacea, the larval forms of which are taken up first. To each chapter is appended a capital bibliography, giving the titles of all the important papers, showing a real familiarity with the literature of the science. The author has, it seems, omitted to give the references to the pages of the volumes where his authorities are to be found; this seriously impairs the convenience of his citations.

There are few indications of original observations, the greater part of the work being necessarily a compilation. Indeed, this was the only course possible, and it would have been a matter of regret had Mr. Balfour delayed publication to make confirmatory researches of his own. We feel, however, in perusing the volume, the great need of further investigations, for in several cases the author was compelled to present abstracts of memoirs on the embryology of single species, instead of reviewing the group or class. There are numerous gaps in the science of comparative embryology which are emphasized by the work before us. To have achieved this is to have rendered science an important service. But Mr. Balfour has done much more, for his book is not alone the *only* manual of comparative embryology, but also so well prepared that it will probably long remain a standard work. We look forward with much pleasure and interest to the second volume, which will deal with the tunicates and vertebrates, and will therefore appeal to the profession more directly. We hope and expect it to prove as accurate and thorough as the volume we have now noticed.

C. S. M.

— Dr. Walcher communicated to the Medical Society of Strasbourg a paper from which we make the following extract: "But in the cases where this heroic means (tracheotomy) cannot be applied, you will obtain, in children suffering from the croup, many more recoveries from the tincture of eucalyptus than from chlorate of potash, cubebs, or copaiba and the usual simple tonics. I may sum up by saying that the tincture of eucalyptus is a very powerful tonic and stimulant remedy in diphtheria in general, and especially most useful for the local manifestation in the larynx, the croup so common in infancy." — *Canada Jour. Med. Sc.*

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DEATH OF PROFESSOR FERDINAND VON HEBRA.

By the death of Professor Ferdinand von Hebra Vienna has lost another of those great physicians and teachers who twenty-five years ago gave her such preëminence as a school of medicine. For several years he had taken but a small share in the performance of the duties of his professorship, and for the year past had been wholly disabled by the painful disease which proved fatal on the 5th of last month. That he had been aware of his approaching death for some time is evident from the following anecdote, which appeared in one of the daily journals of Vienna several weeks ago: Learning from his attending physician at his visit late at night that he was about to return to an entertainment given in honor of the advancement of a young teacher in the school, he called for a pen, and wrote this message to his colleague: "*Moriturus te saluto.*"

Hebra may justly be considered the founder of the modern school of dermatology, although the truth and significance of this judgment can be fully appreciated only by those who began its study a quarter of a century ago; for such a title implies not only the ingenious experimenter, patient observer, and sound reasoner, but the more aggressive qualities of the advocate, prepared not merely to defend the correctness of his own views, but to expose and demolish all tenets in conflict with them. And, indeed, the weapons of as keen and merciless an adversary as he were necessary to dissipate the crude and false theories which formed so large a part of the fundamental principles of dermatology before it felt the creating influence of this great master. Later in life, when his doctrines had become almost universally adopted, and students from all parts of the earth came to receive in unquestioning minds his personal instruction, this persistent spirit of aggressiveness, which still characterized his references to other schools and writers, seemed at times out of place and almost too harsh, but the services of that keen satire and that rough hand can never be forgotten.

He was a student before he was a teacher, and he never ceased to be one in its truest meaning. With that skeptical spirit so essential to original investigation, he took nothing as self-proven in a field so obscure, nothing on the authority of predecessors and contemporaries who had reared so many glittering structures on foundations of superstition and theory. This quality, too, so important in his early work of reform, exercised occasionally in later years an over-

mastering power, so that he failed to recognize at times the truthfulness of the conclusions of others even when founded upon more extended observations than his own, if at variance with them. He had, too, that untired patience of the real observer, satisfied to use the rich material at his command first for the persuasion of himself, and slow to communicate his convictions to others. Thus it was that his writings appeared only late in life, but will survive for the instruction of students yet unborn. He was an admirable teacher. None of his pupils — and fortunately they were many and of many lands — will forget his clear and convincing method of presenting a subject, and the exhaustive use of his clinical material for instruction in diagnosis and therapeutics. If the pupil was apparently his only consideration in such demonstrations, not only science, but humanity, was the final gainer. As a writer the same qualities of directness and simplicity are conspicuous. What he wrote he knew, learned by methods of strictest observation. With the exception of its exhaustive historical prefaces, every chapter in his book will stand as the condensed embodiment of his personal experience, now the only great work in dermatology, forever the legacy of one of the rare masters in medicine.

It is not our present purpose to discuss the special services which Hebra has rendered to medical science. Whether we remember him as the bold fighter against centuries of error, or the reformer of systems of artificial classification and senseless nomenclature, or the tireless observer and keen interpreter of disease, or the teacher unsurpassed in a school of such unparalleled distinction, or the successful champion of rational therapeutics, — for upon all these does his claim to enduring eminence rest, — we would remember him now, in behalf of his many American pupils, with profound veneration and regret.

STATE CHARITIES AND VOLUNTEER VISITING.

THE connection which existed for some time between the State Charities Aid Association and the State Board of Charities of New York has been interrupted. In a recent address issued by the Aid Association to its local visiting committees an explanation is given of the differences which led to this change. Members of the association who were also members of the State Board were, by an act of the legislature, given the legal right of entrance into the public institutions of charity. These visitors made duplicate reports to the association and to the State Board. They were subject, however, by an act of the legislature passed in 1873, to such regulations as the State Board might see fit to make. New rules, of which the association had no notice, were passed by the board, and an attempt was made to restrain the visitors appointed by the association from reporting to it, as they had formerly done. The two bodies were thus practically separated. At a conference held between representatives of both it was agreed that any

organic connection between the two bodies should cease. The association, being thus left without legal right to visit the charitable institutions of the State, sought to regain it, and at the same time to procure an act of incorporation, by an appeal to the legislature. This attempt was defeated through the opposition of the State Board, based on the ground that its own visitors were sufficient, and that visitors from another organization were unnecessary.

In the address above alluded to the association takes issue on this point, emphasizes the necessity for the unofficial services of its visitors, for the legal right to enter and report on institutions of charity, whilst disclaiming any desire for authority to interfere, and sums up its reasons as follows:—

"We maintain that it is not best that our poor-houses should be subject to official inspection alone; because all official methods are, in their nature, liable to become perfunctory, and have a tendency toward deterioration, which can be permanently and effectively checked only by systematic scrutiny from without.

"For instance: Official service is of necessity accompanied by set forms; is bound by official etiquette; runs in official grooves; and 'the machine power needed to carry on any institution tends always to deepen its own ruts.'

"Rules may require that reports be made only to a state government, at distant intervals. Meanwhile abuses are left undisturbed, and the public interest and the public conscience slumber. Any system which takes from the great body of citizens an immediate influence on the questions which so nearly concern them must have, more or less, this evil result."

In regard to the visitation of public charitable institutions by its volunteer visitors in the various counties the address says:—

"The peculiar value of volunteer service is found in its vigorous, spontaneous, and quickening character. It not only supplements the deficiencies of official service in our public charities, but, by its vigilance, prevents that service from suffering degeneracy. Its public rebukes of wrong-doing have an efficiency with public employees which may not be felt in the tardy or formal strictures of official authority.

"It educates an enlightened class in the community from which public officers of charity may eventually be drawn; and it creates a strong public sentiment in favor of upholding good management of our charities, and of any judicious expenditure in their behalf which may be necessary on the part of the State.

"Only by thorough and constant inspection and prompt report can the public be kept interested and informed as to the condition of its institutions. There are no pigeon-holes for the reports of volunteer visitors. Volunteers have no cause for keeping silent; they have no personal interest to serve, no political favors to ask, no one to fear, no one to flatter."

To justify its continued existence the association points with satisfaction to some of its works:—

"The Industrial Home, at Kingston, was established after the passage of 'The Children's Law.' Within three years from eighty to one hundred chil-

dren have been received in it, fifty of whom have been placed in homes in families.

"The Temporary Home for Pauper Children, recently opened in Westchester County (whence the children, under proper supervision, are to be placed in family homes), is a direct outcome of the work of the association.

"In behalf of the sick in pauper hospitals, we mention, as part of the work of the visiting committee for New York County, the 'Training School for Nurses attached to Bellevue Hospital,' the beneficial influence of which is felt throughout the United States. In 1878 this school, with its staff of trained nurses, nursed 2103 pauper patients in Bellevue and in the Emergency Hospitals. It has furnished twenty trained nurses as heads of other schools or matrons of hospitals, and has, since its formation in 1873, received from voluntary contributions \$71,134."

A renewed effort will be made by the association to secure legal recognition. Whilst the objections to such volunteer visiting, unless conducted with much tact and discretion, readily suggest themselves, its advantages are forcibly set forth in the address, and the arguments adduced to support the claims of the association to recognition by the legislature are not destitute of very considerable weight.

SANITATION IN COLLEGES.

WHILE the interest in the appointment of a medical officer to point out the various evils in the sanitary condition of our schools in Boston was reaching its annual boiling-point, to end, as usual, in letting the teachers go on breaking down, and the children grow up debilitated by the foul air which they have to breathe, a couple of score of cases of typhoid fever, with a half dozen deaths, in the dormitories of one of our wealthiest colleges convinced a dozen trustees of the institution, at last, that their stinking drains must be abated. Under the influence of the "scare," however, the authorities of Princeton College said not only, We will not have any foul drains in our buildings, but they even went further, and abolished water-closets altogether, so that the best that one of our leading sanitary engineers was allowed to do was to build a shanty and some troughs at a distance from the college buildings, where the students are expected to resort in all kinds of weather. An industrious janitor is supposed to flush and brush these troughs clean twice a day. We hope he will, but even if he does not, any offensiveness to sight and smell that may arise will be prejudicial to the morals and manners of the young men more than to their health, and we presume that civilization is now not so important in that particular college as convincing people who know nothing about the causes of disease that something radical is to be done. The sewage is to be utilized by surface irrigation a half mile off.

Without any scare, the powers that be at Harvard have decided that there is a risk of ill health in maintaining their drains and trough-closets as at present

existing, even in their new dormitories, and so they have decided to abolish them, and substitute the best hopper closets that are made, with as perfect flushing and ventilation as can be got,—all this to be within the walls of the buildings, so that the student will not be tempted to injure his health by disregarding the calls of nature in cold and stormy weather, or to adopt familiar expedients which are less sightly and decent than exigent. Our colleges are meant to teach many things beside Greek and mathematics. We are glad that the example of Harvard lies in the direction of health, cleanliness, decency, comfort, and common sense.

MEDICAL NOTES.

—Dr. J. B. Russell, health officer of Glasgow, and Dr. T. S. Clouston, the distinguished alienist of Edinburgh, are shortly expected in Boston. Dr. Russell's health reports are among the most careful and valuable with which we are acquainted, and Dr. Clouston needs no introduction to our readers as an authority in his particular department.

—Dr. Eliza M. Mosher has been appointed superintendent of the Reform Prison for Women at Sherborn, in place of Mrs. E. C. Atkinson, resigned. This is regarded as an excellent appointment.

—Mr. Spencer Wells has performed ovariectomy one thousand times, with seven hundred and sixty-eight recoveries and two hundred and thirty deaths.

—Since the introduction of chloroform as an anæsthetic agent, thirty-five years ago, there have been but five hundred deaths from its use.

—M. Verneuil, surgeon to La Pitié Hospital, and Dr. Charcot, chief physician of the Salpêtrière, have been made officers of the Legion of Honor.

—A bill of considerable importance, as its object is to provide for the utilization of London sewage, has received the royal assent. The Dagenham and District Farmers' (Optional) Sewage Utilization Act authorizes the formation of a company and the construction of works for the delivery of London sewage to the occupiers of some nine thousand acres of land on the Essex side of the Thames, between Barking and Wennington. The essence of the project is pointed to in the word "optional" in the title of the bill. The farmer or the market gardener will draw sewage only when he requires it, and the company will be under no obligation to take the sewage except when they can dispose of it. The act confirms a thirty years' agreement with the Metropolitan Board of Works, by which, in consideration of a half-share in the profits of the concern (beyond five per cent.), the board undertakes to supply the company with any quantity of sewage up to sixty million gallons a day. The works proposed will be capable of supplying twenty pounds' worth of manure, at a charge of about two pounds, to every acre in the district during the six driest months of the year. The company will probably divert the bulk of the sewage from the river during the hottest months of the year. — *Medical Times and Gazette*.

—A lengthy and favorable criticism upon the Transactions of the American Gynecological Society may be found in Nos. 26 and 28 of the *Wiener medizinische Presse*.

CHICAGO.

—This city is at present suffering the visitation of an epidemic of typhoid fever. Usually at this season the county hospital (with two hundred and fifty patients) has two or three cases of this disease in its wards. At present there are about thirty cases in the hospital. The mortality so far has not been great, probably considerably less than ten per cent. The cases so far observed have been singularly free from diarrhoea. The temperature range has been quite irregular, repeated sudden elevations occurring in the second, third, and fourth weeks of the disease, without elevation of pulse-rate or any inflammatory complication to account for the phenomena. There is no cause so far discoverable for the epidemic. There is no change in the water supply, sewage, sewerage, or streets of the city that can explain its occurrence.

—Dr. F. H. Davis, the eldest son of Prof. N. S. Davis, died on the 17th inst., after a most painful illness of nearly three months. He had been in the practice of medicine about ten years, associated with his father, and was widely known and much respected. He had been for some time a member of the medical staff of Mercy Hospital, was for many years one of the editors of *The Medical Examiner*, since merged with *The Journal* into *The Journal and Examiner*, and has most of the time since its organization been secretary of the American Association of Medical Editors. He has made valuable contributions to the literature of the therapeutics of inhalations for diseases of the bronchial tubes and lungs. Several of his articles have appeared in the transactions of the American Medical Association and of the State Medical Society, while many have appeared in medical journals.

—The topic in professional circles here at present is the operation at the County Hospital, by Dr. E. W. Lee, of transplantation of skin from the sheep to the human body. What now adds to the interest of the operation, and makes those who have watched the progress of the study and trial with anxiety hold their breath, is the fact that the experiment bids fair to be a success. The coaptation of the three large flaps from the side of the lamb to the ulcer on the patient was made on the 24th of August. Six days have elapsed at this writing, and union of all the flaps seems to be perfect. Of course when they come to be separated from the lamb they may suffer and perhaps slough, but it is now well settled that the skin of the sheep will adhere to a granulating surface on the human body.

The subject of this experiment (that is, the human subject) is a girl about ten years of age, who sustained an extensive burn on the back a year and a half ago. A large granulating ulcer remains, despite all efforts to induce healing. Skin grafting has been

faithfully practiced, but without success. The child has of course been obliged to lie prone most of the time, and has become greatly reduced. A few weeks ago an attempt was made to transplant a flap from the thigh of her older brother, but the flap sloughed. That failing, Dr. Lee began at once to experiment with flaps and dissections from the sides of sheep. His first subject, a lamb, nearly full grown, was lost, soon after the dissection of the flap, from the shock of the operation. He next operated on two other lambs, dissecting up two moderate-sized flaps from each, placing oiled silk beneath them to prevent adhesion, and dressing them antiseptically. These animals were then turned out to grass in the hospital yard, and were also fed on milk, with occasionally a small admixture of whiskey. They took to this diet with avidity. After several days—nearly two weeks—had elapsed, and the animals were vigorous, the operation of application of the flaps of one of them was made. A new flap was dissected from between the two already made, and applied in the same manner as the others. The new flap has made a firmer adhesion than the old ones. The lamb is fastened in the standing posture, in a wood cage, its body being securely fixed and sustained by plaster-of-Paris bandaging of its limbs and quarters. Perfect coaptation and perfect immobilization are secured. The patient has improved in appearance and general condition since the operation, and the lamb shows no signs of failing health.

Miscellany.

THE BROWN CASE.

MR. EDITOR,—In the JOURNAL for August 12th, page 157, Dr. Fisher gives his account of this prominent trial. It will be remembered that Brown shot to death in our streets John A. Jenks, Christmas morning, 1878; some six weeks prior to this, Brown's wife had voluntarily confessed to him a criminal intimacy with Jenks. Dr. Fisher says, "Towards morning of the next day he attempted suicide by cutting his throat, and lost much blood; shortly after he had a convulsion or fainting fit." While it is true that Dr. Fisher may have been led to think Brown contemplated self-destruction, I cannot conceive how he got the idea that it was "by cutting his throat." Nothing of the kind was testified to. Brown had a small pocket-knife, and made two or three insignificant stabs in the lower part of his abdomen, and cut his left wrist, so that he lost venous blood, perhaps a quart; it was not measured. He was faint, but had neither a fit nor a convulsion. This faintness or rather depression continued until late in the afternoon, when I recommended champagne, which promptly rallied him; other stimulants did not do so well. There is room for discussion if he attempted suicide at all. The testimony as to his putting a pistol to his head was not very credible, and all who claimed to have suspected a liability to suicide signally failed to communicate such thought to others or take precautions to prevent the deed. The continued depression was not wholly from loss of blood, it seems to me, but in part from the fearful calamity he had

brought upon himself and others. Soon after the confession of his wife he went to the police station, and among other things he uttered as an expression in effect that Jenks ought to suffer death for his offense. He told the chief of police that he bought the pistol when he resided in the outskirts of the town, fearing to be robbed, of which, however, there was little danger. This motive for carrying a deadly weapon had long ceased, for he lived at the time of the homicide near the centre of twenty-five thousand people, and his wife testified that he was at home evenings. From Dr. Fisher's account one may infer that Brown had the pistol in his pocket for the purpose of self-destruction on the morning of the shooting: "At the point of suicide [he] started for town [he resided in the centre], with a pistol in his pocket, to get some medicine for his head." When Brown's lawyer called upon me before the trial to ascertain if I would testify in behalf of his client, he said, "Brown went down street to buy a toy for his little son, and meeting Jenks," etc., etc. The wife testified that "one of the children had broken its trumpet; he said he was going down street, and would get a new one. He also took his medicine bottle, to go to Dr. Tobey's for the purpose of getting it filled. The next time I saw my husband was in the office of the chief of police, after he had been arrested. I asked him why he did not go right down to 'Central' to get his medicine, instead of bothering about the trumpet. He said, 'I don't know.'" So that Brown left his home that morning for two purposes, to buy a toy and medicine, and the trumpet being uppermost in his mind, he went in an opposite direction first, to get the toy. From Brown's residence "Central" is north, and up; to the place of the shooting it is south, and down street; therefore it is the truth, as the legal gentleman informed me, "he went down street to buy a toy for his little son." Suicide could not have been contemplated at that moment.

Dr. John W. Sawyer, of the Butler Insane Hospital, testified that his "opinion of Brown's sanity was founded upon what I learned of his friends. My mind was made up before I came here."

Dr. Sawyer proposed of his own motion to visit me, and also confer with the police before the trial. This met my cordial approval, but the visit was never made, nor the conference had. If Brown was insane it could not have lasted very long. A fellow-laborer visited him at the police station, and said, "You have got into a queer fix." The reply was, "I guess I have manhood enough to stand the rest." It is proper to say that this was not brought out at the trial; and the expression made to the police six weeks before the fatal day, that Jenks deserved death, does not appear in the printed testimony (before me), although the officer assures me he so testified.

I held the same view at the time of the trial regarding Brown's use of the knife in the cell that I now have, that is, the probabilities are that it was not an attempt at suicide. The mode of questioning upon the stand prevented my bringing this out. To settle this in my mind was one of the points for which I desired to confer with Dr. Sawyer. It is to be regretted, I think, that Dr. Sawyer did not carry out the intention he had at our short interview, and confer with all parties having knowledge of the transaction, rather than confess in open court, upon cross-examination, that "my opinion of Brown's sanity was founded upon what I learned of his friends. My mind was made up

before I came here." How it was that Dr. Fisher got the impression that Brown tried to "cut his throat," I am at a loss to explain. That he misapprehended some other points of the evidence, being unacquainted with the geography of our town, is more explicable, though it was in plain language that Brown went out that Christmas morning to get medicine for his head, and also to buy a trumpet, "a toy for his little son;" but the plaything being in his mind of the most consequence he went for that first. Fifteen or sixteen were called who testified that they saw Brown "hourly," "two or three times a day," "once or twice a week;" saw him on the morning of the homicide two or three times;" saw him at the time he was arrested; all these discovered no signs of excitement or of insanity. The superintendent of the mill where Brown worked testified, "I saw him daily for two months prior to the murder, and noticed nothing unusual. He did his work as usual." Three or four witnesses testified to an excited state at the time of the arrest, and in the cell at the station; and some of them said "he did not seem to know what had happened." The testimony as to hereditary insanity was strong; one might wonder if there ever was a sane Brown of this household. This point was well established, but not strengthened, by the clear attempt (to my mind) to overdo it. The prisoner's mother was a quiet, matronly woman; so she always appeared to me, and it was not necessary to undertake to show otherwise. The father of Brown never showed signs of insanity; the grandmother was insane and harmless; "a sister had been insane, and cut off her child's head;" a number of other relatives are or have been insane. Dr. Fisher says: "If Brown had killed himself, no one would have questioned his insanity."

Dr. Palmer testified that "sane men try to escape the consequences of crime by suicide." But it is not likely that Brown ever contemplated suicide, for if he had, why did he not "cut his throat," or otherwise accomplish it? The testimony quoted above is from the *Providence Journal*.

Dr. Fisher further says: "The attack was cumulative in character."

It does seem that, like Tam O'Shanter, he "nursed his wrath to keep it warm."

Dr. Sawyer testified that he did not regard Brown as fully responsible at the time of the homicide; in this view Dr. Fisher seems to agree. Drs. Palmer, Perry, and myself saw no insanity.

JAMES O. WHITNEY, M. D.

PAWTUCKET, R. I.

A CASE OF INTERMITTENT FEVER ORIGINATING IN WESTERN MASSACHUSETTS.

MR. EDITOR, — Attention having been directed of late to the increase of malaria in the Connecticut River valley, the following case of intermittent fever, originating in the western part of the State, and which yielded readily to treatment, may have some interest for your readers.

The patient, a young lady, returned home in the latter part of last July, feeling somewhat debilitated, after a visit to Longmeadow (near Springfield).

One week after her return, at six o'clock in the evening, she was attacked with severe chills, followed by fever, which did not subside until the following morning. On the two next days the chills returned at six o'clock, and the fever continued through the night. When

first visited, at 9.30 p. m. of the third day, the temperature was 104.2° F. The spleen was not found enlarged at that time nor subsequently.

On the fourth day treatment was commenced, five grains of quinine being given in grain doses, beginning at eleven a. m. The chills were postponed to 8.15 p. m. (twenty-six and one fourth hours' interval). At nine p. m. the temperature was 104.6° F., and the fever continued through the night.

On the fifth day twelve grains of quinine were given in one to two grain doses, beginning at eleven a. m., and in consequence the fever was postponed until 2.30 a. m. of the following day (an interval of thirty and one fourth hours). The fever was less intense, and not preceded by a chill.

Twelve grains of quinine (later diminished to six) distributed through the twenty-four hours averted further severe attacks. Moderate fever accompanied by slight nausea was noticed at irregular intervals up to the tenth day, when all malarial symptoms disappeared, and the patient rapidly recovered strength.

As she has never visited the West and South, the disease was undoubtedly contracted in the Connecticut Valley, where, according to our State Board of Health, intermittent fever has, during the past few years, become fairly established.

Yours truly,

J. B. AYER, M. D.

THE DANGER OF ESMARCH'S ELASTIC BANDAGE.

THE *London Lancet* says: The use of Esmarch's elastic bandage is one of the most serviceable of the modern improvements in operative surgery; by its means not only is loss of blood prevented, but many operations can now be conducted with a deliberation, and therefore a precision and skill, that was formerly unattainable. When Dr. Reid conceived the idea of utilizing this bandage in the treatment of external aneurism, and showed by a very successful case that his idea was eminently practical, the field of usefulness of the elastic bandage was immensely widened. Nearly thirty cases of aneurism in which this treatment has been used have already been recorded, two thirds of which have been successful; doubtless there have been many other unrecorded cases. Hitherto no ill results have been recorded, if we exclude Mr. Bryant's case, in which gangrene of the foot followed, but possibly was not caused by the use of the bandage. Dr. Robert F. Weir, of New York, however, has had the misfortune to lose a patient while undergoing this treatment. The man was a negro, aged thirty-two, with a large popliteal aneurism completely filling the ham. The elastic bandage and tubing were applied in the usual manner, and after two hours and a half the tubing was removed and replaced by a Signoroni's tourniquet, this and the bandage being removed after another hour and fifty minutes. Two days later, as the aneurism was not consolidated, the treatment was repeated, the tubing being left on two hours and fifty minutes, the bandage alone four hours longer, and a Signoroni's tourniquet at the groin a further half hour. The next day the pulse at the wrist was found to be nearly absent, and very weak and irregular in the femorals, although there were no other signs of shock, and in spite of careful stimulating treatment he sank,

and died twenty-seven hours after the discontinuance of the compression. At the autopsy the aneurism and the artery beyond it were found filled with soft, recent coagulum; the heart, especially on the right side, was found, on microscopic examination, to be "distinctly fatty." The risk of overstraining a weak heart has been noted and often commented on by surgeons as a drawback in the use of the elastic bandage, but we believe we are correct in stating that this is the only recorded instance in which this danger has been experienced. Dr. Weir rightly observes that it was a pity the bandage was retained on so long; for although it might not completely arrest the circulation, it yet allowed only a small quantity of blood to circulate in the limb. But this case suggests two other precautions, which no doubt have been often taken, though not expressly noted. One is not to continue the bandage above the aneurism and interfere with the general blood pressure more than is actually necessary; if the bandage be put on up to the aneurism, and then the tubing be applied tightly round the limb immediately above the tumor, the desired condition of the aneurism

and adjacent artery, full of stagnant blood, will be obtained; and the application of the bandage up the thigh for a popliteal aneurism is of no advantage, and only occasions additional risk from the greater stress it throws upon the heart. Then, again, the surgeon should carefully watch the pulse while carrying out this treatment, and at the first sign of heart distress or failure relax his pressure. The bandage is so constantly employed that it is only too easy to forget that in some cases it may be a source of danger. Some may be inclined to think that such a risk lessens the value of the bandage, but we think that it is derogatory to the intelligence of the profession to think so. The most perfect instrument requires intelligent using, and excellence in a remedy for therapeutic application can never compensate for a lack of knowledge as to its applicability. The history of surgery shows only too plainly that what ever has been and still is the great need is not additions to our mechanical power or skill so much as the knowledge to enable us to use wisely the means already at our disposal. The best surgeons can do most with simplest means.

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 28, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from					
				The Principal "Zymotic" Diseases.	Diarrhoeal Diseases.	Lung Diseases.	Diphtheria and Croup.	Typhoid Fever.	
New York.....	1,085,000	600	291	33.00	22.17	11.00	5.17	1.17	
Philadelphia.....	901,380	335	133	19.70	10.15	1.79	1.49	5.37	
Brooklyn.....	564,400	287	158	37.63	24.04	7.67	8.36	1.39	
Chicago.....	—	221	139	38.91	22.17	4.52	7.69	4.07	
St. Louis.....	—	132	69	25.00	9.09	.76	.76	4.55	
Baltimore.....	393,796	143	72	31.47	13.29	—	4.20	2.10	
Boston.....	363,938	178	82	39.33	30.34	2.25	5.62	1.69	
Cincinnati.....	280,000	109	49	38.53	20.18	4.59	.92	11.01	
New Orleans.....	210,000	102	37	25.49	13.73	2.94	1.96	—	
District of Columbia.....	170,000	66	34	19.70	13.64	10.61	3.03	1.52	
Buffalo.....	—	53	28	35.85	20.75	3.77	7.55	3.77	
Cleveland.....	160,000	—	—	—	—	—	—	—	
Pittsburgh.....	156,649	34	—	64.71	14.71	11.76	20.59	14.71	
Milwaukee.....	127,000	63	43	31.75	25.40	1.59	3.17	1.59	
Providence.....	104,862	29	12	24.14	17.24	3.45	—	—	
New Haven.....	60,000	24	6	16.67	4.17	20.83	4.17	—	
Charleston.....	57,000	45	17	17.78	6.67	—	—	4.44	
Nashville.....	43,543	13	8	46.15	15.38	—	—	7.69	
Lowell.....	59,340	24	17	50.00	50.00	4.17	—	—	
Worcester.....	58,040	19	11	21.05	15.79	—	—	—	
Cambridge.....	52,860	15	7	40.00	33.33	6.67	6.67	—	
Fall River.....	48,626	26	16	15.38	—	—	—	7.69	
Lawrence.....	39,068	19	10	42.11	36.84	—	—	5.26	
Lynn.....	38,376	19	12	36.84	31.58	5.26	5.26	—	
Springfield.....	33,536	23	14	8.70	4.35	—	4.35	—	
Salem.....	27,347	15	9	40.00	20.00	6.67	13.33	6.67	
New Bedford.....	27,268	11	8	45.45	45.45	—	—	—	
Somerville.....	24,964	9	2	44.44	33.33	—	—	11.11	
Holyoke.....	21,961	13	8	38.46	30.77	—	—	—	
Chelsea.....	21,780	16	6	37.50	18.75	6.25	6.25	6.25	
Taunton.....	21,145	6	2	—	—	16.67	—	—	
Glocester.....	19,288	8	7	50.00	50.00	12.50	—	—	
Haverhill.....	18,478	6	3	66.67	33.33	—	16.67	16.67	
Newton.....	16,994	—	—	—	—	—	—	—	
Newburyport.....	13,470	6	0	33.33	—	—	16.67	—	
Fitchburg.....	12,270	—	—	—	—	—	—	—	
Sixteen Massachusetts towns.....	123,141	52	27	36.54	30.77	3.85	3.85	—	

Deaths reported, 2721; 1337 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 871, diarrhoeal diseases 332, consumption 329, lung diseases 146, diphtheria and croup 125, typhoid fever 80, malarial fevers 50, scarlet fever 35, whooping-cough 24, cerebro-spinal

meningitis 11, measles six, small-pox five, erysipelas three. From malarial fevers, New York 14, St. Louis 11, New Orleans nine, Baltimore five, Charleston three, New Haven two, Chicago, Cincinnati, District of Columbia, Buffalo, Nashville, and Bridge-water one. From scarlet fever, Baltimore seven, Chicago six, Brooklyn five, Pittsburgh four, New York and Philadelphia

three, Providence two, Boston, Cincinnati, Buffalo, Nashville, and Newburyport one. From *whooping-cough*, New York and Baltimore five, Brooklyn and Cincinnati four, Chicago two, St. Louis, Boston, Holyoke, and Chelsea one. From *cerebro-spinal meningitis*, New York three, St. Louis, Boston, Cincinnati, New Orleans, Pittsburgh, Milwaukee, Nashville, and Worcester one. From *measles*, New York and Brooklyn two, Chicago and Fall River one. From *small-pox*, Philadelphia five. From *erysipelas*, Philadelphia, Chicago, and St. Louis one.

Thirty-one cases of diphtheria, nine of scarlet fever, two of measles, two of typhoid fever, and one of whooping-cough were reported in Brooklyn; diphtheria 28, scarlet fever one, in Boston; diphtheria 12, scarlet fever 10, in Milwaukee; scarlet fever five, diphtheria two, typhoid fever one, in Providence; scarlet fever 13, diphtheria one, in New Bedford.

In 33 cities and towns of Massachusetts, with a population of 1,012,626 (population of the State 1,783,812), the total death-rate for the week was 24.00 against 27.21 and 25.46 for the previous two weeks.

Total number of deaths, deaths under five, deaths from diarrheal diseases, all decreased in about the same proportion.

For the week ending August 7th, in 149 German cities and towns, with an estimated population of 7,767,599, the death-rate

was 29.8. Deaths reported, 5373; 2814 under five: pulmonary consumption 421, acute diseases of the respiratory organs 253, diphtheria and croup 93, scarlet fever 75, typhoid fever 73, whooping-cough 51, puerperal fever 17. The death-rates ranged from 12.9 in Duisburg to 48.1 in Chemnitz; Königsberg 27.3; Breslau 38.4; Munich 34.2; Dresden 29.5; Berlin 34.2; Leipzig 18.6; Hamburg 28; Hanover 33; Bremen 24.3; Cologne 32.3; Frankfurt 20.4; Strassburg 37.7.

For the week ending August 14th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 24.8. Deaths reported, 3567; diarrhoea 807, acute diseases of the respiratory organs 152, scarlet fever 112, whooping-cough 62, measles 54, fever 44, small-pox (all in London) six. The death-rates ranged from 16 in Wolverhampton to 38 in Salford; London 24; Bristol 17; Birmingham 26; Manchester 26; Liverpool 28. In Edinburgh 20; Glasgow 20; Dublin 35.

In the 20 chief towns in Switzerland for the same week, population 445,790, there were 57 deaths from diarrheal diseases, acute diseases of the respiratory organs 21, diphtheria and croup four, scarlet fever four, measles three, typhoid fever two, whooping-cough two.

The meteorological record for the week in Boston was as follows:—

Date,	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Meau.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	11 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
Aug. 22	29.930	75	91	65	70	31	63	55	W	SW	SW	8	13	8	C	C	F	—	Too small to measure.
" 23	30.112	79	96	63	74	24	73	57	SW	SW	SW	6	8	11	C	C	F	—	
" 24	30.034	77	91	68	85	56	81	74	SW	SW	SW	4	11	14	C	F	C	—	
" 25	30.069	67	77	62	90	89	89	89	W	E	N	5	5	3	O	O	C	—	
" 26	30.286	57	68	52	69	71	75	72	NE	E	SE	7	12	6	C	C	C	—	
" 27	30.227	60	69	47	80	63	77	73	C	E	SW	0	12	6	C	C	C	—	
" 28	30.043	73	87	58	88	57	81	75	SW	SW	SW	8	12	14	O	C	C	—	
Week.	30.103	70	96	47			71		Southwest.									1 00	—

¹ O, cloudy; C, clear; F, fair; G, fog; H, hazy; R, rain; S, smoky; T, threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM AUGUST 28, 1880, TO SEPTEMBER 3, 1880.

CAMPBELL, JNO., lieutenant-colonel and surgeon. Medical director, Department of the South. Granted leave of absence for twenty days. S. O. 103, Department of the South, September 1, 1880.

HUNTINGTON, D. L., major and surgeon. To accompany the President and General of the Army to California, Oregon, Washington Territory, Arizona, New Mexico, Colorado, and Kansas, and then return to his station in this city. S. O. 182, A. G. O., August 28, 1880.

KING, WM. H., captain and assistant surgeon. His sick leave granted him July 21, 1880, from head-quarters, Department of Dakota, extended three months on surgeon's certificate of disability. S. O. 183, A. G. O., August 30, 1880.

CRONKITE, H. M., captain and assistant surgeon. Relieved from duty in the Department of the East, and to report in person to the commanding general, Department of the Pacific, for assignment to duty. S. O. 158, A. G. O., September 1, 1880.

HARVEY, P. F., captain and assistant surgeon. At expiration of his present leave of absence to report in person to the commanding general, Department of Dakota, for assignment to duty. S. O. 182, C. S., A. G. O.

WORTHINGTON, J. C., captain and assistant surgeon. Relieved from duty in Department of Arizona, to proceed to Baltimore, Md., and, on arrival, report by letter to the surgeon-general. S. O. 182, C. S., A. G. O.

REID, WALTER, captain and assistant surgeon. To report in person to the commanding general, Department of the East, for assignment to duty. S. O. 182, C. S., A. G. O.

BURTON, H. G., first lieutenant and assistant surgeon. Relieved from duty in Department of Arizona, to proceed to Boston, Mass., and report arrival there by letter to the surgeon-general. S. O. 182, C. S., A. G. O.

RHODE ISLAND MEDICAL SOCIETY. — A quarterly meeting of the society will be held in Lyceum Hall, 62 Westminster Street, Providence, R. I., Wednesday, September 8, 1880, at ten o'clock a. m. Censors' meeting at same time and place. Order of exercises: (1.) Reading of records. (2.) Censors' report. (3.) Reports of committees. (4.) Reports of delegates. (5.) Admission of Fellows. (6.) Reading of papers by Drs. George W. Porter and William H. Palmer.

VIRGIL O. HARDON, M. D., Secretary.

NEW HAMPSHIRE MEDICAL SOCIETY. — Ninth excursion of the society. Officers: President, G. P. Conn, M. D., of Concord. Vice-President, H. B. Fowler, M. D., of Bristol. Secretary, M. W. Russell, M. D., of Concord. Treasurer, L. B. How, M. D., of Manchester. Anniversary Chairman, C. A. Tufts, M. D., of Dover. Committee of Arrangements, S. W. Davis, M. D., of Plymouth, G. D. Towne, M. D., of Manchester, George Cook, M. D., of Concord, S. C. Whitier, M. D., of Portsmouth, E. S. Berry, M. D., of Dover. The ninth semi-annual meeting will be held on Tuesday and Wednesday, September 14th and 15th, in the parlors of the Penikese House, Plymouth, N. H. The Essex North District Medical Society, of Massachusetts, the White Mountains Medical Society, the Connecticut River Valley Medical Society, the New Hampshire Pharmaceutical Society, and the New Hampshire Dental Association have been invited to join in the excursion. Programme: A special dinner will be served to the members of the society and invited guests at two o'clock Tuesday p. m. Post-prandial exercises, under the management of the anniversary chairman, will occupy an hour or more of the afternoon. Excursions have been arranged to Mt. Prospect and the state fish-hatching house. Supper at the usual hour. In the evening a reception will be held, with music. Wednesday morning, such members as desire can take the Lady of the Lake, at the Weirs, and make the delightful trip across the lake, returning in season for the afternoon trains north and south.

Others were also drowned at the same time, but no special reports were received other than those enumerated:—

Deaths by violence (the act of another) were as follows:—

By blows on the head.....	5
By criminal abortion.....	3
By shooting.....	2
By stabbing.....	1
By fracture of patella (followed by delirium tremens).....	1
Mode of injury not stated.....	2
By infanticide, including various forms of violence.....	7

Suicides occurred as follows:—

By hanging.....	26
By shooting.....	22
By drowning.....	20
By cutting throat.....	12
By leaping from a height.....	2
By strangulation with a handkerchief.....	1
By poison.....	15
Opium in some form.....	6
Paris green.....	6
Cantharides.....	1
Chloral hydrate.....	1
Prussic acid.....	1
Corrosive sublimate.....	1
Mode unknown.....	1

Sixteen suicides were known to have been insane. The ratio of suicides to population in 1879 was about one to thirteen thousand. There were three deaths from suicide in one small town of seven hundred inhabitants.

Deaths from natural causes were distributed thus:—

Heart disease.....	52
Apoplexy.....	18
Epilepsy.....	6
Pneumonia.....	14
Pneumonia.....	8
Pulmonary oedema.....	3
Acute bronchitis.....	2
Convulsions.....	3
Peritonitis.....	3
Alcoholism and delirium tremens.....	15
Thoracic aneurism.....	3
Starvation.....	4
Diarrhoea.....	3
Old age.....	3
Exhaustion.....	2
Cholera morbus, rupture of aorta, typhoid fever, whooping-cough, erup., disease of liver, septicaemia, abortion, sunstroke, and death under ether, one each.	

Sixty-eight deaths were reported as the direct or indirect result of intoxicating drinks.

Infantile group of deaths from natural causes:—

From premature birth and still-birth and various causes among children under one week old.....	31
Cholera infantum.....	1
Marasmus.....	1
Invagination of intestine.....	1
Causes unknown.....	4

Five cases of infants were investigated at the request of the Massachusetts Society for the Prevention of Cruelty to Children.

Two points of special interest are noticeable in the report of the past year:—

The increase in the number of suicides by Paris green. This poison has become more widely known of late years in consequence of its vermin-destroying properties. Its poisonous properties are familiar to all persons who own a potato patch, whether large or small. No deaths from its use were reported in 1877 or 1878.²

¹ Reported in full in Boston Medical and Surgical Journal, January 26, 1880, page 107.

² The notes of an autopsy in a case of suicide by Paris green are appended to this report:—

It is also a singular fact that the note of the last corresponding secretary in relation to the notable absence of deaths from overlaying among infants, in 1878, should have been followed by a marked increase in 1879, one only being reported in the former year, and twelve in the latter.

ON THE POST-PARTURIENT PATHOLOGY RESULTING FROM IMPERFECT UTERINE CONTRACTION AFTER CHILDBIRTH, AND ON INVOLUTION COMPLETE AND INCOMPLETE.

BY T. H. BUCKLER, M. D., BALTIMORE.

IN a late paper¹ the evolution of gestation was referred to for the purpose of briefly explaining the ways in which the cervix and cervical canal are transformed, one into the walls, or rather floor or basin, and the other into the cavity, of the uterus.

The mode of involution is nothing more than the method of evolution exactly reversed, only the process in the former usually takes place more rapidly, while to complete the latter, the full period of gestation is required. During evolution the muscular fibres grow and develop, but pending involution they undergo atrophy, and waste. If all women, like the American Indian squaw, who has a child as easily as a Guinea pig drops its young, had a fair share of muscular energy and nervous strength, the service of the obstetrician might be dispensed with; but as civilization advances, the standard of nervous and muscular power seems to grow less and less, and hence exercise of the perfect mechanism by which children are brought into the world has been aptly called *labor*. In a parturient woman having a sufficient reserve of muscular devel-

Record of autopsies. Margaret B., aged twenty-two, nineteen hours after death, and sixty-seven hours after ingestion of the poison.

Nothing remarkable on external examination. Heart normal in size and in regard to valves; pale and friable.

Both lungs oedematous posteriorly and inferiorly.

Abdominal cavity contained one hundred and thirteen cubic centimeters of red serum. Pelvic peritoneum injected. Intestines moderately distended with gas. Slight injection of mesentery and intestinal mucous membrane.

Esophagus showed dark, brownish-red patches along lower parts of its mucous membrane. No erosions.

Stomach normal externally. Its liquid contents measured one hundred and seventy cubic centimeters, of consistency of pea soup, of a dark, grayish-brown color and grumous, viscid appearance. The mucous membrane of the stomach was not eroded, or distinctly reddened. At the posterior inferior portion (fundus) were many submucous punctate ecchymoses.

Both kidneys were moderately increased in size; cortex infiltrated; streaked with fine, whitish-yellow lines; injected (fatty degeneration).

Spleen normal.

Liver pale; of normal size; edges rolled outward on section (fatty).

Contents of intestines of an olive-green color and creamy consistence. (Patient had taken hydrated sesquioxide of iron freely.) Pelvic organs presented nothing remarkable.

Brain not examined.

NOTE.—Remarkable absence of lesions after swallowing ten cents' worth of Paris green.

² In the article referred to, for the sake of clearness, in order that the treatment by dilatation might be better understood, and for the purpose of showing the identity in substance, and at the same time etching sharply the distinctions, both in form, position, and function, between the constrictor oris and cervicis uteri, a third name was not given, as will herein be done, to this muscle, and to avoid confusion nothing was said about the cuculatores and constrictor oris interni being one and the same; but for the sake of anatomical accuracy, and for the purpose of showing that there is something in a name, it is hoped here to make these muscles appear, not like the dogs that receive bad ones, but so to nominate them that each department of this whole subject may thereby be made clearer, and become, for the future of rational surgery, better understood.

opment and nervous energy, birth is effected by contractions of the longitudinal and oblique fibres, assisted by the abdominal muscles, which, contracting, the one involuntarily, and the other voluntarily, drag and press the constrictor oris open, and force the child along and through the narrow pass, the contractions of the involuntary fibres being continued until the placenta and any retained blood-clots have also been extruded. Parturition having been thus accomplished, the contracted and unyielding uterus, about the size of a large citron, may be felt above the crest of the pubis.

This result is effected, not by folding or crumpling of the walls, but by contraction of the innumerable fibres and bands of fibres of which they are composed, in the way the worm shortens its length, or like the contractions of most muscles under exclusive control of the ganglionic system of nerves.

Nothing has been distorted or rendered uneven by the rapid contraction except the endometrium, which will be found slightly corrugated or wrinkled. Just as the fingers, held together, are carried through and underneath threads, in the play of cat's-cradle, so involution commences, and the basin or lower third of the uterus, which has now assumed the shape of a shallow funnel, is, by continued contraction of the longitudinal and oblique fibres, forced through the ring formed by the constrictor oris, the former to be retransformed into a cervix with a canal through it, and the latter into the constrictor cervicis muscle. During the eight or ten days after parturition, and pending the duration of the lochia, attended by "after pains," the perfect mechanism, with the nerves and vessels through which it derived nutrition, denutrition, and action, is being packed away for future use in that box of bone, or small pelvis, where, like a jewel in raw cotton, the womb is at last securely moored, in soft, moist cellular tissue, and thus protected from injurious jostling against the other organs therein contained. This final process is accomplished by the folding up of the lower third or basin of the uterus, which, followed by the dome and cuculotes muscle of this organ, passes down, carrying with it the lower two thirds of the constrictor oris, thus transforming the latter into a muscular sheath, into which the newly formed cervix passes, like a closed umbrella unto its case. And thus the fibres that in the gravid uterus constituted the constrictor oris and cuculotes¹ are transformed and transposed into a *constrictor cervicis et oris interni*. These circular muscles serve also not only to drag together the longitudinal and oblique fibres at the base of the dome, where it joins the brim of the basin, but at the same time to remodel the latter into the form of the cervix with its fuciform canal. All these transformations and transpositions having been accomplished, the uterus is brought back to the state it existed in antecedent to conception. This is just what should happen, in every case. But where, through lack of nervous or muscular power, or from obstetrical ignorance or neglect, this process is arrested, the muscular contraction is more or less incom-

plete, or, the accoucheur having delivered the placenta, seen, perhaps, that the womb is contracted, and feeling that he has, for woman's sake, performed the whole duty of man, hurries off to ovariectomy, or deliver some other female. If he must neglect the plain duty of waiting to see that all is safe, he should at least seal the primary perfect contraction by giving ten grains of fresh ergot, eight drops of Magendie's solution of morphia, and one drachm of Hoffman's anodyne, and ascertain, before leaving, rather than trust his patient to chance, that these agents have exerted their proper therapeutic effects. Failing to do this, the muscular fibres may very likely relax shortly after he goes, and the funnel-shaped basin, which had, during evolution, been formed out of the cervix, relapses, partially or wholly, from within the ring of the constrictor oris muscle, which latter, followed by the circular fibres of the cuculotes, would, but for the withdrawal of this spindle, have been retransformed and spread out on a remodeled and descended neck into the *constrictor cervicis*, while the cuculotes or cecus circularis would have been brought down from the line where, in the gravid uterus, its dome and basin join, to be transformed into the constrictor oris internal muscle of the unimpregnated organ. This purely mechanical displacement of the uterine structures might be justly called "subinvolution," or, more properly, arrested or prevented involution; but when the signification of this term is made obscurely to include the deplorable morbid consequences resulting from this dislocated mechanism, it becomes a misnomer, altogether misleading, and without sense or meaning of any kind. If, under these circumstances, an examination per vaginam be made, the now improperly named os externum, composed of nothing but the constrictor oris muscle, will be found relaxed and open, while the internal os (in this connection, also, by many improperly named) is not only patenscent, but often gaping. And why is this? It is an open space, because to fill it the basin or lower third of the uterus has not been folded up, and by contraction of the longitudinal and oblique fibres forced downwards and forwards, into and through the ring formed by the constrictor oris muscle, to be retransformed into the cervix proper, or the form in which it existed before evolution from conception began.

From this, it must be seen that, above the vacant space referred to, and perhaps beyond the field of vision, is the os tince or os externum proper, and that the os internum, supposed by some to be beyond it, cannot exist, until the basin or floor of the womb comes down, dragging after it the also coalescing base of the dome, folds up, and becomes remodeled into a cervix, between which and the now contracted base of the dome the internal os is formed, by pressure from without of the cuculotes of the gravid uterus, now transposed and transformed into the *constrictor oris interni* muscle.

After death from eclampsia, during parturition, the basin or floor of the uterus, which had been formed by evolution and expansion of the neck was clearly distinguishable from the dome of the uterine cavity, its surface being smoother and lighter colored, and its structure more compact and resistant, as it should be, in view of the greater weight it has to carry. For the sake of convenience, clearness, and conciseness, it may be well to divide involution into three stages, namely, *arrested or disjunctive, conjunctive, and proximo-ter-*

¹ When, in the preceding paper, the name *cuculotes* or *cecus circularis* was given to the powerful band of fibres passing around the uterus at a little below its perpendicular centre, the manuscript went on to say that this formidable muscle caused hour-glass contraction. I recall a case where it was at first impossible to pass the hand through an hour-glass contraction into the dome of the uterus, for the purpose of reaching a placenta attached thereto, and it was only after the woman had fainted from hemorrhage that the hand was introduced and the placenta withdrawn, after which the longitudinal and oblique fibres began at once to contract, and involution was speedily accomplished.

minud: Disjunctive, where the lower portion or basin of the womb, going to be re-formed into the cervix, is not engaged in and has not begun to pass through the ring of the constrictor oris, and where, on the contrary, this muscle is contracted in front of it, thereby obstructing its descent. Conjunctive, where the lower third of the uterus, to be transformed into the cervix, has become engaged within the ring of the constrictor oris muscle, which latter is going over at this point, from the completion of one function, to take, in the shape of the constrictor cervicis, quite a different position; and pending this state of change it might be well, as neither of the other names are appropriate, to call it the *musculus transgressus, or retrogradus*. And the proximo-terminal, a not unusual arrest in involution, is where the newly molded neck has descended almost to its destined place, and where usually only one or two strong pulls of the longitudinal and oblique fibres on the *constrictor cervicis et oris interni* are required, to force down and home the now folded or rolled up basin of the uterus into its muscular sheath or place of rest, until again disturbed by new germs of conception. During these stages of imperfect involution, and proportionate to its degree of incompleteness, the venous and lymphatic circulations are obstructed and the nerves compressed by the distorted and displaced condition of all the structures, to say nothing of the transitive pressure from nervous contraction of the muscular fibres, in a state of continual unrest. While, in this way, both drainage and denutrition by the veins and lymphatics are more or less retarded, the propulsive power of the arteries and the *vis a tergo* of the blood contained in them are continually forcing these barriers to the venous currents, giving all the uterine structure the materials for morbid growth, and producing, besides, passive congestion or hyperæmia in the trunco and capillary plotwork of vessels. Here, the logical or inductive question to be asked is, What are the sequences or inevitable effects of imperfect contraction, incomplete evolution, and, as a consequence, obstruction to the return venous and lymphatic circulations? Virchow says the result is hyperplasia, from *ὑπερ, excess*, and *πλασις, formation*¹ (synonymous with hypergenesis), and is applicable to an excess of growth of any of the tissues; and since this excess takes place nine times out of ten in the areolar tissue, Dr. Thomas is not wrong in adding his adjective, though he might just as well have said cellular, laminous, conjunctive, reticular, or interstitial, inasmuch as the areolar tissue bears all these names, and many more. This is all very well, so far as these distinguished authorities go, with their nomenclature, but to say that the uterus labors under hyperplasia, simple or areolar, without reference to its cause, antecedents, or sequences, leaves the inquirer as much in the dark as if he had been told, in regard to the liver, that its pathological condition was singly either that of hyperplasia, cirrhosis, or contraction at the capsule of Glisson. The only explanation of these crude statements is that Virchow must have examined, microscopically, a bit or sample taken from a uterus voluminous in size, or suffering from hypertrophy of all its tissues, and that Dr. Thomas took his specimen from a more advanced stage, or where the womb was laboring under true hyperplasia, or that advanced state of morbid growth wherein the interstitial plotwork of cellular or areolar tissue was growing at the expense of the fibrous

structure. They might just as well, and with more truth, have said that this condition, due to careless obstetrics, was an enigma or pathological perplexity; for unless Dr. Thomas regards it as a locked mystery, he would hardly, in the course of his remarks, have said that a key was wanted. Microscopists and specialists are prone to ride disjointed hobbies, and often in trying to get at the true knowledge of a subject there is nothing so bewildering and misleading as the name which has been applied, excluding the rest of its different departments, to some one incident. The real sequences of hæmostasis or mechanical obstruction to the venous and lymphatic circulations, caused by incomplete or arrested involution, are these: (1) hyperæmia; (2) hyperæmia and engorgement of the passively dilated capillary blood-vessels; (3) hyperæmia and hyperplasia, or hypertrophy of all the structures; (4) hyperæmia and areolar hyperplasia and growth, or hypertrophy of the cellular or laminous tissue, at the expense of the fibrous structures, and atrophy or waste of the latter; (5) hyperæmia in the trunco and obliteration of the capillary blood-vessels, which latter, at this advanced stage, have been encroached upon, and infolded by growing bands of cellular tissue. The degree to which these changes take place depends on the point at which contraction or involution of the uterus is arrested. The different stages of this malady are marked thus carefully, with the intention, later on, of advising a new operation for its relief. When one sees the mischiefs resulting from meddling, bungling, and negligent obstetrics, may he not be allowed to doubt whether, in the long run, it would not be better to leave parturient women to the unassisted powers of nature alone, who, as a rule, in these cases, does her work so well? If the obstetrician can do no better than allow these formidable but preventable difficulties to take place, he had better hang up his forceps, especially the long ones, and become a breeder of sheep, or a tiller of the ground. It would seem that these troubles are more common since forceps have come into general use. Nothing is heard now of a primipara, forty-four years old, giving birth to a child, after a labor of eight days and a half, during which time unassisted nature did her work so well that the mother and child progressed admirably, the former leaving her bed in ten days. The head was eight days of this time in overcoming the rigidity, and in making its way through the os uteri.

A capital *résumé* of all the opinions on this vexed subject, known under the names of "areolar hyperplasia," "subinvolution," and numerous other synonyms, may be found in Dr. Gaillard Thomas's work on gynecology. While ably examining the views of the best informed authorities, he deplores the insufficiency and obscurity of the present knowledge of uterine pathology. Dr. Thomas has not only clear views of all that is known in the art of gynecology, but also accurate perceptions of the knowledge required to advance its claims to the dignity of a science, properly so called. Only a glimmer of light is thrown on the subject of "subinvolution" by Virchow, who, from what he saw in one stage of the so-called malady, names it a hyperplasia; but to give it this name, for the purpose of concealing his want of knowledge as to the entire course and conditions of the disease, was, to say the least, clever. The pathological conditions enumerated would no doubt be modified to a greater or less extent by the peculiar idiosyncrasies or diatheses of some individ-

¹ Dr. Good.

uals, but to what degree it would be difficult, without extended observation, to pronounce. It is easy to suppose, however, that a hemorrhagic or strumous diathesis might modify, very materially, the usual structural alterations. In the former the patient might be more liable to dreadful hemorrhages, while in the latter the hyperplasia might partake of a strumous character. And if the patient had been so unlucky as to have had puerperal fever, — to which, from imperfect contraction and exposure of the venous sinuses, she would have been peculiarly liable, — metritis, or metroperitonitis, causing the pouring out of lymph and adhesive inflammation within, or local adhesions between the peritoneal surfaces without, the pathological alterations would be materially modified, and the chances of bringing about complete and perfect involution, whereby alone the womb can be brought to a healthy state, would be defeated entirely. Parametric cellulitis, as a concurrent incident, might also render futile the best directed efforts to reduce the dislocated uterine structures, and restore them to their original place and expectant functions. And therefore, to make a correct prognosis, it is essential to get an exact history, and find out, in every case, whether obstructive complications exist. For the disjunctive stage of involution, or that form depending on incomplete primary contraction or subsequent relaxation of the longitudinal and oblique uterine fibres, and for the beginning of the conjunctive or second stage, I have, believing reduction of dislocation to be the sole and only remedy, dilated the constrictor oris et cervicis, and given ergot, but without relieving the displacement, or improving in any respect the condition of the patient. And surely no one knows so well as the gynaecologist how utterly his expedients, uterodectomy included, fail to relieve these stages of "subinvolution." The proximo-terminal stage, often depending in part on contraction of the constrictor cervicis et oris interni muscle, is easily relieved by dilating the cervical canal and os internum, thereby releasing the veins of the neck, and by giving ergot to promote the contraction of the longitudinal and oblique fibres, by which the cervix is pushed down and the muscular sheath drawn on it. The disposition in these cases to relapse is proportionate to the incompleteness of involution and the degree to which the imperfect contraction belongs to the second or disjunctive stage; and, corresponding with this extent, dilatation of the cervix and internal os, or rather constrictor cervicis et oris interni, has to be repeated again and again, at intervals of two weeks, before complete involution, in some cases, is effected. This is owing, probably, to the hydraulic power exerted by the vessels in the body of the womb, laboring under hyperæmia, and the force they exert in lifting the dome, and with it the basin or cervix, from its cradle within and underneath the circular fibres.

Whether sponge tents or bougies be introduced, the patient must remain in bed until they are removed. From the foregoing explanations it must be seen that for these displacements and their pathological sequences alternative medication would be wholly misapplied, and that drugs can be of no service whatever; as well might medicines be prescribed with expectation that they would restore a dislocation of bones at any one of the joints. Neither are leeches of any use whatever. In all the forms of hyperæmia and engorgement resulting from obstruction to the venous and lymphatic circulations leeching is of no value, but in true metri-

tis, metroperitonitis, and parametric cellulitis bleeding by leeches is of inestimable advantage. On the contrary, long-continued hot-water douches, by relaxing the circular fibres and releasing the veins and lymphatics, afford signal relief in obstructive congestions and retarded engorgements, but do no good in metritis and parametric inflammations. In the whole fields of medicine and surgery there is not to be found a more perfect obstruction to the procedures and aspirations of the physician, surgeon, and gynaecologist than the disjunctive or most incomplete form of involution, putting at naught and defying, as it has done, the best talent, experience, and skill of the medical and surgical world. The ideas and contradictory opinions in regard to this particular branch of pathology read as if they had been observed and begotten 'twixt sleep and wake, and are at best the outcome of a sickly psychology. However injudicious and hurtful division of the cervix may be, the attempt to relieve arrested involution by the operation known under the inclusive name of uterodectomy must be regarded as far more reprehensible. Ignorance of uterine anatomy, physiology, and the true pathological conditions originated not only a misapplied surgery, but operations that are useless, dangerous, and untenable. Considering carefully Sir James Y. Simpson's operation, and its modifications for dividing the cervix, uterodectomy, and Dr. Gaillard Thomas's method of reviving the edges and bringing together the sides of the lacerated cervix, the latter, the only reasonable one of the three, would appear to be operated at cross-purposes with the two former, on an alternate system of ruin and repair. Why should the gynaecologists do with the scissors or knife what they deplore so much when the injury results from parturient efforts? All must have noticed how common it is for parturient laceration of the cervix and incomplete involution to exist in the same womb at the same time, owing, evidently, to the fact that, the constrictor cervicis having been torn, the antagonizing longitudinal and oblique fibres were deprived of the point of support through which alone their power to contract and diminish the cavity of the womb could have been rendered effective. Bilateral division or laceration of the healthy cervix, when done with scissors, is often cut horizontally from the os tincæ to its union with the body, and nothing is afterwards done to repair the wound; but the moment the same thing, laceration of the cervix, less in degree, happens during labor, the surgeon goes to work to repair damages, revive the edges, unite the surfaces by approach, and bring about, if he can, union by the first intention; and the longitudinal and oblique fibres, having been thus supplied with a restored *point d'appui* on which to act, contract with effect, and bring about complete involution, which laceration of the cervical fibres had hitherto prevented; meanwhile, the artificial and, as a rule, more complete laceration, left open and gaping for months or years, is often a source of permanent ill health and disability to the patient. It is therefore apparent that these operations stand in the light of surgical contradictions. If it is right — and no one can doubt the propriety of the operation — to repair parturient laceration of the cervix, why is it not just as proper to mend more extensive injury of a like kind done by the knife or scissors of the *gynaecologist*? If Dr. Thomas's operation for parturient laceration of the cervix is a proper one, which no rational surgeon can question, then, undoubtedly, every woman who has horizontal or other bilat-

eral section of her cervix made by one gynecologist ought to go immediately to another surgeon and have the grievous wound repaired as soon as possible. In like manner as to parturient laceration, but directly opposite as to surgical results, when "uterodectomy," for its supposed relief of areolar "hyperplasia," is performed, the constrictor oris or cervicis, or musculus retrogradus, is invariably cut asunder, thereby depriving the longitudinal and oblique fibres of the only point of support through which, by contracting, they might otherwise have assisted in bringing about the only rational and physiological mode of recovery, which can only be accomplished by completing contraction or involution, and thereby restoring the unimpregnated uterus to its accustomed place of rest. And thus it must be seen that, instead of good, the operation of "uterodectomy" causes irrevocable mischief, not capable of being, like the lacerated or artificially divided cervix, easily repaired and set to rights. But while the term uterodectomy for an operation is objected to on account of its inexactness and indefinite insignificance, as a *name for a society* it would be very expressive, have a clear and pronounced signification; and if a "uterodectomy" association were formed, and called the society of uterodectomists, there could be no doubt as to its aims and objects. There being no statistics as to results, the surgery connected with the two operations in question is obscure, hidden, and mysterious, and no other knowledge is vouchsafed to the profession at large, not even the theory on which either operation is based. Uterodectomy performs the same office as the operation of Sir James Simpson, out of which it seems to have grown, the only difference being that the structures divided have changed their situation. If adopted in the disjunctive stage of contraction or involution, it divides the constrictor oris and basin of the uterus, while in the conjunctive stage the funnel-shaped cervix and retrogradus muscle are cut. In fact, the operation of Sir James Y. Simpson, with modifications, and uterodectomy deserve, if any operations ever did, the name of "capital," being so like capital punishments in that the operators, in both instances, display a stolid disregard of both anatomy and physiology; but these differ from each other in one important particular, which is this, — that from the latter only the guilty suffer, while the former claim for their victims the innocent only. Let these operations continue to be persisted in, and the lady will come finally to regard gynecologists, not as enlightened surgeons, but rather in the light of mere revenue cutters on the sea of surgery. If any individual of high title were to advise that the angles of the mouth be cut from ear to ear for the cure of dyspepsia, or that the arches of the palate be divided right and left for loss of appetite, there is hardly a doubt that some people would be found silly enough to obey his precepts.¹ In this connection it may be interesting to refer to what Dr. Holmes says about titled individuals, and what sloglogdoes they are to the progress of rational medicine. The operation I have differentially to propose for the consideration of eminent surgeons grows out of the anatomical, physiological, and pathological views of the situation, and is intended to accomplish not only imperfect contraction and incomplete involution, but also to relieve the very serious pathological lesions resulting from this dislocated condition of the uterine structures. *It is to open the cavity of the abdo-*

¹ Homeopathy and Kindred Delusions, by Oliver Wendell Holmes.

men low on the line of the linea alba, and tie with suitable unlined or metallic ligature the uterine artery, being careful not to include its accompanying vein, and still more careful not to throw the ligature around the broad ligament. To be assured, in the first trials, that the uterine circulation will be, through collateral vessels, perfectly reestablished, it might be well to place the ligature beyond the first branch of the uterine artery going to the cervix; after the uterine artery is tied, then, within four or five days, or at all events before circulation is reestablished by dilatation of collateral vessels, and while the uterus is exsanguinous and shriveled, to dilate the constrictor oris in the stage of disjunction, and in the second advance, or conjunctive degree, to do the same thing so long as the large sponge tents, used for the purpose, can be made to find a holt on the border of the circular muscle. This constrictor cervicis or retrogradus muscle, through which the head of a child has recently passed, may be dilated to any desired extent, and for this object large sponge tents, from half an inch to an inch and a quarter in diameter, are required. And having produced dilatation, then to give full and repeated doses of the powder of fresh secale cornutum, thereby exciting contraction of the longitudinal and oblique fibres, and causing them, by pulling on the circular ones, to force the basin or cervix down to its place of rest, as the foot is, by muscular action, thrust home in a boot. Let it be established beforehand that no adhesions exist, and that the case is a fair one of imperfect contraction or incomplete involution, "subinvolution," lest otherwise the proposed operation might fall at once into unmerited disrepute. This operation ought to succeed in all cases where the results of subinvolution have not gone beyond the first and second stages of hyperæmia; and in hyperæmia with engorgement, and the general hyperplasia of Virchow it ought also to be a success, in most cases; but in the fourth stage of areolar hyperplasia, recognized by Dr. Thomas, it would (unless in the commencement of this condition) be unreasonable to look for satisfactory results. The only possible argument to be brought against a trial of the proposed operation of tying the uterine artery for the relief of imperfect involution has its origin in the prejudice or mysterious dread, together with ominous forebodings of evil, entertained by many, of opening the everywhere closed cavity or sac of the peritoneum. "It is extremely dangerous to open the cavity of the peritoneum;" they learned this dogma at school, and it has been ever since a settled opinion they cannot get over. But when it is remembered with what perfect safety the cavity of the abdomen has been opened hundreds of times by ovariologists in the two hemispheres, the arguments against such procedure amount to a nullity. Would it be unreasonable to hope that the foregoing words may serve to unlock the mystery connected with uterine pathology, complained of by a leading gynecologist, and at least help to put him and others on the right path for which they are searching?

2 RUE DE PRESBOURG, PARIS, FRANCE, May 27, 1880.

— At a recent meeting of the New York Pathological Society, according to the *Medical Record*, Dr. Delavan presented the heart of a setter dog, in the muscular substance of which there were nine large-sized buckshot. As the dog had not hunted for a number of years it was fair to presume that the shot had been carried for a long period.

CONGENITAL MALFORMATION: COMPLETE ABSENCE OF ANUS.

BY H. HOLMES, M. D.

AUGUST 4, 1880, Mrs. R— gave birth to a boy, her fourth child, weighing eight pounds. The infant seemed vigorous, and cried lustily. The parents both are healthy and strong, as are their previous children.

Before my visit, the following day, the superannuated nurse had discovered the child had no anus. There was a complete absence. With the assistance of a neighboring physician and ether, the child was operated upon when forty-eight hours old, with the following result: the raphe of the scrotum extended past the site of the anus to the coccyx, but no impulse could be obtained by taxis where the anal orifice should be, nor could the meconium be seen, showing the septum to be something more than a membrane.

An incision at the site of the anus along the central line, an inch or more in extent, was made by careful dissection through a mass of fibro-cellular tissue, penetrating the pelvic cavity nearly an inch and a half before meconium was reached. The incision was carried back well towards the sacrum to avoid wounding the bladder, which I endeavored to empty before commencing the operation, and this afforded a point of especial interest. The gentle pressure made over this viscus forced from the penis no urine, but *meconium*; the pressure was repeated, with a like result, furnishing enough of the discharge to leave no doubt as to its character. It would be interesting to know just how or where this secretion found its way into the urethra, but no autopsy could be obtained. This complication, together with the depth of the incision, discouraged any attempt to drag down the mucous membrane of the bowel (as suggested by Amussat) to the anal orifice, and confine it there by sutures.

The nurse was an octogenarian, and was not persistent in her efforts to nourish the child, and the parents were impressed that the more nourishment it took the longer it would suffer; and it died on the eighth day from its birth, and the fifth from the operation.

LEXINGTON, August, 1880.

RECENT PROGRESS IN THERAPEUTICS.

BY ROBERT AMORY, M. D. HARV.

AMYL NITRITE IN POST-PARTUM HÆMORRHAGE.¹

HAVING observed the statement by Dr. Kochler, in the *Allg. med. Central-Zeitung* (No. 1, 1879), that he had been in the habit of using, for seven years, warm fomentations to the head in cases of uterine hæmorrhage, on the theory of arresting intercurrent cerebral anemia, Dr. Kerr suggests that amyl nitrite has the property of inducing a rapid dilatation of the cerebral blood-vessels. Feeling a confidence in the correctness of Dr. Kochler's theory, Dr. Kerr used five minims of this drug by inhalation to relieve rather a severe case of post-partum uterine hæmorrhage, and with the most satisfactory results. The hæmorrhage at once and permanently ceased, the patient reviving simultaneously from a state of syncope. Its effects were comparable to those which follow the hypodermic injection of ether.

HYDROCHLORATE OF APOMORPHINE.

From a series of experiments² Dr. Reichert draws the inference that this drug depresses the functions of the sensory nerves and peripheries, the latter being more easily affected, whereas the afferent or motor nerves are primarily stimulated, and then paralyzed. The convulsions which occur after poisoning by this drug are, he thinks, caused by a paralysis of the inhibitory reflex centres. The antagonistic views of Harnach are, in his opinion, erroneously based, owing to the fact that the action of the drug in Harnach's experiments is confused with the effects of chloral used by him to control the animals previous to the administration of the hydrochlorate of apomorphine. Quell's suggestion that these convulsions are dependent upon a physiological lesion of the motory and sensory nerves Dr. Reichert condemns as erroneous, because this theory is refuted by experiments which the latter conducted. In these experiments in which the circulation was limited before the exhibition of the drug, the convulsions in the muscles deprived of their central blood supply were as marked as in those muscles which were freely supplied with circulation.

Dr. Reichert concludes from his investigations that the convulsions are usually spinal, invariably so with frogs, though occasionally in mammals they appear to be dependent upon a cerebral lesion. The reporter is rather inclined to the opinion that in this discussion the toxic effects upon frogs should not hear much weight, as in these animals the spinal centres seem to have a higher degree of excitability than the cerebral centres; perhaps, too, our author is somewhat misled by attributing proper therapeutic effects to the large toxicological doses, rather than to the continued use of mild atoxic doses. It is difficult to understand how a drug may act therapeutically sometimes upon the cerebral and at other times upon the spinal centres in the same animal, unless the effects are to be attributed to the employment of doses of unequal strength; in the latter cases a very strong dose might affect in succession the spinal and cerebral centres, whereas a dose inadequate to produce both effects might produce its specific action only upon the spinal centres. Again, it is not improbable that the capital experiment of ligating the aorta or femoral trunk may produce so serious a lesion of the nerve trunks and their peripheries that the natural functions of the extremity deprived of its proper blood supply are suspended without necessarily attributing this to the poisonous agent. It would also appear as if his preconceived theory of a depression of the inhibitory nerves or of their centres embarrasses our author in drawing conclusions from his investigations of the effects which this drug appears to produce upon the circulatory system. Whether the pulse-rate is affected by a direct action of this drug upon the nerve centres of the par vagi or upon its peripheral extremity is not altogether cleared up by Reichert's experiments. Here, again, the capital experiments of extirpation of nerve centres and ganglions seem to confuse the experimenter, for it is well known that this kind of operation severely shocks the functions of nerves and their centres. However this may be, his conclusion is that the increased pulse-rate has no dependence upon the emesis caused by apomorphine, but that this effect is directly induced by the physiological action of the drug upon the nerve centre

¹ British Medical Journal, November 1, 1879.² Philadelphia Medical Times, December 6 and 20, 1879, and January 3, 1880.

and the trunk of the par vagi. From his experiments, which were the comparative observations of stimulation of the par vagi after its section from the central ganglion both before and after the administration of apomorphine, Dr. Reichert is convinced that the increased pulse-rate is due to an excitation of the accelerator fibres of the vagus. So also, he suggests that the diminished blood pressure is "due to a direct depressant action on the heart, and the temporary rise to a stimulation of the vaso-motor centre in the medulla, which is sufficiently powerful to suspend for a time the opposing action on the heart." That most other observers have not arrived at similar results he suggests to be owing to the fact that an impure drug was employed. Dr. Reichert's experiments, relied upon in drawing his conclusions in regard to blood pressure, consist of the immersion of the heart, after its excision, in a (cold or hot?) solution of apomorphine, compared with other observations after its separation from innervating centres. He very naturally infers that the intravenous injection of a toxic dose causes a paralyzing effect upon the heart is explicable by the precipitate projection of a large amount of the poisonous agent into the cardiac cavities, because smaller subcutaneous injections do not apparently affect the blood pressure.

Not having sufficient space to enter into a discussion of his further experimentation, a brief summary of the author's opinion is given in conclusion: The administration of apomorphine in toxic doses produces a failure of the respiratory movements, which results from a paralysis of the respiratory centres. The animal temperature at first slowly rises, and then falls below the normal point. The muscular contractility is weakened and finally is paralyzed by this drug; this effect follows the general as well as topical use. The secretion from the salivary and stomachal glands is increased, whilst that from the skin, urinary and intestinal tracts, is unaltered. The emetic action of the drug occurs in dogs in from two to nine minutes after its administration. Large doses do not cause a stronger emetic action, while toxic doses prolong the intervals of emesis. The act of vomiting is not ascribed to a local action upon the stomach, because it may occur after intravenous or subcutaneous injections, as also after the stomach has been deprived of its central blood supply by ligature of the thoracic aorta. Apomorphine is eliminated very rapidly from the system by all the secretions; in one case two minutes after a subcutaneous injection this drug was found in the egesta from the stomach. The test for the presence of this drug consisted of the determination of the purple precipitate formed from a solution of chloride of gold, which slowly formed in twenty-four hours. This test may be distinguished from a similar reaction of the gold with a tin salt by the fact that the purple precipitant from tin and solution of chloride of gold is unchangeable after boiling, whilst that from apomorphine gradually grows darker, and finally becomes brown. The dilatation of the pupil sometimes observed after the use of this drug is due to the paralysis of the motor oculi centres. No characteristic anatomical lesions are found after death caused by this toxic agent, at least from our author's observations in twenty cases.

Mr. Allan¹ records one case of hysterical coma immediately relieved, after failure of other means of treatment, by the hypodermic injection of one tenth grain of apomorphia.

Drs. Tomlinson and Murphy² record the very successful use of the hypodermic injection of this drug in the dose of one sixteenth grain in the treatment of three very severe cases of sunstroke; in two of these cases vomiting occurred within ten minutes after the administration of the injection, previous to which there had been no appearance of nausea. The temperature, which in one of the cases was noted at 109° F. before the dose was given, was slowly reduced under this treatment; the pupils, which were contracted, rapidly dilated, and the stertorous breathing, full pulse, and comatose condition gradually disappeared.

A comparison of the above therapeutical effects with the results of Dr. Reichert's experimental observations would seem justly to indicate that the action of apomorphia is that of a nervous sedative, if such a word might be allowed in connection with symptomatology.

ON HEPATIC STIMULANTS.

An abstract of an experimental research on the physiological actions of drugs on the secretion of bile.³ Professor Rutherford, who has devoted the last few years to this important subject, the details of his experiments having been offered and criticised fully in preceding reports on the progress of therapeutics in this journal, presents, in the essay above referred to, a very able summary of his results. It is hoped that those of our readers who take an interest in this matter will carefully read the abstract so ably argued, as only a very brief résumé can be given in this present report. Among the hepatic stimulants which have not been mentioned in previous reports are taraxacum, sanguinarin, ipecacuanha, potassium sulphate, ammonium phosphate, sodium and potassium tartrate, sodium and potassium bicarbonates, potassium iodide, benzoic acid and its compounds, sodium salicylate, atropia sulphate, morphia, hyoscyamus, alcohol, jaborandi, and acetate of lead. The beneficial effects of ipecacuanha and benzoate of soda and of ammonia in dysentery are especially studied in their physiological effects upon biliary secretion. The former of the benzoate salts are to be given to man in doses of ten to thirty grains, and the latter ten to twenty grains. Both of these salts are powerful stimulants of the liver, and do not stimulate the intestine of the dog, and probably why the use of these substances have been overlooked by the clinical practitioner is to be explained by the fact that they are simply hepatic stimulants, and do not cause any intestinal irritation, hence not increasing, apparently, the expulsion of bile from the intestinal canal. But probably if a dose of sodium or potassium benzoate was given at night, and a purely intestinal stimulant, such as magnesium sulphate, was subsequently given in the morning, evidence of an increased secretion of bile would be proved by its intestinal expulsion. "These results therefore tend to furnish a rational theory for the employment of the benzoates in congestion and some other affections of the liver. In view of the above discovery, we would ask the practical physician to consider the propriety of testing the effect of the benzoates in dysentery; for, while they, like ipecacuanha, powerfully stimulate the liver, and not the intestinal glands, unlike ipecacuanha, they induce no sickness or depression, but, on the contrary, are nerve stimulants. It may also be well to observe that it

² India Medical Gazette, November 1, 1879, and London Practitioner for June, 1880.

³ Practitioner, November and December, 1879.

¹ British Medical Journal, March 27, 1880.

would be perhaps advisable to increase the administration of the benzoates in ordinary catarrh, for they stimulate the liver as well as the bronchial glands, and the action of the liver in a common cold generally becomes somewhat defective."

Ipecacuanha in doses varying from three to sixty grains is proved beyond a doubt to be a powerful hepatic stimulant to the dog; it also causes an increased secretion of mucus in the intestine, but no secretion of intestinal juice. "The increased biliary flow that followed ipecacuanha could not in our experiments be ascribed to any relaxation of 'spasm of the bile-ducts,' for that no such thing existed was clearly shown by the free flow of the bile before the substance was given. . . . It is therefore certain that this substance has the power of stimulating the secreting apparatus of the liver." Professor Rutherford, in discussing the question as to whether the results of his experiments on the dog will prove that the hepatic stimulants will produce similar effects upon the healthy man, presents forcible arguments, which ought to convince any other than deeply prejudiced mind, that his results would coincide entirely with those which would be tried upon man, and says: "*The results of our experiments will therefore lead to new speculations regarding the pathology of dysentery, for every step towards greater accuracy of knowledge regarding the *modus operandi* of any therapeutic agent is certainly calculated to advance our knowledge of the true nature of the pathological condition that is relieved or cured by it.*"¹

Professor Rutherford carefully discriminates between stimulating effects upon the secreting power of the liver and the expulsion of biliary matters from the intestinal canal, and divides hepatic stimulating agents between those which stimulate the liver without irritating or exciting the bowels and those which excite both liver and intestinal glands. He does not seem to incline towards a belief that the simple hepatic stimulants act in this way by a reflex action on the mucous tract of the intestinal canal, nor does he apparently believe that they act by simply increasing the flow of blood through the liver. On the contrary, he asserts that this class of therapeutical agents produce a direct action of their "molecules" upon the hepatic cells or their nerves; but he is not at present willing to decide which of these latter methods appears the most probable. It is sincerely hoped that the whole series of his researches and conclusions will soon be published in a monograph, which will give our readers, and especially the clinical practitioners, an opportunity for proving upon man the therapeutical actions of the large number of drugs with which Professor Rutherford has experimented upon dogs, and the prophecy is hazarded that the science of therapeutics will be raised to a very high standard if his logical deductions be verified.

COTO BARK IN THE DIARRHŒA OF PHTHISIS.

Dr. Yeo² recommends, from his experience and personal observations for two years, this drug in those cases which obstinately resist the ordinary therapeutical uses of opium, bismuth, tannin, ipecacuanha, etc. He has found that relief to the "intestinal flux" and irritation almost invariably follows its use. The form in which he administered the drug was in the mixture of fluid extract of coto bark sixty minims, compound

tincture of cardamoms sixty minims, carefully mixed and slowly triturated with mucilage of gum acacia three drachms, and of simple syrup two drachms, with the final addition of water to make the amount six ounces. The dose of this mixture is a tablespoonful, and he asserts that it has not an unpleasantly warm and aromatic taste. Two or three doses will arrest or check the severest forms of phthirical diarrhœa.

(To be continued.)

Hospital Practice and Clinical Memoranda.

BOSTON CITY HOSPITAL.

MEDICAL CASES IN THE SERVICE OF DR. O. W. DOE.

REPORTED BY S. T. HARMON.

HEPATIC ABSCESS.

CASE I. March 31, 1880, M. C., aged twenty-four, single, domestic, born in Ireland, enters the hospital complaining of "soreness" in the right hypochondrium, and of severe pain in the same region on any sudden movement, such as coughing, sneezing, etc. She says a "tumor" suddenly appeared in the right side about two months ago, without any apparent cause, and was attended with some vomiting at first, but none lately; states that vomitus was always of a greenish hue, and very bitter. Has had several chills, and has lost flesh and strength. Anorexia; tongue clean; bowels regular; micturition normal; temperature 98.5°; pulse 100. No catamenia since she was sixteen years old. Says she is not addicted to the use of stimulants.

On examination, there is found in the right hypochondrium, four inches from the median line, just at the border of the ribs, extending downwards to a point on the line of umbilicus, and from there to the axillary line, a swelling, smooth in outline, globular in form, with a sense of elasticity on pressure and tenderness on percussion.

Pressure over the tumor imparts no impulse in the renal region posteriorly. No point of separation detected between the swelling and the liver.

Urine, color normal; specific gravity 1017; acid; a trace of albumen. Sulphate of quinine, three grains three times a day.

April 2d. Pulse 96; temperature normal; tongue moist, with thin white coat. Has had three dejections daily since entrance, of a yellow color, and attended with some tenesmus. Has had chills daily, though not sufficiently severe to cause chattering of the teeth. States that when she lies on the left side the tumor "falls away," and sharp pain results. Tumor aspirated, and four ounces of thick yellowish pus withdrawn.

April 3d. Pulse 96; tongue moist; countenance pale. Had a severe chill yesterday afternoon; marked tenderness over the point of aspiration. Brandy, half an ounce every two hours.

April 7th. No chill since the 2d inst. Bowels moved by a cathartic. No tenderness at the point of aspiration, but the sac is apparently refilling. Dullness extends one inch below the border of the ribs on a line four and a half inches from umbilicus. Tincture of chloride of iron, twenty drops three times a day.

April 12th. Complaints of extreme sensitiveness in the hepatic region. Bowels loose, dejections of a light yellow color. Enlargement beneath the ribs occupies the same space as at time of aspiration; sense of fluctuation.

¹ The studies are Professor Rutherford's.

² Practitioner, October, 1879.

tuation more marked; tumor aspirated, and one ounce of mixed blood and pus withdrawn.

April 16th. Tumor apparently larger than heretofore, but without sense of fluctuation. Under ether the aspirating needle again inserted, but no fluid obtained. The needle seemingly entering a mass of the consistence of coagulated blood. General condition remains unchanged. Flaxseed poultice applied to affected part.

April 21st. No chills or pain; pulse 108; patient sitting up; general condition good. Swelling extends three inches from median line, below the margin of ribs to the anterior superior spinous process of the ilium; is hard, and without any sense of fluctuation. Brandy half an ounce, every two hours.

April 26th. Appetite returning; temperature has been normal since the 21st; bowels costive; tumor is somewhat smaller, but is hard, similar to a calcified mass. Brandy three ounces daily; tincture of chloride of iron, thirty drops every four hours.

May 3d. Tumor is gradually diminishing in size; no tenderness, but palpation produces a pricking sensation. Urine pale; specific gravity 1010, neutral. Sediment, granular detritus of yellow color, and very little pus. Brandy omitted.

May 10th. Left border of the tumor is three and three fourths inches from the median line, extends two inches below the margin of the ribs, and is not felt in the lumbar region. It is about the size of a hen's egg, and quite hard, but very little tender on pressure. Patient expresses herself as being perfectly well; is up and out-of-doors.

May 20th. No tenderness over the tumor, which remains very hard, and is felt one inch below the margin of the ribs; temperature and pulse normal.

The patient remained a week longer under observation; but no further diminution in the size of the tumor took place, and the hardness continued unchanged. She expressed herself as feeling as well and strong as ever, experiencing no discomfort from the tumor.

HYDRO-NEPHROSIS.

CASE II. E. R., aged fifty-one, married, housewife, enters the hospital March 21. She has been sick for the past year with occasional severe pain, in right lumbar region, which extends across the abdomen and is attended with flatulence. There is considerable pain referred to the rectum, and patient states that involuntary discharges occur. Some blood is passed by the rectum; occasional vomiting; appetite fair; slight headache; catamenia regular until seven months ago, none since; micturition normal. Complaints of weakness and of loss of flesh and strength; has chills and night sweats, the former not as severe as they were. Has coughed for a month past, with muco-purulent expectoration. Bowels were at first costive, but now she is subject to occasional attacks of diarrhea, in some of which there is a small amount of pus. Defecation attended with considerable pain. Countenance indicative of carcinoma. On examination, there is found in the right lumbar region a distinct swelling, extending from just below the border of the ribs to within an inch of the anterior superior spinous process of the ilium vertically, and to within an inch of the umbilicus laterally. Pressure over the renal region posteriorly causes the tumor to be more prominent, and it can be pressed almost to the median line. The mass is soft in consistence, and globular in shape; whole contour easily defined, with a sense of fluctuation on binaural

palpation. Examination by the rectum shows a tumor two inches from the anus, encircling the rectum, nodulated and hard in character, though the finger can be inserted through the constriction. Anus patulous, external parts excoriated.

The patient now has an occasional shooting pain, radiating from the renal tumor, but more usually there is a dull aching sensation in the right lumbar region. The countenance is dull and pallid. The tumor was aspirated, and sixteen ounces of a clear, amber-colored fluid obtained, which in appearance resembled urine. Examination of the fluid, by Dr. Cutler, shows specific gravity 1012; much albumen and sediment. An examination microscopically reveals nothing to indicate the source of the fluid.

Urine, high color; specific gravity 1027; a trace of albumen; no casts.

Sherry, six ounces daily; tincture of gentian, one drachm three times a day; and morphia, *pro re nata*, for pain.

March 23d. Some vomiting since last record. The tumor is refilling.

March 27th. Patient has vomited six times since yesterday; dejections mixed with blood.

March 30th. The tumor again aspirated, and six and a half ounces of urine obtained.

April 1st. Examination under ether shows a relaxation of the constriction noticed on entrance; high up in the pelvis, as far as the finger can reach, there are to be felt hard, nodular masses, probably carcinomatous. Countenance is better than for a week past, though slightly swollen; no vomiting. Citrate of iron and quinine five grains, and sherry wine half an ounce, three times a day.

April 7th. Discharges are no longer bloody. Requires a quarter of a grain of morphia every three hours for the relief of pain. Abdomen is not sensitive on pressure.

April 12th. Condition not materially changed; tumor not refilling. In right flank, where aspiration was made, is felt an irregularly defined and nodulated mass, extending below one and one half inches from line of umbilicus to the spinous process; it is sensitive on pressure.

Urine pale; specific gravity 1017; a trace of albumen; some sediment; a small amount of pus.

April 17th. The abdomen distended and tympanitic. The bowels move every other day without blood. Pain continues.

April 20th. The nodular masses have disappeared from over the region of the tumor; the patient has had several dejections containing blood.

April 30th. Sitting up in bed. Countenance much improved; no bloody discharges for over a week; strength is increasing.

May 3d. No renal tumor can be detected, though some tenderness exists just above the superior spinous process of the ilium. A pint and a half of urine passed daily; thick, dark, greenish discharges from the rectum. She is gaining flesh and strength. The anus admits four fingers, and the rectum is found with hard nodular masses, and with its cavity almost obliterated at the depth of one and one half inches.

May 6th. Discharged at her own request.

PELVIC ABSCESS.

CASE III. March 19th. R. G., aged twenty-two, single, born in Germany. Was treated in the City

Hospital in December, 1879, for retroversion with endo-cervicitis; was again in the hospital three months ago with pelvic cellulitis, being discharged relieved at her own request.

Was perfectly well until one year ago, when, during menstruation, she "got a cold," and was seized with pain in the left hypogastrium, which lasted about a week. Catamenia were regular until one year ago, and since that time have occurred irregularly, and, as patient thinks, more frequently, attended with severe pain and considerable constitutional disturbance at each recurrence. The last catamenia began three weeks ago, and have since continued, accompanied by severe pain and excessive flowing. Micturition is frequent, and at times painful. Leucorrhœa present for the past year. She never has had any children. The tongue is furred; anorexia and headache exist; temperature 99° F.; pulse 92.

March 20th. Half a drachm of ergot every six hours.

March 25th. The uterine sound passes two and three quarters inches, points posteriorly, and near the fundus of the uterus seems to pass over a nodulated growth. Three sea-tangle tents inserted.

March 29th. Patient removed the tents in the afternoon of the day in which they were put in.

March 30th. Three tents were introduced to-day.

March 31st. Nothing detected in the interior of the uterus.

April 4th. A chill night before last, with a great deal of pain, and marked swelling of abdomen. Temperature 98.5° F.; pulse 108; tongue frosted; countenance pale; less pain and swelling.

April 5th. The abdomen is distended and painful. Posteriorly and to the left of the uterus is a mass of induration, not connected with the uterus, the size of a small orange, and tender to the touch. Hot flaxseed poultice every four hours, preceded by turpentine stupes.

April 9th. Abdomen much less distended, and less sensitive on pressure.

Over the left side, on a line one half an inch below the anterior superior spinous process of the ilium, is felt marked resistance on palpation, with dullness on percussion, extending across the median line and downwards to the inner third of Poupart's ligament. There has been some hæmorrhage from the vagina during the last four days. The countenance is pale; the tongue is dry and somewhat brown. Frequent dejections yesterday. Temperature and pulse normal. Two grains of quinia three times a day. Milk and beef tea. Blister 2 inches square in left iliac region.

April 15th. There is no distention or tenderness of the abdomen. Tincture of chloride of iron, thirty minims three times a day.

April 19th. Douglas's cul-de-sac to the left is filled with a tense, yielding mass, giving an impulse felt by the hand over the pubes. The aspirating needle was inserted three times, and only half a drachm of seropurulent fluid tinged with blood was obtained. Hot vaginal douche three times a day.

April 22d. A severe chill last night. The needle was again inserted posteriorly and to the left of the cervix to a depth of two inches, and a small amount of pus obtained; a bistoury was passed along the needle and a free opening made, which was dilated, and a profuse discharge of very offensive pus (three ounces) followed. The edges of the incision were touched with

nitrate of silver, to prevent healing, and the cavity was washed out with carbolic solution (one to forty), the latter to be continued twice a day after dilatation. Four ounces of brandy daily; four grains of quinia every six hours.

April 24th. Her condition is much improved.

April 30th. The sound passes one and one half inches into the cavity. There is very little discharge or induration. The cavity gradually closed, and the patient was discharged well three weeks after the abscess was evacuated.

SUPPRESSION OF URINE.

CASE IV. June 2d. M. M., male, aged fifty-eight, married, born in Ireland. Was taken sick about eleven days ago with pain and swelling of the abdomen, with diarrhœa and some vomiting, the vomitus being greenish in color. There is dyspœa on exertion, slight cough without expectoration, anorexia, headache, and general malaise. Has passed scarcely any urine since the illness began. The patient is addicted to the use of stimulants. Tongue furred; temperature 98.5° F.; pulse 72, and small. There is œdema of the legs and varicose veins, with an ulcer on the right leg. There is general tenderness of the abdomen, with an occasional pain in the loins, and in the epigastrium. Physical examination: Heart and lungs normal; hepatic dullness begins at the median line, and extends into the axillary region to the border of the ribs. The abdomen unnaturally dull, but resonant in the flanks, measures thirty-five and one half inches at umbilicus. Poultice of digitalis leaves to the loins; citrate of potash thirty grains, tincture of digitalis five drops, water one half ounce, every two and one half hours.

June 3d. Pulse 72; reports between twenty and thirty watery dejections; catheter was passed, but no urine obtained; patient feels quite comfortable.

June 4th. Pulse is 72 and small; talks less distinctly than heretofore; has passed no urine; none was obtained by catheterization. Bowels are free; there is spasmodic twitching of the right cheek; pupils natural; slight headache. One eighth of a grain of pilocarpin, and repeat in an hour.

June 5th. Free diaphoresis was produced by the pilocarpin. Pulse 76; very weak. No dejection for fourteen hours; no urine passed. Patient lies in a dull, semi-comatose condition; pupils natural; slight facial paralysis of the right side; is very restless.

June 6th. Pulse scarcely perceptible; temperature 97° F. No urine passed; low muttering delirium; spasmodic twitching of the legs and arms. Hot cloths ordered to the body; hot bath given at temperature of 110°, but without any apparent alleviation of the symptoms. Three ounces of brandy ordered by the rectum. The pilocarpin was repeated without effect. The patient gradually passed into an unconscious state, and died at 5.15 p. m. The autopsy showed the remains of an old peritonitis, the bands of which had contracted, and in this manner had constricted both ureters, so that above the point of constriction they were greatly dilated, as were also the pelves and calices of both kidneys; the other organs were not particularly abnormal.

— Liverpool has accomplished in a few weeks the self-imposed task of raising £80,000 to endow a university college for the town. This result reflects the highest honor upon the energy and liberality of its citizens.

Reports of Societies.

THE MEETING OF THE BRITISH MEDICAL ASSOCIATION.

It is seldom that the British Medical Association holds its annual meeting in a place presenting so much to interest the visitor as Cambridge. The venerable beauty of the colleges, their stately chapels, halls, and libraries, and the artistic, literary, and antiquarian treasures therein contained, with their noble grounds, still in the bloom of summer, are an intellectual feast to those who have never seen them before, even more, perhaps, than to those who have passed the spring-time of their youth among the illustrious memories which surround these spots.

The attractions offered drew to Cambridge a larger number than had been present at any annual meeting since that held in Manchester, in 1877. An audience which was unfortunately *too* good (for there were many who could not hear what was said) filled the Senate House to hear the annual address by Dr. G. M. Humphrey, the professor of anatomy in the university, and president of the British Medical Association for the year. The retiring president, Dr. D. C. O'Connor, of Cork, took leave of the Association, and introduced his successor in language at once thoughtful, dignified, and graceful. Dr. Humphrey then delivered his address. It seems as if it were custom—one only too well observed—for the president, chosen as he is from the medical men of the locality in which the Association is to hold its meeting for the year, to make his annual address chiefly a description of the town in which he dwells,—its history, sanitary condition, and the diseases prevalent in its neighborhood, matters which are unquestionably of importance, but hardly of that general and universal interest which it is fitting that the theme of an oration delivered on such an occasion should possess. Even Professor Humphrey could not shake himself free from the *genius loci*.

But in his case, he might justly point to the national importance of the topics which concerned the place he lives in. He began with a sketch of the progress of medical education at Cambridge, showing how public opinion and the liberal minds of the leading spirits of the place had gradually dethroned the scholastic subjects, classics, and mathematics from the exclusive place of honor they had once held. He expressed his view that the proper function of his university was with the earlier part of medical education,—with chemistry, physics, anatomy, physiology, and pathology; but that the clinical study of disease must be pursued in the great centres of the population. He announced, to the evident satisfaction of his audience, that a well-endowed professorship of pathology was about to be instituted. It is right, I think, that pathology should be thus included among the *preliminary* studies, for upon it diagnosis and therapeutics depend; they cannot be understood without it; but a man may easily learn what are the changes wrought by disease, before he knows anything about how to recognize or treat it. Not only so, but pathology can be taught in a small hospital, for a few well-marked and well-examined cases on the *post-mortem* table can be made to teach the student pretty thoroughly the morbid changes wrought by the malady present; but for the study of the varying and deceptive appearances which disease assumes during life a large *clinique* is essential. Another line of argu-

ment in support of this view is suggested by Professor Foster's address in physiology, but to this I postpone reference for the present. Professor Humphrey referred in language of just pride to the effect of legislation of the past few years, which made it possible now for men of every class, creed, and nation to obtain at Cambridge a medical education, "not without money, but without any undue cost; not without price, but with the price of that labor and perseverance which will bring their own sure reward."

Passing from the local to the general (although here, as before remarked, it might be truly said that the local and general were one), the orator made some remarks on the work of the British Medical Association. He thought it ought to act collectively, in the ascertaining and recording of the facts of disease; that a well-paid secretary or registrar should be appointed to act with a committee in collecting and classifying the experience of members. This suggestion was welcomed with enthusiastic applause, a special vote of thanks was given to Professor Humphrey for it, and a resolution was passed requesting the committee of council to consider how best it might be carried out. In the face of a suggestion coming from such a man, and so unanimously adopted by such an assembly, it seems presumptuous to say anything which would appear to imply an underrate of its value. But one cannot forget the old apothegms, "There are more false facts than false theories in medicine," and, *Non numeranda sed perpendicularia sunt observationes*. The value of the facts and figures which it is proposed to collect will entirely depend upon the extent to which the accuracy of the individual items can be depended upon. To get trustworthy facts by sending circulars round to members of the medical profession, one would not say is impossible, but requires the greatest care and skill in the selection of the subject and the framing of the questions to be answered. The task will be most difficult, and it is open to doubt whether the task would be worth the cost. We had in London a committee, appointed by the Royal Medical and Chirurgical Society, to report upon croup and diphtheria, and another, of the Clinical Society, to inquire into the effects of cholera. Both committees tried to get and classify the experience of a great number of persons. The report of the cholera committee was practically a confession of failure; the statements made to them were so conflicting that they could arrive at no definite result. The report of the croup and diphtheria committee, though a most able and useful document, yet depended for its value not in the least upon the information got in answer to circulars, but entirely upon the individual work of some members of the committee. In the debate upon that report, Sir Wm. Jenner commented strongly upon the worthlessness of the information got by the sending out of circulars.

After Professor Humphrey's able, thoughtful, eloquent, and earnest address, which was universally felt to have been worthy of the place and the occasion, came the business part of the meeting. The usual votes of thanks were passed: to the retiring president, whose genial courtesy had left the most friendly feeling in every mind, and to the orator, whose brilliant address the meeting had just listened to. The speeches embodying these expressions of gratitude were heard with patience and good will; but when Dr. Alfred Carpenter came to the table, and proposed first to read a lengthy report (which was in print in the hands of

many among the audience), and then to make some remarks upon it, the wish of the meeting that the report should be taken as read, and the remarks on it left for some future occasion, was so manifest as to enforce compliance.

The meeting was further prolonged by a proposal from Dr. Norman Kerr, who represented a section of medical men who feel strongly on the temperance question. It was that the price of the dinner ticket should not include a charge for wine. He advocated this change on the grounds, first, that he and others felt so strongly the evils produced by intemperance that they could not conscientiously subscribe money to be expended in furthering the consumption of alcoholic drinks; and, next on the lower ground, that it was not fair to make men pay for what they did not want. After some discussion, made shorter by the evident desire of the members to get to the hospitable halls of Caius, where tea and coffee were awaiting them, Dr. Kerr carried his motion, and the meeting adjourned. The hall of Caius proved too small for the crowd who flocked thither to consume the beverages most precious to Dr. Kerr and his friends, and to exchange opinions upon the events of the day.

I ought not, perhaps, to have left for mention last of all that at four p. m. the Association attended divine service in King's College Chapel. The noble building was densely crowded, the audience being attracted, doubtless, by the beauty of the edifice, which possesses the most magnificent interior in Cambridge, as well as by the known perfection of the musical arrangements, and the reputation as a preacher attained by the prelate who occupied the pulpit, Dr. Woodford, the Bishop of Ely. He took for his subject the rendering of the bitter waters of Marah sweet by the casting into them of a certain wood.

On Wednesday morning the Association met in the Senate House to hear from Dr. Bradbury, the Linacre lecturer on physic in the university, and physician to Addenbrooke's Hospital, Cambridge, the Address in Medicine. The oration delivered was sound, scholarly, useful, and suited to the occasion, but did not contain anything very novel, either of fact or idea. Its object, a very appropriate one, was to direct attention to recent advances in medical knowledge, more particularly to such as tend to make medicine more exact, and therefore more of a science. To do this, the operator took one by one the instruments of precision which are now used for physical diagnosis, — the microscope, the thermometer, the ophthalmoscope, the laryngoscope, the sphygmograph, the aspirator, electricity, etc., — and pointed out some of the ways in which these aids to observation have lately been shown to be of especial use; the peculiar character and value of the service rendered by them being, that the information they give is objective, definite, and often measurable. The tale they tell is not influenced by the patient's feelings or wishes; they give results which no malingering can simulate. We know that scientific knowledge only differs from common knowledge in that it is exact; and so far as its teachings are exact, and no further, is medicine entitled to be called a science. Therefore Dr. Bradbury did well in handling his topic in the way he did; for as a skillful general concentrates his forces upon the most decisive point, so the orator selected as the point upon which he would show that progress had been made just those in which improvement is the most fruitful in results. He did not exhaust his subject, for to do so would

have been impossible in the time allotted to the address.

It unfortunately happened that circumstances were fresh in the minds of many which made the teaching of the address peculiarly appropriate to the time; although probably the author, when he chose his subject, could not have foreseen its special fitness. I allude to the unfortunate trouble at Gay's, at which institution, one of the largest hospitals and most famous schools of medicine in the world, we have the governing body deliberately acting, and continuing to act, as if there were no such thing as medical science; as though the treatment of disease were a question upon which any one is competent to give an opinion, knowledge being no essential, and the skill of an experienced nurse a thing more to be trusted to for the recovery of the sick than the advice of a medical man. This was felt and put into indignant language by the eminent men, Dr. W. T. Gairdner, of Glasgow, and Dr. Wilks, of Guy's Hospital, who moved and seconded the vote of thanks to the orator. They with others felt that in calling attention to that which distinguishes scientific knowledge from ignorant presumption founded on experience Dr. Bradbury had done that which was useful.

After the address in medicine, which ended at noon, was to come, at 12.30, the conferment of honorary degrees. During the oration a crowd of under-graduates had collected round the gates of the Senate House, and so dense was the pressure that when the university officials tried to empty the hall, in order that it might be prepared for the ceremony which was to follow, they were unable to clear a way through the crowd for those who might otherwise have been willing to go out, and consequently the Association, or part of it (for about half of Dr. Bradbury's audience evaded the attempts of the officials to entice them outside), had to wander during the interval in the garden adjacent to the Senate House. When the preparations were complete, and the doors were again opened, the hall was speedily filled by an assembly anxious to witness what was to follow, for there was a general impression that a "scene" was imminent. The galleries were filled with noisy under-graduates, who enlivened the period of waiting by vigorous shouts to any one who forgot to take off his hat, followed by rounds of applause when the individual uncovered, and by cheers for various well-known names, notably for Dr. Pavy, Lord Beaconsfield, Dr. Tanner, the doctors, etc., etc., were also thus honored by appreciative demonstrations. At length the time arrived, and the confused roar of shouts, laughter, cheers, and conversation from the under-graduates' gallery was suddenly changed into a regular synchronous repetition of "right," "left," "right," "left," with which reminiscence of school-boy drill the students welcomed the procession formed by the vice-chancellor and the university dignitaries who accompanied him, and the distinguished men about to be created doctors of laws. The persons concerned in the ceremony having taken their seats, a little delay occurred while the new doctors of laws inscribed their names in a book, and as Sir William Gull advanced to the table to do this some hisses were heard. The proceedings began with a Latin address to the meeting from the public orator, in which he welcomed the Association to Cambridge, and then, facing the vice-chancellor, he introduced to him in turn the persons admitted to honorary degree, with an appropriate speech

in Latin. Each of the new doctors was welcomed with hearty applause, except in the case of Sir William Gull, whose appearance was the signal for a storm of hisses, hoots, and groans, mingled with a few friendly cheers. As the orator enlarged upon the achievements of Sir William Gull, a voice from the gallery shouted, "Tell that to the coroner's jury!" The demonstration of angry feeling was unmistakable, and it must have been felt by all to be a painful thing, not only to its subject, but to the spectators, for no member of the medical profession could see without deep regret a man so distinguished and so able a leader among his compeers in so unfortunate a position. It is perhaps necessary that I should here explain the circumstances which led to this. Guy's Hospital, London, is governed by a treasurer, who knows nothing of medicine, but who has despotic authority over the institution, being controlled only by a body of sixty governors, who seldom come near the place. Nearly a year ago this treasurer, without consulting the staff, appointed a new matron. This matron had the idea that nursing was a profession by itself, not needing medical supervision, and consequently she, without consulting the staff, began to make sweeping changes in the nursing arrangements. It is not useful to particularize them; it will be sufficient to say that they were very much to the disadvantage of the patients, and that their general tendency was to lead the nurses to think themselves independent of the doctors. One result of these changes was the following incident: A patient was admitted, under Dr. Pavy, suffering from phthisis. Cerebral symptoms supervened, one of the first of which was that the patient passed feces into the bed. The nurse took upon herself to diagnose that this was hysteria, and should be treated sharply and roughly. So to punish her she dragged her to the bath-room, put her in the bath with a small quantity of water, "nearly covering her hips," and almost cold, and left her shivering there for an hour. The patient never properly recovered from the shock; the brain symptoms became acute, and seventeen days afterwards the patient died. An inquest was held; Dr. Pavy, the physician in charge of the case, stated his opinion that the bath had accelerated death, and the jury returned a verdict of manslaughter against the nurse. Consequently the nurse was tried at the Central Criminal Court for this offense. Dr. Pavy repeated his former evidence. To the amazement of the profession, Sir William Gull, who had never seen the patient, whose knowledge of the case was derived only from a clinical clerk's notes, and who had not even conferred about it with Dr. Pavy, entered the witness-box, and told the jury that Dr. Pavy had wrongly diagnosed the case, and that the bath had nothing to do with the patient's death.

It will be admitted by all that Sir William Gull showed great courage in coming forward as he did (for he must have known that he would incur great unpopularity by doing so) to defend the unfortunate nurse; for to her, a lady by birth and education, a sentence of imprisonment is a terrible thing. His conduct, from this point of view, was noble and chivalrous. It is to be regretted, however, that he did not take more care in ascertaining the facts, and show better taste and stricter accuracy in the way he stated his opinion. It was surely not necessary for him, with such incomplete material for judgment, to tell the jury that his colleague, Dr. Pavy, had not properly diag-

nosed the case, or that when *he* was physician to Guy's he always dictated the clinical reports himself,—a statement which Dr. Moxon has since flatly contradicted in a letter to the *Times*. It is probable that many of those who took part in the demonstration had in mind not this case only, but others, in which Sir William has seemed to magnify himself before the public eye at the expense of the reputation of others.

In the evening a soiree was held in the Fitzwilliam Museum, a noble building, containing many treasures of painting and sculpture, which was illuminated for the occasion by Dr. Siemens with the electric light, and the adjoining grounds of Peterhouse. It was very largely attended,—so much so that the president, who took his stand near the door to receive each guest personally, soon had to abandon the impossible task.

The proceedings of Thursday began with the address in surgery, which was given by Mr. Timothy Holmes, of St. George's Hospital, London. Although the orator dealt with a limited subject of purely surgical interest, yet his clear, forcible, incisive style, combined with a good voice and delivery, held the attention of his audience. After gratefully alluding to the changes which since his time had been made in the University, in opening its portals to students of all creeds, and in furthering the study of medicine in it, Mr. Holmes announced that he intended to direct attention to the work of Sir Wm. Fergusson, whom he eulogized as being the only one of all departed surgeons since Brodie's death who had passed the line which separates eminence from greatness. Fergusson's great surgical exploit was the introduction of conservative surgery; and the application of this principle to joint disease—in other words, the operation of excision of joints—Mr. Holmes selected as his principal subject for consideration, taking more particularly as examples the hip and the knee; showing what amount of advantage is to be derived from them, and defining the place they hold among the resources of surgery. In concluding his remarks on this topic, the orator made his purely surgical subject introduce some observations upon matters of general interest. He used hip disease, and its common course in the children of the poorer classes in our larger towns, as an illustration of the mischief done by overcrowded out-patient departments; evil wrought not by want of skill on the part of the surgeons, or want of care on the part of the parents in carrying out, so far as they are able, the directions they receive; but by the hospital undertaking to do that which it is impossible it should perform. The remedy Mr. Holmes advocates is some kind of provident dispensary system. Whether this can be made a real improvement or not is open to doubt. As yet, I believe very few, if any, of the provident dispensaries have been successes. The oration concluded with a grateful expression of appreciation of the labors of Professor Lister.

Dr. Michael Foster, in his address in physiology, which was given on Friday morning, avoided dealing with minute technical points, intelligible and interesting only to the advanced student of the science, but set forth broad principles underlying medical practice and medical education. He showed the intimate and essential connection, in fact, the fundamental identity (for "none other than the most superficial distinction" separates them), of physiology and pathology. Hence followed the importance of physiological studies in early professional life, for a sound physiological train-

ing is that which enables a man to understand the pathological problems which every day present themselves in practice. The practical outcome of his address was a plea for giving more time and greater prominence to physiology in the education of the student. Dr. Foster did not waste much breath in denouncing *materia medica*: that toilsome, almost useless study, only holds its place because it is in possession: the case against it has been put strongly by others, and it is to be hoped it may soon be ousted. He attacked a tradition more honored than this, namely, the necessity of a minute knowledge of topographical anatomy. He admitted the value of this study, not only for itself, but as a discipline; but pointed out that the amount of other things to be learnt had much increased since the present arrangements for teaching anatomy, and examining students in it, were made. The address was not only thoughtful, but even eloquent, and was seasoned with a good deal of quiet humor. At times the orator was epigrammatic; for instance, after showing how practice is governed by theory, he said: "The so-called 'practical' man is the most abject slave to theory of all, for his theories are unknown tyrants, hidden from himself." And in condemning studies pursued merely with a view to the requirements of examinations, he spoke of the man whose knowledge is of that kind only, as "literally exchanging his knowledge for his diploma." The modifications in the curriculum of medical study which Dr. Foster suggested were heartily indorsed by Professor Lister (who moved the vote of thanks) and by the president, who said that Dr. Acland, the President of the General Medical Council, had just come to him and said, with reference to the address, "This ought to be written in letters of gold; and let us take it into consideration at the General Medical Council." If Dr. Foster's address should be the means of getting the Medical Council to do more than consider and discuss, he will have done great good to the Council, as well as to the profession.

The increase in the number of papers at the annual meeting, and the consequent multiplication of sections, makes it impossible for any one to attend them all, and therefore much must be left that one would much like to hear. The section which offered the chief attraction was that of pathology, the chairman of which was Sir James Paget, whose address, entitled *Elemental Pathology*, completely filled the room, both galleries and gangways, in which it was delivered. So great was the desire to hear this, that the other sections had to be adjourned for half an hour. The address dealt mainly with vegetable physiology. Sir James traced in plant life, and also in mineral structure, analogies to the morbid changes which are met with in the physical frame of man. The processes of hypertrophy, senile degeneration, inflammation, and repair, were illustrated by examples from the vegetable kingdom. The address was marked by the clearness of style and grace of diction which the profession always look for, and never with disappointment, from Sir James Paget. It occupied nearly an hour in delivery. The other attractions in this section consisted in a masterly address by that acute observer Mr. Jonathan Hutchinson, which opened a discussion upon the influence of injuries and diseases of the nerves upon nutrition. He divided the opinions held upon this point into two groups: one maintaining that all such action was simply vaso-motor; the other accepting in addition a special trophic influence. He

himself inclined to the former view. The discussion did not bring out anything of much importance beside Mr. Hutchinson's remarks. There are few, indeed, who can see further into a pathological problem than he can.

In the section of medicine, a discussion on hysterical anesthesia was opened by Dr. Bristow, in a speech which rather lacked point and conciseness, being too much a simple statement of his own observations, and a recapitulation of those of others, without a sufficiently distinct indication of what the speaker thought were the scientific generalizations to be drawn from the facts. Among the rules laid down for regulating the discussions was one, that each paper, or opening of a discussion, was not to exceed a quarter of an hour, and subsequent speeches ten minutes. Dr. Bristow spoke for nearly three quarters of an hour. It is a pity that rules should be made if they are not kept. The meeting was very glad to hear Dr. Bristow, but if his remarks had been more concentrated it would have been better.

The first speaker in the discussion was Dr. Matthews Duncan, who spoke in strong and plain language, pouring scorn on the whole thing. He ridiculed the idea of identifying by touch, or compressing, the ovary by abdominal palpation; and stated his belief that the phenomena which had been so much talked about, and are to be seen at the Salpêtrière, are artificial: not meaning by that word that there is collusion, but that the patients are simply hysterical women who have educated themselves, through periods of months and years, to produce the phenomena which the medical men unconsciously let the patient find out that they expected. The general tendency of subsequent speakers, influenced, no doubt, by cases such as those narrated by Dr. Barlow (who described instances of similar phenomena occurring in infants), was to accept the descriptions given by Charcot and others, as records of genuine disease, although as yet unexplained. The especial object of Dr. Duncan's skepticism was the alleged connection of the hysterical phenomena with disease of the generative organs. This is a subject about which it is extremely difficult to come to an opinion; it is possible that further investigations into the nature of these cases may throw light not only on hysterical anesthesia itself, but on the general subject which has been debated for the last thirty years or more, of the connection of uterine and ovarian disease with reflex symptoms.

The discussion next in importance was that upon asthma, introduced with his usual eloquence and fertility of illustration, by Dr. Andrew Clark. In the surgery section the treatment of urethral stricture was debated, the subject being opened by Sir Henry Thompson. The antiseptic system was brought under review by a paper by Dr. McVail, of Kilmarnock, in which he gave statistics of ten years' work in the infirmary of that place. His results were splendid, although he had not followed in detail what is known as "Listerism." His treatment, however, was antiseptic in principle. Mr. Lister spoke at great length, giving an account of experiments into the mutual relations of blood clot and bacteria, and narrated a case which had puzzled him until he was able to account for the occurrence of suppuration by supposing that a bacterium had crept in through a drainage tube. Mr. Erichsen expressed himself with great force upon the value of drainage, "the key stone of all treatment," as he styled it. The

spray, and the filtering of the air, he regarded as non-essentials.

In the obstetric section the chief attraction was the discussion upon the removal of uterine tumors by abdominal section, which was opened by Mr. Spencer Wells. Little that was novel was brought forward, and more than one speaker wandered sadly from the point.

It is not possible, for no one can be in two places at once, for me to give an account of every section. Many who were there must have found themselves, with regard to the sectional meetings, much in the position of Captain Macheath. — "How happy could I be with either."

The public dinner was held in the hall of Trinity College, on Thursday evening, and the convivial enjoyment, if listening to speeches can be so called, lasted till after eleven o'clock. On Friday afternoon the President gave a garden party, which was largely attended, in the beautiful grounds of King's College. The Concordia, a glee club composed of members of the university, sang, to the visitors' delight, in the most finished style, some charming vocal pieces. In the evening a *coursaizione* was held in St. John's College and its grounds. It was also crowded. The grounds were beautifully lit up with Chinese lanterns; the beautiful covered bridge (known as the "Bridge of Sighs," from its resemblance to that in Venice) was illuminated with colored fires, which made prominent its beautiful outlines. A band performed on the lawn, and in boats on the river glee singers were rowed from place to place while they sang. I ought before to have mentioned that organ recitals were given on the magnificent instruments belonging to Trinity College and King's College, on Wednesday and Thursday; the latter attraction being provided for those who did not attend the dinner. On Saturday business was at an end, and excursions to Ely, Peterborough, and other places of interest, occupied those members of the Association who remained in Cambridge.

On the whole the meeting was a great success, more so, perhaps, from a social than a scientific point of view, but none the less a thing to be remembered with pleasure and satisfaction.

Recent Literature.

Treatise on Therapeutics. Translated by D. F. LINCOLN, M. D., from French of A. TROUSSEAU and H. PIDOUX. Ninth edition, revised and enlarged with the assistance of CONSTANCE PAUL. Two vols. New York: William Wood & Co. 1880.

Among the many modern works on therapeutics it is well to look back at the literature of a few years ago. Certainly the opinion of so great a clinical instructor as Dr. Trousseau is well worth the trouble of translation, for reference by our English-reading physicians. The views of Trousseau in regard to the therapeutical action of drugs in the treatment of disease were far in advance of his contemporaries, and it is rather a matter of surprise to us that the presentation in English of his great work on therapeutics has been so long delayed.

We miss the names of many modern drugs which have obtained a deserved reputation among practitioners of the present time, but the perusal of this work will well repay the medical practitioner for information

he will gain in the treatment of his daily cases of illness. The theory of this treatise is so well adapted to the general study of therapeutics in its relations to disease that we cheerfully recommend it as an educational task, and its style of writing makes its reading a pleasant occupation. The classification and general arrangement of the work is well known to many of our practitioners, because so often referred to in his lectures by our late popular professor of therapeutics, Dr. E. H. Clarke. The translation is rather fairly presented, though in some places we observe that the translator has had difficulty in freeing his English from some of the peculiar French idioms of the original, and in other places the peculiar terse language of the original appears somewhat more abrupt when the words are rendered into English; as an illustration we introduce the following sentence: —

"An important distinction between the neuroses, debilities, erethism — of the stomach, or any other organ of the whole system — and inflammatory diseases is the fact that in the latter function and act are blocked, the vital manifestations abolished, stupefied, impotent; while in the former, all these are exalted, exaggerated, mobile, aroused on the slightest occasion, in a word, have sensations and movements of which a merely inflamed part is incapable."

We cannot well understand how any library of therapeutics can be maintained without Trousseau's treatise, and if the original French cannot be mastered this English translation will be gladly welcomed. A.

The Practitioner's Handbook of Treatment; or, The Principles of Therapeutics. By J. MILNER FOTHERGILL, M. D. Second American from the second English edition, enlarged. Philadelphia; Henry C. Lea's Son & Co. 1880.

The first edition of this work received at our hands an extensive review. The rapid sale of this book has called for a reprint, and the author has added in the present edition, on page 50, remarks on the subject of When not to give Iron, which were first published in the *Practitioner* for September, 1877; this matter deserves careful consideration by the clinician. Again, on page 370, the discussion on the Antagonism of Therapeutic Agents, which was presented in a prize essay, in 1878, by our author, is here introduced. On page 465, Dr. Fothergill extends his original treatment of the "reflex disturbances in the stomach" in relation to ovarian irritation; and on page 612 suggests some practical hints on the artificial digestion of foods which would apply in cases of dyspepsia. A.

— *Lyon Medical* tells us (*Medical Press and Circular*) that Dr. Dor, who for the last two years has used the benzoate of soda with great success in the purulent ophthalmia of infants, has recently had the opportunity of treating a well-marked case of gonorrhoeal ophthalmia, recovery taking place in a few days, without any opacity being left. He kept iced compresses constantly to the eye. The benzoate of soda was employed in a 20 per cent. solution, and tannin in a 10 per cent. solution, ten drops being instilled every three minutes. All secretion which issued from the eye was removed by means of a wash consisting of 100 per cent. solution of benzoate.

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PHYSICAL EXERCISE AND HUMAN ENDURANCE.

THE increased attention which has been given in this country within the last few years to out-of-door and athletic sports of all kinds has given rise, we doubt not, in the minds of many practitioners, to the inquiry, How far physical exercise is of value in preserving health; and with this comes also the question, What are the limits of human endurance? The latter, indeed, has been discussed with unusual zeal since the Tanner experiment has been brought to a close. Although from a scientific point of view the "fast" must be considered of no value in settling the amount of power possessed by the human frame to subsist without food, the subject has been freely discussed in professional journals, and we presume that their readers have been considerably enlightened upon a point with which they supposed themselves to be tolerably familiar.

In a recent number of the JOURNAL we published a very interesting letter from Japan by Dr. J. C. Cutter, who had charge of a patient who had been lost in the forest in a snow-storm, subsisting upon nothing but snow for twenty-five days. Upon the moderate diet of weak tea, boiled rice, and a little dried fish a Japanese "backman" will draw his man fifty or sixty miles, and has even been known, if we may trust the informer of our correspondent, to do his ninety miles in the twenty-four hours. What can our well-fed Anglo-Saxon athletes do in comparison to this! In recent numbers of *The Lancet* there has appeared a series of articles on athletics, where we find what a Hindoo coolie with his slim muscles and rice diet will do. "A hill coolie will go thirty miles, with an ascent of five thousand five hundred feet, in three days, carrying eighty pounds weight, the weight carried on a frame supported on the loins and sacrum, and aided by a band passed round the forehead, — work per diem five hundred tons lifted one foot. Eight palanquin bearers carried an officer weighing one hundred and eighty pounds, and the palanquin weighing two hundred and fifty pounds, twenty-five miles in Lower Bengal; assuming each man weighed one hundred and fifty pounds, the work was six hundred foot-tons per diem."

These facts show both to what extent training and habit can increase human physical power in certain directions and how unevenly distributed is the capacity for unusual bodily exertion. The remarks of the writer just quoted apply these truths forcibly to every-day life; he says: "The estimate, therefore, of the amount

of exercise that may be taken without injury to health in any given case is not to be decided by any hard-and-fast rule, but by observation of the effect that exercise has on the health and development of the individual. And here we would remark, parenthetically, the great advantage it is for schools to have a medical attendant who not only visits the boys when sick, but is constantly brought into contact with them when in health. It is in boyhood that the physical powers are first tested, and it is of the utmost importance that the experiment be fairly watched."

The school and college boy, whose powers are already strained by academic work, can easily carry exercise at tennis or his training for the boat race to a point which exhausts, either thus permanently enfeebling himself or exposing the system to some acute attack of disease. The training of a mature professional athlete who is obliged to reduce a weight gained during unnatural and perhaps dissipated idleness is the standard usually adopted at our universities by those young men who prepare themselves for the college races, whereas a properly-trained student should pursue an almost diametrically opposite course to that of the professional. Again, the daily exercise suitable for the young man whose bones are not yet ossified and whose organs are undergoing rapid metamorphosis should be so graded that the repair should be always in excess of the waste. Ten or fifteen years later, when his habits have become more sedentary and he finds the obesity of middle age beginning to creep upon him, it will be time enough to indulge in games on a scale which the boys and girls of today think themselves quite equal to. The present tennis wave, a game which many fondly imagine to be no greater an ordeal than croquet, will leave behind it the wreck of many a good constitution, — and so with many other sports unless adapted to the physical wants of the player. Decidedly we are in danger of suffering from too great a reaction from our old habits of idleness. The regularity in the pursuit of exercise is a point also which should not be forgotten. Our papers teem in the summer with wonderful excursions performed by city clerks off for a few days' vacation. Exercise to be beneficial should be moderate and constant, and should always be so adjusted to one's physical organization as to be followed by that delicious sense of rest which is an indication of its health-giving and life-prolonging qualities.

OUR NEW PROPHET.

AFTER reading the address of Prof. G. F. Barker, as retiring president of the American Association for the Advancement of Science, we could not help exclaiming, "Is Saul also among the prophets?" Saul's prophecies are unfortunately lost, but to do all that in us lies to prevent Professor Barker's from sharing the same fate, we will lay the most striking of them before the readers of the JOURNAL.

After defining life as "all that cannot be explained by chemistry or physics," he tells us that "While un-

doubtedly much work yet remains to be done in the realm still called vital, the prophetic vision (Professor Barker's, we presume) is already bright which will witness the last traces of inexplicable phenomena vanish, and the words expressing them relegated to the limbo of the obsolete." May the day soon dawn when we shall no longer speak of breathing but of converting hæmoglobin into oxyhæmoglobin, and when the obsolescent word life shall be replaced by its physico-chemiophysiological equivalent! But this improvement in nomenclature is not to be the only advantage of that happy day, for "when the chemist shall succeed in producing a mass constitutionally identical with protoplasmic albumen there is every reason to expect that it will exhibit all the phenomena which characterize its life;" and as "all the properties of animal protoplasm and of the animal organism of which it constitutes the essential part must have previous existence in the plant," the lucky chemist who thus achieves the synthesis of the simplest plant will essentially have prepared the "highest vertebrate" synthetically. But let him not be too sanguine, during his experiments, for Professor Barker expressly stipulates that this artificial protoplasmic albumen must be in the colloidal state. If it should turn out crystalloidal, as the professor seems to dread, — on account, we suppose, of the strong tendency of albumen, gelatine, and other related compounds to crystallize, — then good-by to all chance of its being alive.

Finally the prophet soars into the ether of space, — where we confess we are unable to follow him fully; but from his question, "Is it a wonder that out of such a reservoir (the ether) the power by which we live should irresistibly rush into the organism, and appear as the transmuted energy which we recognize in the phenomena of life?" the thought is forced upon us that the professor intends to outdo Dr. Tanner, and, dispensing with food, support himself for the future exclusively on the energy of the ether.

MEDICAL NOTES.

— H. Blanc, M. D., professor of clinical surgery in Grant Medical College, Bombay, writes to the London *Lancet* that the operation of litholapaxy will find a large field of usefulness in India. In that country, he says, the stones found in adults are often too large to be removed by the old method, and, moreover, that natives are averse to repetition of an operation which they expect will rid them of their trouble at once. For this reason lithotripsy has not been favorably regarded by surgeons practicing in that country. Dr. Blanc then reports six cases of litholapaxy, which did remarkably well. The largest amount of fragments removed was seven hundred and twenty-six grains. The sittings were from twenty-eight to ninety-five minutes in duration. In three of the cases Dr. Blanc made an incision into the meatus. This greatly facilitated the introduction of the evacuating catheter. Details will be found in the *Lancet* for July 10, 1880.

— The state of matters at and in connection with Guy's Hospital, instead of improving, as some people appeared to hope it would after the attempt, feeble though it was, by the committee of inquiry to effect a compromise, is rapidly becoming more and more deplorable. We do not mean to say much about the trial of nurse Ingle, but certainly no good has or can come of it to any one, though the husband of the poor woman, the treatment of whom gave rise to it, may find some satisfaction in having the cause of his wife's death publicly and fully inquired into. The nurse had evidently been engaged without a sufficiently careful inquiry into her previous engagements as a nurse, and she suffers for having been placed in too responsible a position. But out of that trial two new questions have unfortunately risen, — a question of diagnosis, and a question of professional conduct. Is it just to set against a diagnosis of the early part of a case another diagnosis formed on the whole history of the case lightened up by the result of a post-mortem examination? And could the circumstances of the trial justify a physician in appearing, without any compulsion, in the witness box to upset his colleague's diagnosis? We do not attempt now to answer these questions, as they are, or are supposed to be, referred to the Royal College of Physicians. Another great evil has resulted from the trial, — it has given rise to a flood of letters; and, so far, not a ray of light shows among the angry clouds gathered round the Guy's Hospital nursing controversy. We hardly know in what quarter to look for the power and wisdom needed so sorely to save Guy's Hospital and School; but we are sure that one of the first steps necessary to a happy solution of the difficulties is the cessation of the present terrible inkshed. — *Medical Times and Gazette*.

— Dr. E. L. Hussey, of Oxford, writes to the *Medical Times and Gazette* an experience he is reminded of by reading some remarks which we lately made on the administration of chloroform during sleep. He says:—

"About thirty years ago the late Mr. Hester, of this city, asked me to assist him in the operation of removing a small pendulous tumor from the inner side of the thigh in a boy. When we entered the bedroom the boy was in bed and asleep. We administered the chloroform at once without waking him; and when he was well under the influence of it we prepared a table, with the necessary instruments and appliances for the operation and for dressing the wound afterwards. The boy was then lifted from his bed to the table, the tumor was removed, and the wound dressed. He was then put back to bed, and we left the room before he had recovered from the effects of the chloroform. When he afterwards awoke and found a bandage round his thigh, and that the tumor could not be felt under it, he was told by his parents that the tumor had fallen off in his sleep."

— We find in the *Practitioner* that M. Leven (*Le Progrès médical*, May, 1880) pointed out, at a recent meeting of the Society of Biology, in Paris, the great difficulties which often present themselves in practice

in making a differential diagnosis between cancer and simple dilatation of the stomach. In both cases there is vomiting, which is said to be uncontrollable; to stop this symptom, M. Leven recommends that solid food, to the amount of one hundred and fifty grams, should be given to such patients only once a day, in order to avoid congestion of the mucous membrane. The rest of the food for the twenty-four hours should consist of a liter and a half of milk and six eggs. If after eight days of this diet the sickness has ceased it is certain that there is no cancer of the stomach.

—The following interesting case of acute muscular rheumatism of the abdominal muscles simulating nephritic colic and peritonitis in a child eight years old, reported by James Tyson, M. D., is taken from the *Philadelphia Medical Times*:—

I cannot but think that the following report will be useful to those who, like myself, have not previously met an instance of this interesting condition.

I was called, May 28th, to see Nellie S., aged eight years, whom I found with high fever, and complaining of a sharp pain in the præcordium, accompanied also by oppression, which suggested pericarditis. A careful examination of the heart and lungs showed neither to be involved, and I concluded that the pain was muscular. In forty-eight hours it had yielded to simple counter-irritation by mustard and an aconite fever mixture. But at my visit thirty-six hours after I was first called, she complained of a little abdominal pain. As stated, the next morning the chest was quite free from pain, but the abdominal pain had increased. There was also a sharp pain in the lumbar region radiating to that of the bladder, which, indeed, was the focus of greatest pain. The urine was very concentrated, high colored, and acid in reaction. She had previously had a similar attack, with high-colored, scalding urine, with painful micturition, under the care of another physician. These facts inclined me to believe that she was suffering with nephritic colic. Hourly doses of paregoric and an alkaline diuretic mixture during the day failed to give her relief by evening. The anodyne and alkaline mixtures were continued during the night, with poultices, but morning came without relief. Her suffering was now extreme. I increased the anodyne without effect, but by four p. m. her pain was so great and her cries so heart-rending that I thought best to etherize her. At the same time I gave her five-drop doses of laudanum every half hour. By the time she had five doses she dropped off to sleep, and was sleeping quietly at nine in the evening, when I visited her. The next morning the pains had returned. I now thought best to have her bladder sounded by my friend, Dr. Charles T. Hunter, who found it free from any foreign body. At this time the knees were drawn up, the thighs were flexed upon the abdomen and the legs upon the thighs, and any attempt to straighten them caused the extremest torture; the belly was a little swollen, but the pulse did not exceed 100° F., and was not quick or irritable. There could not be said to be fever; the decided fever with which the attack commenced had long before disappeared. I had from the begin-

ning said there was no peritonitis, but I now began to have misgivings. I continued the poultices and laudanum in sufficient dose to subdue the pain. The quantity required for this purpose was found to be less, and a good night was secured by moderate amounts, — not more than two doses of five drops each. The next morning the abdomen was perfectly flat, or rather concave, the very reverse of swollen. The pain had almost completely passed away, and one fourth grain of opium every three hours was sufficient to keep it in abeyance. In the evening she was free from abdominal pain, but complained of pain in her knee and ankle-joint, so that she could not straighten her limbs without much suffering, which I satisfied myself was not in her abdomen. The next day I had to leave the city early, and my friend, Dr. Horace Williams, saw her for me. All the joints of the lower extremity were now involved, — the hips, knee, and ankle-joints, — while the abdomen was free from pain. This settled the matter, and made it certain the attack was rheumatic. Under the use of salicylic acid these symptoms rapidly disappeared, and by Sunday, ten days after the first symptoms appeared, she had completely recovered.

As I stated at the beginning of this report, the interest which attaches to this case lies in the fact that we have in the rheumatism of the abdominal walls a condition which in some respects resembles peritonitis; and while important symptoms were wanting, the resemblance of others was so very close as to cause me much anxiety. The idea of this pain being muscular did not occur to me. A knowledge of its possibility would be of infinite service in another instance, and I felt that it might be to others.

NEW YORK.

—The Board of Health have secured three thousand dollars from the Board of Apportionment for the expenses of the new night medical service. According to the provisions of the act constituting it the city is obliged to pay the physician's fee (which is fixed at the sum of three dollars) in all cases where the patient is supposed to be too poor to pay. It is undoubtedly a great advantage that any one, whether rich or poor, who suddenly falls ill at night, may be able to receive prompt medical attendance, but the system is certainly liable to considerable abuse. All the physicians who are registered for the service pledge themselves to respond at once to any call for medical attendance which may be made upon them during the night, and which is duly authenticated by a police officer, who shall come to his house and conduct him to that of the patient, and it seems altogether probable that among the results of the new service will be an enormous increase in the number of demands made for treatment, and the devolving upon police captains and sergeants of duties which they are not very well qualified to perform. As has been well said, temporary illnesses, which formerly would have cured themselves, will be made the occasion of demands upon the city treasury, and if perchance there be among our physicians "in good and regular stand-

ing" some who have registered themselves for the night service, and are willing to turn into their pockets fees, which, except for that service, would never find their way thither, they have an excellent opportunity to do so by methods not strictly professional.

— The eighth annual report of the State Charities Aid Association has appeared, and shows commendable activity in the various departments of the work of the Association. The present season opened with a reconsideration of the subject of tramps and of reformatories for women, and the result was the preparation of bills providing for the necessary legislation on these points. A bill for the suppression of tramps became a law on the 5th of May last, but the bill providing for a reformatory for women did not pass the legislature. Very little of note on the subject of hospital construction has been brought before the committee on hospitals during the past year. There is still much need of a reception hospital in the lower part of the city, on the east side, and also of one in Harlem. The most important subject before the committee was the care of the insane. The medical board of Bellevue Hospital, at the request of the committee, recently placed the pavilion for the insane at Bellevue under the charge of a physician who is a specialist in nervous diseases, and the committee express the hope that trained nurses will soon be employed there. The committee on the elevation of the poor in their homes call attention to the admirable result of the movement in favor of tenement-house reform, begun by the Association in 1879, and devote considerable space to the organization and working of the "Improved Dwellings Association," which is now in successful operation, with a capital of three hundred thousand dollars. It is a strictly commercial enterprise, but the dividends are limited to five per cent. in order that these improved tenement buildings may be offered to the poor at the lowest possible rates.

— In accordance with a resolution lately passed by the Jersey City police commissioners, the charity hospital in that city has been closed for lack of funds to carry on its work. There were seventeen patients, some of whom were taken to their homes by their friends, and some of whom were received into the Episcopal Hospital, while two or three were put into the care of the poor-master, who had them transferred to the county almshouse at Snake Hill. Unless money is procured from some unforeseen quarter, the hospital will remain closed until December 1st, when the commissioners will be enabled to reopen it with the appropriation made for next year, which is the same as this year's appropriation, namely, fifteen thousand dollars. The latter has now been all expended.

— On the 3d of September no less than fifty cases of small-pox were reported as existing in Troy, and two deaths had occurred from it. Since then, however, the spread of the disease seems to have been controlled by the health officers. All but a few cases are now in the pest-house, and these are closely quarantined. Unless further cause for alarm appeared,

the public schools in the infected districts were to be reopened on the 13th. So far six deaths have been reported.

— Dr. John S. Thorne, for more than fifty years a highly respected practitioner of Brooklyn, has just died in that city in the seventy-fourth year of his age. After graduating at the College of Physicians and Surgeons, New York, he began the practice of medicine in Brooklyn in 1829. He established the Brooklyn Dispensary, was one of the founders of the Brooklyn City Hospital, and was closely identified with the Long Island College Hospital, of which he was one of the regents at the time of his death.

Miscellany.

DR. FISHER'S PAPER.

MR. EDITOR, — Your correspondent of September 9th, Dr. Whitney, has perhaps mistaken a synopsis, by the Secretary of the Boston Medico-Psychological Society, of my paper on State of Rhode Island *vs.* Geo. H. Brown, for the paper itself. This synopsis is necessarily very incomplete, and contains one or two unimportant errors, not a part of the original paper. The paper was withheld from publication, as it was learned that another trial was probable, but the synopsis was overlooked. It is desirable that no further discussion of the case be published until it is legally adjudicated, — when the paper as written could be offered for publication. Very respectfully,

THEO. W. FISHER.

LETTER FROM CHARLESTON.

MR. EDITOR, — Charleston has reason to congratulate herself upon the induction into office of her new mayor, Captain William A. Courtenay, an enlightened, energetic, and far-seeing man. He certainly has "reformed it altogether" here.

Referring to medical matters alone, one of his first acts was the appointment of an efficient Board of Health, to which body questions were propounded which had long agitated the public mind, with the request for official reports from the board, and with the assurances of an uncompromising intention on his part of carrying out their views on all subjects pertaining to the health of this city. Indeed, it may be said that a marked impetus, for the first time, has been given to the study of hygiene, even outside of the profession.

The meetings of the board have been always held in the library of the Medical Society, where they still occur. It is designed to arrange an apartment in the City Hall, adjoining the council chamber, for this purpose; and in time to organize a library on the special subject of hygiene, with charts and drawings, plans and models, of all the appliances calculated to serve the purpose or guide the study of the sanitary engineer, and to illustrate the progress of scientific hygiene. Such a library and museum, however limited, will yet greatly advance the study of this science, and it is to be hoped may one day lead to the creation and endowment of a professorial chair of hygiene and public health in our Medical College of the State of South Carolina.

Nowhere has such a reform been more needed than in this city, where the unsanitary condition of its streets and pavements, its imperfect system of drainage, and dangerous cess-pools and privies in proximity with wells and cisterns have so long called for reconstruction on the scientific basis of modern hygiene. Even the profession at large has too long unwittingly indorsed popular views on sanitation, and it is fortunate indeed to discover a determinate resolve to inform itself in a branch hitherto scarcely regarded among the uninitiated as within the commonwealth of medical learning.

Among the earliest reports from this board was that which discussed the accuracy of a very current impression that our artesian water, recently conducted into all parts of the city by water-works, would become necessarily contaminated through faulty and unscientific engineering, which had not only unavoidably laid the cast-iron water-tubes in the vicinage of sewers, but had in some instances transixed these. The impermeability of cast-iron pipes, their tensile strength and known life or durability, the constant delivery system under a head pressure of fifty pounds to the square inch, and our drains not containing, properly speaking, excrementitious matter *per se*, but being simple receptacles of surface and sub-soil moisture, were some of the arguments, or rather facts, adduced to quiet the public on this subject, who, reading and reflecting, at once became convinced that were these iron pipes as porous as *pumice* stone water would rush out, but no gases could rush in.

This report, however, is only referred to, since it has been republished in several journals, and recently in the *Sanitarian*, and its contents are known to your readers.

The subject of disinfectants next came up, since the previous administration had expended many thousand dollars in causing these to be distributed about the public highways in all parts and corners of our city, until the fumes of carbolic acid were far more of a nuisance, and perhaps more deleterious, than the hypothetical germs which it sought to destroy; and we believe it was wisely determined that no city could be disinfected, not even a square or block of buildings, by methods previously in vogue, at such great expense to the city, but that the proper use of such agents was in the bed-chamber, in vaults and privies wherever excreta could be immediately reached on escape from the sick. This has made disinfection more effective and certain, and far less expensive.

The general cleansing of seven thousand privies has been perfectly well accomplished by the pneumatic odorless apparatus; though an elaborate report upon the proper disposal of sewage, in a sanitary point of view, was presented to the council, urging upon the city authorities the importance of the water-carriage system, as none other can properly compete with the constancy, rapidity, cleanliness, and self-working of this system. The fulfillment of this proposed method would not, in a city like ours, cost more than \$300,000. At eight per cent. interest, this would call for a yearly income of \$24,000. The administration of the system need not cost more than \$6000. Assuming that there are seven thousand dwellings in the city, and estimating them all by the minimum standard of a single closet, and no other plumbing, at a uniform charge of fifty cents per month for each closet, the tax would produce a yearly income of \$12,000. The margin of

\$12,000 would make the enterprise a fair speculation. Increase of population and an increase in the number of closets, sinks, etc., in the better houses would constitute an important extra inducement.

Such a system would secure the absolute removal beyond the limits of the city of all waste, liquid and solid, within a short time after its production, before decomposition could begin. This method of immediate removal of excreta was urged, since, should the city give a franchise to a corporation for this great purpose, there would perhaps be no difficulty in raising the necessary capital.

These old-time privy vaults, tolerated only through long familiarity with such nuisances, have been abrogated by a city ordinance compelling the use hereafter of the enameled surface closet, until the best of all provisions be made for drifting the sewage of Charleston safely out to sea.

RODENT ULCER. LIGATURE OF THE CAROTID ARTERY, ETC.

MR. EDITOR, — Under the caption of Rodent Ulcer, Ligature of Carotid Artery, etc., in No. 26, page 610 [June 24], of your journal, I find a report of a private case of mine, published without consultation with me on the subject, accompanied with copy of one of my photographs of the patient, by Dr. Fairfax Irwin.

However extraordinary such ethical obliquity may be, the circumstance would not have elicited criticism from me had not this report of my case been so inaccurate that I must rectify the misconceptions which will reasonably be formed of it, until I shall prepare a full account for publication in the pages of your journal.

This patient came to the city addressed to me, and I visited him at his residence, East Bay Street. He refused to enter the wards of a crowded hospital, until the Masonic fraternity gave him the means of occupying for a time one of our private hospital apartments as a private pay patient, that he might be under my care. Alarming hemorrhage required the ligature of the common carotid (not "*external carotid just above the bifurcation*"), use of actual cautery, and an elaborate dissection of the entire growth. The healing process of this vast wound was very extraordinarily rapid, — so rapid that the cicatricial progress for the next day could be predicated by that made on the previous day, as Dr. Taylor (assistant surgeon) frequently remarked. Iodide of potash and Fowler's solution were administered by Dr. Taylor, by my direction. Extoliation of denuded bone occurred; no resection of bone was performed; and when, his funds being exhausted, he was obliged to leave private quarters, and enter one of the dreaded crowded wards of the hospital, he discovered that a large ward in our Roper Hospital, containing rarely more than five or six patients, was used as the United States Marine Hospital, and he immediately requested to enter it, as he had once been a sailor in the service. This was granted, and I transferred him, as he was up and doing well, to the care of Dr. Glazier, in charge, having had several photographs taken of my patient, intending to publish his case.

The remarkable cure, should it remain permanent, is in my judgment alone due to cutting off all active supply from one half of the head and face by the ligature of the common carotid artery, and not to remedies, of which he had taken a large supply, and which

are generally recognized to be impotent in the extensive ravages of this disease.

Yours truly,
MIDDLETON MICHEL, M. D.
CHARLESTON, S. C.

SIR WILLIAM GULL AND THE GUY'S HOSPITAL CASE.

The following correspondence appeared in the *London Times*:—

"SIR,—It is with extreme regret that I learn from Dr. Pavy's letter in the *Times* of Saturday, that he supposes the evidence I gave at the late trial of the Guy's nurse was an unwarrantable aspersion upon his professional competency.

"As senior consulting physician to the hospital, I was called upon to give evidence in the case, which I did very reluctantly. It is true that I could not read the facts as Dr. Pavy had done, and, in the interests of justice, I was obliged in court to state the convictions at which I had arrived. If in doing so I used any expression beyond the narrowest purpose of my evidence, no one would more regret it than I should.

"Dr. Pavy has a very high and well-deserved reputation, and I shall always feel it both a duty and a pleasure to bear my testimony to it; but there are occasions when personal considerations have to yield to higher calls.

"I could not in my evidence state what was right to the unfortunate nurse, and fair for her defense, so far as it might go, without setting forth facts which seemed to show that there had been some misapprehension as to the nature of the symptoms of the disease under which the poor patient was suffering.

"As what I stated was according to the conviction of my mind, and stated on oath, I am not able to retract a word, though I may deeply regret the necessity which obliged me to give expression to my opinion. I am, sir, your obedient servant.

WILLIAM W. GULL.

74 BROOK STREET, GROSVENOR SQUARE, W. {
August 9th.

"SIR,—Sir William Gull's explanatory letter, in the *Times* of Thursday, needs explanation more than did the assertions he made in court against Dr. Pavy's evidence in the late unhappy manslaughter case.

"He says that, as senior consulting physician to the hospital, he was called upon to give evidence in the case. The conception he thus indicates of the duties of a consulting physician is, I believe, entirely new to the medical profession. In that profession, consultations are supposed to be held between medical men engaged upon a case, with the object of mutual assistance as to the case in point. The idea of a consulting physician who accepts consultations in the absence of and contrary to the views of the physician in charge of a case is unknown to what are called the 'regular' members of the profession.

"Sir William Gull's letter would lead the public to suppose that the consulting physician of a hospital is a personage whose opinion is taken when the views of the acting staff are not satisfactory to somebody. Perhaps Sir William Gull will say who it was that put on him the irresistible pressure which he alludes to in explanation of his appearance in the witness-box. The title of consulting physician to Guy's is purely complimentary. It carries no duties or functions whatever. To speak as though a Guy's consulting physician must

ex officio be consulted is just as though Sir William Gull were to declare himself compelled to pronounce on civil law because he is a D. C. L. Yet Sir William Gull comes forward publicly, and uses the empty consulting physiciancy to cover his appearance in opposition to a distinguished member of the acting staff of Guy's Hospital. His testimonial to Dr. Pavy's professional ability will be met in the medical profession with many a silent smile. '*Qui s'excuse s'accuse*,' and this trite truth applies not only to self-excuse, but it is equally true that to excuse another with a testimonial does but repeat the accusation.

"No good would come of any discussion in the *Times* upon the pathological aspect of the medical differences at the trial. The facts of the case were decisive, whatever the difference in medical views. They left no proper room for any such difference. It was indisputable that the poor victim of the nurse's severity was, up to a given time, the subject of chronic tubercle,—a disease whose duration is months or years; and that her case changed at the time of the ill-usage from a chronic to an acute and rapidly fatal illness, with symptoms of inflammation. If we accept Sir William Gull's views that 'the course of the malady is continuous and universally fatal, the bath' (a prolonged cold bath) 'did not produce any injury to the brain, which is the seat of the malady, dragging the limbs would not produce inflammation of the brain,' it would seem not to matter much what you do to a person rendered entirely secure by this malady. But chronic tubercle of the brain is the strict equivalent of slow consumption of the lungs; it is slow consumption of the brain; and just as a more rapid inflammation of the lungs may be set up in chronic consumption of the lungs, so a more rapid inflammation of the brain may be set up in chronic consumption of the brain. This is the nearest parallel which the science of disease could furnish; and common sense can judge of Sir William Gull's statements. It is a very bold thing to say that ill-usage and exposure are not of a nature to cause inflammation on a brain already irritated by tubercle. This may be Sir William Gull's opinion, but it is not pathology.

"In conclusion, I am obliged to remark that while Sir William Gull is entitled to hold, and if he please to declare, a doubtful opinion as his own, and therefore true from his point of view, he has not the same freedom with matters of fact. Sir William Gull is reported by you to have said: 'The physician governs the clinical report. I was physician at Guy's for twenty years, and I always dictated the reports myself.' In answer to this, I will only say that I was Dr. Gull's clerk for three months, and he never dictated a line of report to me. I have, too, a letter from Dr. James Braithwaite of Leeds, who was my fellow clinical clerk at the time. He says: 'If Sir William Gull stated that he "always dictated his reports," he certainly could not refer to my time. I am also equally certain that Dr. Owen Rees did not dictate his reports.' As Sir William Gull endeavored by his above-quoted evidence to make Dr. Pavy responsible for a clinical clerk's report before the court, I may further add that, whereas I have been physician at Guy's Hospital for thirteen years, I have never dictated a clinical report in the whole of that time. I cannot speak with the same certainty as to Dr. Pavy's custom in this matter. I am, sir, faithfully yours,

"WALTER MOXON, M. D."

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 4, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diarrheal Diseases.	Lung Diseases.	Diphtheria and Croup.	Typhoid Fever.
New York.....	1,085,000	529	279	32.89	20.79	10.21	6.05	.57
Philadelphia.....	901,380	297	119	21.89	9.43	2.02	1.68	5.05
Brooklyn.....	564,400	256	155	37.50	19.14	7.42	11.72	1.95
Chicago.....	—	—	—	—	—	—	—	—
St. Louis.....	—	123	48	50.90	13.82	1.63	1.63	6.50
Baltimore.....	393,796	160	66	31.88	11.88	3.12	3.75	6.87
Boston.....	362,938	207	106	38.16	32.37	—	1.93	2.42
Cincinnati.....	280,000	96	45	25.00	12.50	4.17	1.04	6.25
New Orleans.....	210,000	102	34	26.47	5.88	3.92	1.96	—
District of Columbia.....	170,000	72	30	29.17	18.06	1.39	2.78	—
Buffalo.....	—	45	25	42.22	20.00	2.22	6.67	4.44
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,649	60	33	45.00	21.67	3.33	13.33	5.00
Milwaukee.....	127,000	56	39	32.14	23.21	7.14	5.36	—
Providence.....	104,862	36	14	22.22	16.67	5.56	5.56	—
New Haven.....	60,000	30	12	10.00	—	6.67	6.67	—
Charleston.....	57,000	34	16	8.82	2.94	5.88	—	—
Nashville.....	37,000	23	8	34.78	17.39	—	—	8.69
Lowell.....	59,340	36	23	30.56	27.78	5.56	2.78	—
Worcester.....	58,040	22	11	59.09	36.36	4.55	—	9.09
Cambridge.....	52,860	17	7	47.06	47.06	—	—	—
Fall River.....	48,626	41	—	9.76	—	2.44	—	2.44
Lawrence.....	39,068	16	12	37.50	—	6.25	—	6.25
Lynn.....	38,376	19	5	26.32	10.53	—	5.26	10.53
Springfield.....	33,536	4	—	25.00	—	25.00	—	25.00
Salem.....	27,347	11	5	36.36	18.18	—	18.18	—
New Bedford.....	27,268	15	4	13.33	6.67	6.67	—	—
Somerville.....	24,964	9	5	22.22	22.22	11.11	—	—
Holyoke.....	21,961	9	6	44.44	44.44	11.11	—	—
Chelsea.....	21,780	8	7	37.50	25.00	12.50	—	—
Taunton.....	21,145	—	—	—	—	—	—	—
Gloucester.....	19,288	12	4	33.33	8.33	—	16.67	—
Haverhill.....	18,478	5	2	40.00	—	—	20.00	20.00
Newton.....	16,994	—	—	—	—	—	—	—
Newburyport.....	13,470	7	5	42.86	14.29	28.57	—	—
Fitchburg.....	12,270	6	4	66.67	50.00	—	16.67	—
Seventeen Massachusetts towns.....	139,241	61	19	27.87	18.03	1.64	4.92	—

Deaths reported, 2424; 1140 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 754, diarrheal diseases 426, consumption 316, lung diseases 121, diphtheria and croup 114, typhoid fever 70, malarial fevers 56, scarlet fever 36, whooping-cough 20, cerebro-spinal meningitis 15, small-pox eight, measles five, erysipelas three, typhus fever one. From *malarial fevers*, New Orleans 17, New York 14, St. Louis eight, Brooklyn five, District of Columbia four, Baltimore and Charleston two, Buffalo, New Haven, Nashville, and Worcester one. From *scarlet fever*, New York, Philadelphia, and Baltimore seven, Brooklyn four, Cincinnati, Buffalo, Milwaukee, and Newburyport two, Pittsburgh, Gloucester, and Pittsfield one. From *whooping-cough*, Baltimore five, Brooklyn and Boston three, Buffalo two, New York, Philadelphia, St. Louis, New Orleans, Pittsburgh, Nashville, and Pittsfield one. From *cerebro-spinal meningitis*, New York five, Worcester and Fall River two, Philadelphia, St. Louis, Baltimore, Lawrence, New Bedford, and Holliston one. From *small-pox*, Philadelphia eight. From *measles*, Cincinnati two, New York, Pittsburgh, and Fall River one. From *erysipelas*, New York, St. Louis, and Cincinnati one. From *typhus fever*, New Orleans one.

Forty cases of diphtheria, 11 of scarlet fever, six of whooping-cough, six of typhoid fever, one of small-pox, and one of measles were reported in Brooklyn; scarlet fever five, diphtheria five, in Boston; scarlet fever 14, diphtheria eight, in Milwaukee; typhoid fever six, scarlet fever four, diphtheria four, diarrheal diseases three, in Providence; scarlet fever seven, cerebro-spinal meningitis one, diphtheria one, in New Bedford.

In 34 cities and towns of Massachusetts, with a population of 1,019,851 (population of the State 1,783,812), the total death-rate for the week was 25.89 against 24.00 and 27.21 for the previous two weeks.

Total number of deaths, deaths under five years, and deaths from diarrheal diseases, all decreased in about the same proportion.

For the week ending August 14th, in 149 German cities and towns, with an estimated population of 7,636,588, the death-rate was 28.6. Deaths reported, 5199; 2614 under five: pulmonary consumption 412, acute diseases of the respiratory organs 193, diphtheria and croup 100, scarlet fever 91, typhoid fever 60, whooping-cough 52, measles and diphtheria 48, puerperal fever 13, typhus fever (Thorn, Mulheim, Mannheim) three, small-pox (Königsstätte) two. The death-rates ranged from 11.8 in Weisbaden to 41.9 in Stettin; Königsberg 38.6; Breslau 36.4; Munich 31.3; Dresden 25.7; Berlin 28.3; Leipzig 31.3; Hamburg 28.8; Bremen 21.9; Cologne 32.3; Frankfurt 19.2; Strassburg 30.7.

For the week ending August 21st, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 24.3. Deaths reported, 3490; diarrheal 864, acute diseases of the respiratory organs 167, scarlet fever 105, whooping-cough 60, measles 48, fever 40, diphtheria 15, small-pox (London) four. The death-rates ranged from 16 in Brighton and Bristol to 40 in Hull; London 21; Birmingham 24; Manchester 31; Liverpool 30. In Edinburgh 17; Glasgow 20; Dublin 38.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.	
Aug. 29	30.086	68	92	61	90	73	94	86	W	N	NE	NE	13	8	8	C	R	R	—	1.20
" 30	30.208	60	65	57	94	78	88	87	NE	NE	NE	NE	12	10	6	R	O	C	—	.44
" 31	30.225	62	71	54	82	74	82	79	C	E	SE	O	6	6	1	C	C	C	—	—
Sept. 1	30.228	63	70	54	87	52	72	71	W	E	S	S	3	7	6	O	C	C	—	—
" 2	30.160	68	78	60	89	57	84	77	SW	S	S	S	5	9	10	O	F	F	—	—
" 3	29.960	74	88	63	89	52	95	79	SW	SW	SW	SW	8	9	7	F	F	C	—	—
" 4	29.820	77	89	68	85	63	95	81	SW	W	SW	SW	6	7	6	F	F	C	—	—
Week.	30.098	67	92	54				80	SW	E	S								5.38	—

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM SEPTEMBER 4, 1880, TO SEPTEMBER 10, 1880.

By paragraph 2, S. O. 190, A. G. O., September 7, 1880, the following changes are made to take effect October 1, 1880:—
The following named officers are relieved from duty in the Department of the East, and will report in person to the commanding generals of the departments set opposite their respective names for assignment to duty: Assistant Surgeon D. G. CALDWELL, Department of the Platte; Assistant Surgeon J. H. PATZKI, Department of the South; Assistant Surgeon B. F. POPE, Department of Dakota; Assistant Surgeon W. J. WILSON, Department of Dakota.

Assistant Surgeon FRANK MEACHAM is relieved from duty in the Department of Texas, will proceed to Boston, Mass., and, upon arrival, report by letter to the surgeon-general.

Assistant Surgeon R. H. WHITE will report in person to the commanding general, Department of West Point, for assignment to duty at the United States Military Academy, relieving Assistant Surgeon Henry Lippincott, who, when relieved, will proceed to New York city, and, upon arrival, report by letter to the surgeon-general.

Assistant Surgeons M. K. TAYLOR and J. H. T. KING are relieved from duty in Department of Texas, will proceed to New York city, and, upon arrival, report by letter to the surgeon-general.

Assistant Surgeon W. MATTHEWS will report in person to the commanding general, Department of the Missouri, for assignment to duty.

Assistant Surgeon T. A. CRUXINGHAM is relieved from duty in Department of Dakota, will proceed to New York city, and, upon arrival, report by letter to the surgeon-general.

TAYLOR, M. K., captain and assistant surgeon. His assignment to duty at Fort Concho—paragraph 2, S. O. 161, C. S.—revoked. S. O. 176, Department of Texas, August 30, 1880.

MOSELEY, E. B., captain and assistant surgeon. The leave of absence, granted him from headquarters, Department of the Platte, August 17, 1880, is extended two months. S. O. 187, A. G. O., September 3, 1880.

KEED, W., captain and assistant surgeon. Assigned to temporary duty with United States troops at Creedmoor, Long Island. S. O. 156, Department of the East, September 6, 1880.

CARTER, W. F., first lieutenant and assistant surgeon. His assignment to duty at post of San Diego, Texas,—paragraph 2, S. O. 161, C. S.,—revoked. S. O. 176, C. S., Department of Texas.

FAHRT, R. G., first lieutenant and assistant surgeon. Assigned to duty at Fort Walla Walla, W. T. S. O. 140, Department of the Columbia, August 16, 1880.

AMERICAN ACADEMY OF MEDICINE.—At a recent meeting of the council it was resolved to postpone the meeting of the Academy until Tuesday, September 28th. You are therefore respectfully notified that the fifth annual meeting of the Academy will be held in Manning Hall, Brown University, Providence, Rhode Island, on Tuesday, September 28th, at four

o'clock, p. m. The address of the president, Dr. Frederick D. Lente, of New York, will be delivered at eight p. m.

RICHARD J. DUNGLISON, A. M., M. D., Secretary.
PHILADELPHIA, September 4, 1880.

BOOKS AND PAMPHLETS RECEIVED.—On the Affections of the Middle Ear during the Early Stages of Syphilis. By F. R. Surgis, M. D.

On Deafness, Giddiness, and Noises in the Head. By Edward Woakes, M. D., Lond. Second edition, enlarged and revised, with illustrations. Post 8vo. Philadelphia: Presley Blakiston. 1880.

Practical Lithotomy and Lithotripsy; or, An Inquiry into the best Modes of removing Stone from the Bladder. By Sir Henry Thompson, F. R. C. S. Third edition, considerably enlarged. 8vo. Philadelphia: Presley Blakiston. 1880.

Transactions of the Medical Association of the State of Missouri at its Twenty-Third Annual Session. 1880.

Transactions of the Medical Association of Georgia. Thirty-First Annual Session. 1880.

Annual Announcement of St. Paul Medical College of Minnesota.

Prospectus of Hamlin University, 1880-81.

Report of the Bureau of Organization, Registration, and Statistics to the American Institute of Homoeopathy, at the session held in Milwaukee, June 15, 1880.

Twentieth Annual Report of the New York Society for the Relief of the Ruptured and Crippled. 1880.

A New School Physiology. By R. J. Dunglison, M. D. Illustrated. Philadelphia: Porter and Coates. 12mo.

Medical Education and Practice in all Parts of the World. By H. J. Hardwicke, M. D. Philadelphia: Presley Blakiston. 1880. 8vo.

Conspectus of Materia Medica and Pharmaca Botany, comprising the Vegetable and Animal Drugs; their Physical Character, Geographical Origin, Classification, Constituents, Doses, Adulterations, etc. Table of the Tests and Solubilities of the Alkaloids appended. By L. E. Sayre, Ph. G. Detroit: George S. Davis. 1880.

American Health Primers. The Skin in Health and Disease. By L. Duncan Bulkley, M. D. Philadelphia: Presley Blakiston. 1880.

Pregnancy-Vomiting. By J. Marion Sims, M. D. (Reprint.) The Brain an Organ of the Mind. By H. Charlton Bastian, M. D., etc., etc. With one hundred and eighty-four illustrations. New York: D. Appleton & Co. 1880. Crown 8vo.

The North American Review for September. New York: D. Appleton & Co.

Ophthalmic Operations, with Remarks on After-Treatment. The Ophthalmic Use of Quinine and its Therapeutic Action. By A. Sibley Campbell, M. D. (Reprint.)

Supervision of Lunatic Hospitals. By Nathan Allen, M. D., LL. D. Boston: Tolman and White.

Suggestions on the Management of Natural Labor. By J. W. Singleton, M. D. (Reprint.)

A Practical Treatise on Tumors of the Mammary Gland; embracing their Histology, Pathology, Diagnosis, and Treatment. By Samuel W. Gross, M. D. New York: D. Appleton & Co. 1880.

Lectures.

CLINICAL LECTURES ON THE PHYSIOLOGICAL PATHOLOGY OF SYPHILIS.

DELIVERED AT THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK, SESSION OF 1878-79.

BY ELSSENDEN N. OTIS, M. D.,
Clinical Professor of Genito-Urinary Diseases, etc.

VIII. TREATMENT OF SYPHILIS.

GENTLEMEN. — At the close of the previous lecture it was intimated that there were some especially important reasons why the mucous patches present in Case XVI. (which I again present for your consideration) should be subjected to the application of a strong solution of the nitrate of silver. The first of these is the fact, well ascertained, that the secretions of these, as well as of all open lesions, during the entire active period of syphilis, and the blood, furnish a contagious element, that cells, which have become degraded by contact with other degraded cells in the process of infection going on in the general circulation, find their way through the walls of superficial vessels, and are exuded with the fluid secretions of all moist lesions in syphilitic subjects.

They are the *disease germs* of syphilis, and contact of these with any abraded surface on a healthy person will communicate syphilis to that person just as certainly and speedily as contact with an open initial lesion resulting from venereal contact. Disease germs from a mucous patch in the mouth or throat, suspended in the saliva, are thus readily transferred to a cup or tumbler, a spoon, a pencil, the mouth-piece of a tobacco pipe, and a great variety of other articles. These again accidentally coming in contact with an abrasion on the lips of a healthy person, and thus inevitably into practical relations with normal white blood cells, constitute that mode of communication of the disease which is termed *mediate contagion*. For this reason we look carefully for such lesions, and when found make prompt application of a solution of the nitrate of silver, of a strength of thirty to sixty grains to the ounce of distilled water, and repeat daily until they are healed.

The effect of this treatment in the present instance has not been as satisfactory as could have been desired, probably owing to the continued use of tobacco, to which the patient confesses. This leads me to remark that under such circumstances the use of tobacco is especially pernicious, not only because it delays healing of open syphilitic lesions of the mouth and throat, but that the local irritation of the mucous membrane which it occasions frequently produces such lesions at points where, independently of the tobacco habit, they would never have occurred. This patient has taken a mercurial pill (containing two grains of mass, hydrarg., and one of the exsiccated sulphate of iron) morning and night for one week, and yet we see no evidence of mercurialization either in the breath or in the gums, nor has he, apparently, experienced from its use any effect upon the digestive tract. This is the usual tolerance to the remedy given in this form and quantity. We shall now increase the medicine to three pills daily, the object being to bring the system gradually under the mercurial influence.

What we desire is to fix upon such an amount of mercurial as may be borne without irritating the digestive tract, or producing any recognizable damage to the healthy tissues or the blood, and yet such an amount as will be sufficient to effect our purpose, namely, the metamorphosis and elimination of the material which has been found forming the gland enlargements and the papules of his eruption. These manifestations, as you may see, have not changed appreciably since we began the treatment. We must not look for rapid changes. We must bear in mind the fact that the syphilitic processes, somewhat like the processes of normal growth, though less in degree, are still very deliberate. Experience has taught us that complete metamorphosis and elimination of the superfluous material encumbering the tissues in syphilis, and which has been shown to be the sole appreciable cause of every possible lesion throughout the active period of the disease, cannot be effected in less than a year in the great majority of cases, and many require a much longer time. This, in regard to the time required, is the plain statement of the case made by M. Ricord before the Clinical Society of London, and it is a statement which should be made to every patient who presents himself to you for treatment during the early active stage of syphilis. This must be the same whether he has for his initial lesion only a little insensitive nodule, without fracture of the skin, and a few innocent looking, enlarged lymphatic glands, like Case XV., or a classical open chancre in connection with a distinct papular eruption and mucous patches in his mouth, like Case XVI. This treatment or its equivalent must be conscientiously carried out, if you would secure to your patient the best results in the present and the greatest immunity from trouble in the future. We propose to watch the effect of the mercurial in these patients, and as soon as any intestinal irritation occurs, or any tenderness of the gums, or any mercurial factor in the breath (not common when using the amount we ordinarily prescribe), to reduce the quantity again to two or even one pill per day, gradually pushing it, however, as the irritation subsides, until some slight but well-recognized sponginess or tenderness of the gums takes place, or slight factor of the breath or metallic taste in the mouth occurs; then, by graduation of the dose, to keep the patient habitually a little short of this point throughout the progress of the case. No absolute rules as to the amount required to effect this can be laid down. Nor can any one preparation be relied upon for all cases. Some will be best treated with granules from one fourth to one half of the proto-iodide; others again with a solution of the bichloride; others you will find who cannot take any mercurial preparation internally, and who will require treatment by fumigations with the vapor of sublimating camol, or by inunction of the oleate or the ung. hyd. mit.; and still another class of highly serofulous tendencies, who cannot bear mercury in any form, and who must be treated by other agents less powerful in effecting the necessary tissue metamorphosis, such as the iodide of potassium and iodine in different form.

A few words at this point in regard to the probable mode of action of mercury, based upon some of its known properties and effects, local and general, may not be inappropriate, especially in view of the claims which have been made as to its power as an antiseptic and a specific, and also as a tonic in syphilis. In any

soluble and concentrated form, as, for instance, a saturated solution of the bichloride, mercury is promptly destructive to any living tissue. The proto-chloride, on the contrary, quite insoluble in water and only very sparingly so in the digestive fluids, when locally applied is found quite free from any destructive property or local irritant action.

Administered internally the bichloride in any considerable quantity, as a grain or more, acts promptly as a corrosive poison.

The proto-chloride, on the other hand, may be given in quantity without producing any such effect.

Used externally or internally preparations of mercury are found to be active in proportion to their solubility, and whatever action the proto-chloride may produce, it is claimed by Mihálke and others to result from the transformation of a certain portion into the bichloride, probably at the expense of the chloride of sodium in the blood.

In minute quantity the bichloride may be given (as one twentieth to one twelfth of a grain) to a person in health without producing any marked local irritation, but when absorbed into the general circulation it soon exercises a stimulating effect, first upon the mucous, lymphatic, and salivary glands, producing undue functional activity, and if continued, setting up in the latter a characteristic excessive flow of the salivary secretion, which soon comes to be of an exceedingly fetid character. The breath is also tainted by the same factor, and this precedes the excessive salivary secretion, thus showing that the cause is not confined to the salivary system, but that it is in the general circulation. The cause of the factor (alluded to in a previous lecture) is claimed to be from the *decomposition of fat produced by the rapid fatty degeneration of cell and tissue elements throughout the organism*, induced by the characteristic influence or action of mercury.¹ This effect results not only from the excessive administration of mercury in the form of the bichloride, but from the introduction into the system of the mercurial principle in excess, whether in this form or any other form,—whether administered internally, through the digestive apparatus, or externally through the skin by inunction, or through the respiratory apparatus by inhalation of the mercurial vapor. It has been detected by chemical analyses in the blood, in the viscera, in all the secretions, in the muscles, and in the bones, in the serous membranes, and in the cartilages of persons to whom it has been administered.² Its capacity for diffusion throughout the system, therefore, and of reaching, through its material influence, every tissue and fluid of the entire organism, has been amply demonstrated. It would appear, like oxygen, to be taken up by the blood and carried throughout the system, and like it, or in a manner equivalent to it, to produce a special influence on the material with which it comes into actual contact,—a species of oxidation, which, in its feeblest action, hastens the natural evolution of living elements, and promotes their retrograde metamorphosis by its solvent property. Increasing the amount, its effect is seen in the solution and elimination of the products of new formation. Lancereaux says, "The action of mercury on the general economy is opposed

to the increase and development of new tissues;" and according to Headland and others, it "diminishes the amount of fibrin and corpuscles in the blood." In syphilis we have seen that the chief feature of the disease is the increase, through excessive proliferation, of the white or earliest form of blood corpuscles. The proportion over the red corpuscles, which are shown to be a higher form of development, is hence greatly increased. Foster, in speaking of the origin of the red blood corpuscles, says, "From these several facts it is concluded that the red corpuscles take origin from colorless nucleated corpuscles similar to, if not identical with, the ordinary white corpuscles of the blood."³ Mercury acts, then, first, in hastening the dissolution of the white corpuscles, and secondly in reducing their number. An apparent increase of the red corpuscles results. The relief to a circulation overburdened with white cells through their removal would also, and of necessity, tend to favor the normal development of red corpuscles out of the white. Such a result of the use of mercury might be attributed to a *tonic* property in the drug, as first claimed by Dr. Billing, and quoted by Headland in 1867, and more recently by Dr. Keyes, of New York, in his so-called Tonic Treatment of Syphilis.⁴

Tonics, says Headland, are remedies but not poisons, and it is certainly not among the least of their recommendations that we can seldom or never do harm by their use.⁵ It is scarcely necessary to suggest that, with such an explanation of the term, the acceptance of mercury as a tonic would lead to mischievous results. The acceptance of mercury as a tonic is based upon grounds no more tenable than those which are advanced to prove its power as a specific or as an antidote: the manner of this action is accepted as a mystery, independent of any supposition even of the nature of syphilis, and equally independent of any demonstrable property which mercury is known to possess.

Given in diseases not syphilitic, but characterized by the exudation of plastic lymph,—as in inflammation of serous membranes,—mercury acts as a solvent. Its influence in preventing organization of the plastic material, as well as in breaking up and removing it, apart from any syphilitic complication, is distinctly recognized and appreciated. This it is well understood occurs through the tissue metamorphosis or fatty degeneration, especially of new cell or tissue formations, which mercury is recognized as the most efficient agent in promoting; likewise aiding in the elimination of the products of such metamorphosis through the increased action of the mucous, lymphatic, and salivary glands, which its influence is known to effect.⁶ The action of mercury upon the various systems of glands can only be explained by attributing it to its highly diffusible and peculiar irritant properties, always positively recognized when this remedy is pushed to the least degree beyond a point of healthy stimulation. In just what this stimulation consists, lacking

³ Text-Book on Physiology, London, 1880, page 37.

⁴ Keyes on Syphilis, Wood & Co., New York, page 117.

⁵ Headland, on the Action of Medicines, London, 1867, page 161.

⁶ Probably mercury acts upon the lymphatic system directly, standing in that respect next to iodine. But mercury has another action with which we are acquainted, which on the removal of such growths is most important; and that is its destructive action upon new growths. John Hunter, of old, taught "that mercury acted upon abnormal and diseased parts with much energy, while it affected but little the healthy structures." Fothergill says, "There is a great deal in this, really, and actually; mercury does break down such growths, and the detritus is removed by the lymphatics." Fothergill's Principles of Therapeutics, Am. ed., 1877, page 449.

¹ Under such circumstances, according to the analyses of Dr. Wright, the blood is also materially changed; "the fibrin, albumen, and red globules are diminished in amount, and very fetid fatty matter is present in large quantity." Headland on the Action of Medicines, London, 1867, page 382.

² Headland, page 376.

the results of scientific investigation on this point, we are not able now to state. There is, however, good reason to suppose that this stimulation is due to the *corrosive* power of mercury, which produces rapid destruction of living tissue subjected to any soluble concentrated form of this mineral, and which produces irritation of the skin and mucous membranes in less concentrated solution,—which decreases in proportion as the strength of the solution is diminished, until it serves simply to stimulate the mucous surface in contact with it to slightly increased secretion. There is good reason, also, to suppose that the effect of the mercury absorbed into the system acts in precisely the same manner as when applied locally to parts within reach of observation, namely, to stimulate up to a certain point, and when the mercurial influence is increased beyond that point, to produce death of tissue: first of the weaker newly formed tissues, or any imperfectly formed tissue, or cell material; and then, if in increased strength, to destroy normal healthy cell material and tissue. We know, from an extended clinical experience, that mercury introduced into the system, in quantity so small as not to interfere in the least appreciable degree with the processes of healthy growth and nutrition, is yet capable of bringing about the death and fatty degeneration of new cell and tissue materials distributed throughout the system. We know, furthermore, that this effect is not produced through any antidotal or specific or tonic property which it possesses in its relations to syphilitic disease, but that it is produced through the power which mercury is known to possess of effecting the death of new cell and tissue formations, when brought into contact with them in its soluble forms. If, now, it can be shown that there is anything more of syphilitic disease than new cell and tissue formations,—anything more than imperfect and superfluous cell and tissue material; in other words, if there is any substance *sui generis* which constitutes the so-called syphilitic virus; then it may perhaps be claimed that mercury acts upon that substance or virus, or whatever it may prove to be, as an antidote or a specific or a tonic; but no such substance has yet been found. Until, therefore, such substance has been practically demonstrated, the cure of syphilis, through the action of mercurials, must be attributed to properties which mercurials are known to possess, acting upon materials which have been scientifically proven to exist, and which, moreover, have been shown to be sufficient in kind and in degree, to produce all the recognized lesions and manifestations of syphilis, during the active period of the disease.

In consideration of the foregoing views and facts it may then be said that whether the presenting trouble is a well-marked initial lesion, with enlarged lymphatic glands in connection with it alone, or whether the initial lesion has disappeared, and there are only a few mucous patches in the mouth; or if there is a papular eruption alone, or an *iritis*, or an *alopecia*,—whether these are present singly or all together, in the same case,—the treatment is the same, and must be continued until all have disappeared, and the enlarged lymphatic glands in the groin, in the cervical regions, in the epitrochlear spaces, are reduced to their normal dimensions; then, and only then, unless through some idiosyncrasy tolerance of the remedy has not been secured, is it considered warrantable to discontinue the treatment.

Again I call your attention to the fact, that this

treatment is now virtually approved and recommended by all accepted authorities, as a result of clinical experience. Forms of mercury may vary, modes of introduction may differ, but the acknowledged object of treatment is to continue a mercurial impression until all traces of the disease have disappeared. The last traces of the disease are seen in the continued enlargement of the lymphatic glands,—an enlargement demonstrated to consist of the tangible cells and tissue elements, which have caused and characterized all the recognized lesions of the active stage of syphilis. These glands being restored to their original normal condition, the disease has no longer recognized existence. The whole aim of the treatment, at least the whole force of it, has been to promote tissue metamorphosis, to induce fatty degeneration and elimination of recognized obstructive material. What becomes of the virus during this time? What evidences have we seen of the antidotal power of mercury independently of its capacity to induce tissue metamorphosis? With just as much reason might we admit a claim that its effect in producing the solution of a plastic effusion in pleurisy was from its power as an antidote to pleurisy, as that the same effect is evidence that it acts by breaking up and removing the obstructions in the tissues during syphilis, as an antidote to the syphilitic virus.

The highest type of treatment, then, during the active period of syphilis, in accordance with the material views advanced in these lectures, would be such an administration of mercury, or any other agent capable of producing or hastening tissue metamorphosis, as will act efficiently upon the unhealthy cell and tissue formations producing syphilis, and at the same time fall short of any unfavorable effect upon the healthy fluids or structures of the affected organism: this accords fully with the results obtained by clinical observation, and as cases present from time to time during the present college term, I hope to have an opportunity of demonstrating the soundness of this plan, and of giving you a practical knowledge of the characteristics of the various phases of the active period of the disease, and of the varied forms and modes of administration of remedial measures best adapted to their cure.

(To be concluded.)

Original Articles.

UTERINE MASSAGE AS A MEANS OF TREATING CERTAIN FORMS OF ENLARGEMENT OF THE UTERUS.¹

BY A. REEVES JACKSON, A. M., M. D., CHICAGO, ILL.

No one can be long engaged in treating the special diseases of women without noticing the very great frequency with which enlargement of the uterus is found as one of the conditions present in patients whose symptoms point to the generative organs as the seat of disorder. In order to ascertain the exact proportion in which it occurs, I some time ago consulted a record based upon observations of 277 gynecological cases, occurring in hospital and private practice, and obtained the following result: Of this number, the uterus was enlarged in 194,—that is, 70.36 per cent. In eleven of the cases the enlargement was ascribed to the presence of uterine polyp and fibromata; in two to sarcoma; and two to carcinoma. Deducting these fif-

¹ Read before the American Gynecological Society.

teen from the entire number, we have still left 179, or 64.60 per cent, due to other causes. These were denominated, respectively, subinvolution, hypertrophy, hyperplasia, chronic metritis, and simple enlargement. I have recorded more or less completely the treatment which was pursued in these cases. There was a good deal of variety about it. It comprised almost everything that anybody has ever advised for the purpose, — the application of alterative, astringent, and caustic substances to every accessible part of the uterus, scarifications, blistering, electricity, pessaries of many patterns, abdominal supporters, the hot-water douche, etc., together with such general treatment as seemed appropriate. Under the head of "Result of Treatment," the statements are meagre; some of the cases are marked "Improved," but in regard to many of them absolutely nothing is recorded. A few of them were cured, — that is, the enlargement was diminished; for, failing by other means, I cut part of the uterus off. This is the quickest method I have found for reducing the size of the organ.

Others, as well as myself, have failed in treating these cases successfully by other means than amputation. For example, Thomas¹ says: "The prognosis in hyperplasia of the entire uterus, or of the body alone, is unfavorable with regard to complete cure." Likewise Scanzoni,² who says: "When the affection is become inveterate, and the organization of effused matters in the parenchyma is already considerably advanced, we must renounce the hope of obtaining a complete cure." Atthill, too, says: "Treatment seems utterly powerless to relieve the sufferings produced by simple hypertrophy of the uterus. It is, indeed, a nearly hopeless ailment, — one not likely to destroy life, but to render it a burden."

The late Dr. Washington L. Atlee once told me that when patients asked him the question, so frequently (and so vainly) asked by them, "How long will it take to cure me?" he was in the habit of replying, "Two years." He then explained that this response usually so discouraged the questioner that he got rid of treating an unsatisfactory disease; and if it did not have this effect, he then felt assured that he had an earnest patient, one who would be likely to aid him properly and persistently in his efforts for her relief.

Really I know of no writer who speaks hopefully of the prognosis in cases of enlarged uterus; and, for myself, I feel convinced that, excluding malignant diseases, they are, if not the most incurable, at least the most seldom cured of any with which we have to contend.

I do not expect that anything I may say or do will affect this general and just verdict; but, inasmuch as I have obtained encouraging results in some cases of this character by the use of certain manipulative processes, — pressure, friction, squeezing, — to which the term massage has been applied, I deem it proper to submit these results for your consideration.

For the purposes of this paper, I do not need to discuss the pathological questions involved in the subject of enlargement of the uterus. Indeed, these questions scarcely admit of so much debate as formerly. By almost common consent, modern investigators have abandoned the term inflammation as unsuitable for characterizing the condition under consideration; and,

although there still exists among them a difference of opinion as to what name should be substituted for the time-honored one which they have discarded, the want of agreement hardly goes beyond this. All concur in the belief that the enlargement may be referred to one or more of the following causes: —

- (1.) Prolongation of the catamenial congestion; which prolongation, by shortening the intervening period, and finally preventing the uterus from returning at all to its non-menstrual state, becomes permanent.
- (2.) Imperfect post-puerperal involution.
- (3.) The stimulus produced by the presence of neoplasms developed in the walls or cavity of the uterus.
- (4.) Distortions and displacements of the uterus.
- (5.) Perimetritic inflammatory exudations.
- (6.) Insufficiency of cardiac action, and diseases of the liver and other abdominal organs.

With equal unanimity it is conceded that all of these causal conditions act in a similar manner; that all of them form an obstruction to the venous return circulation; and that, by reason of the persistent hyperemia thus induced, there occurs a perversion of the local nutritive processes, terminating in increase of bulk, structural change, and exalted sensibility. So that, whether we name the gross fact — the enlargement — subinvolution, hypertrophy, or hyperplasia, we have essentially the same pathological condition to deal with.

In view of what I have further to say, it is important to remember that there are two stages of this chronic enlargement of the uterus.

The first is that in which the veins and sinuses of the organ are gorged with blood, which is to a certain extent stagnant. This stage is characterized by an increased growth of the connective tissue. In consequence of the turgidity and enlargement of the vessels and the presence of the freshly-formed connective tissue, the walls of the organ are soft and yielding.

After a transitional period of indefinite length, the second stage is reached. Here, owing to a contraction of the new and profuse growth of connective tissue, the blood-vessels are compressed, their calibre lessened, and the whole organ is reduced in size and becomes indurated. This, which is usually regarded as an advanced stage of the disease, should be considered the cure, — as much so as the ankylosis and cessation of activity in morbus coxaricus — a cure effected by natural conservative forces, and the only one which usually does or can occur, either by natural or artificial means. After the stage of induration has been completed I believe that no appreciable diminution of size ever takes place, unless as the result of atrophic involution succeeding the menopause, or by ablation. Hence, all our curative efforts should be directed to shortening the length and lessening the degree of the first stage, — that of hyperemia proper, — and so diminishing the amount of new and undue tissue-growth. It is, in fact, only during this stage that any of the remedies employed in the treatment of enlarged uterus are effectual; they all act by lessening vascular fullness, and just in proportion as they have power to do this are they efficient. It is only on this hypothesis that we can explain the action of ergot, hot water, local stimulants, etc.

The remedy to which I desire to call attention acts, I believe, in the same manner, and may be used in conjunction with those already mentioned. But, while I am disposed to regard it as more efficient than any

¹ Diseases of Women, 4th edition, page 296.

² Diseases of Females, page 185.

other single means with which I am acquainted, I have to confess that the class of cases in which it is applicable is limited. Not only are all cases of uterine enlargement not amenable to its curative influence, but in some it might be found positively injurious. Much judgment and tact are therefore necessary in the selection of suitable cases for its employment.

SYMPTOMS.—Enlargement of the uterus is rarely found alone. It is either preceded or followed by disorders of other organs, near or remote; disorders of structural, functional, or positional character; or, it may be, a combination of all these. Hence, the varied and multiform character of the symptoms which are found accompanying cases of this kind. Indeed, it is rather uncertain what symptoms are really dependent upon the enlargement alone; for we know that the uterus may be very greatly enlarged, provided the increase of size be unattended with abnormal change of structure or shape, and yet be wholly unproductive of discomfort. This fact we see verified constantly in the enlargement of pregnancy; and I know a woman whose case will be fully detailed further on, and who has the longest uterus I have ever seen,—the enlargement being dependent upon simple hypertrophy,—and yet a woman who is, so far as she herself can discover, perfectly well in every respect. We must therefore regard the symptoms present in any given case as caused by: (1) some change either in the structure or shape (flexion) of the uterus itself, whereby its circulation and innervation are interlarded with; (2) displacement (retroversion, anteversion, prolapsus), causing it to drag or press injuriously upon neighboring organs or tissues; or (3) reflex influences upon more distant parts of the body.

Under the first of these divisions may be classed various painful sensations located in the uterus itself, menstrual derangements, leucorrhœa, sterility, dyspareunia, pruritis vulvæ, etc. Under the second we have pelvic, abdominal, dorsal, and inguinal pains, and a sensation of painful character, to which the term dragging is applied; likewise irritability of the bladder, painful or difficult defecation. These symptoms are all aggravated by the upright posture, walking, riding, or the approach of a menstrual period; and usually they are still further intensified during the first day or two of the flow. To the third class may be referred the lassitude, debility, anemia, defective nutrition, headache, etc., which are so commonly present.

DIAGNOSIS.—I do not intend, under this head, to refer to the points of difference between hypertrophy of the uterus and other conditions which might be mistaken for it. I merely desire to indicate the kind of cases in which I would expect to find pelvic massage a suitable and useful remedy. This would be determined by the state of the parts as found on physical examination. If by such examination the uterus be found low down in the pelvis, enlarged, tender, spongy, having a doughy elasticity resembling its state during pregnancy, these conditions would show that the hyperæmic stage had not been passed, and that massage would be expedient unless contra-indicated by other circumstances. In this stage the organ is frequently found antverted or retroverted,—more commonly the latter. When the enlargement affects the body alone, flexion is frequent, owing to top-heaviness; when the entire organ—body and cervix—are involved, flexion is more rare. These displacements and distortions do not preclude massage. But if the stage of hyperæmia

be passed, and that of induration have succeeded, the uterus—still occupying a low position, and still displaced or distorted—will be found to have lost wholly or in part its tenderness, its spongy feel, and to have become firm and hard like cartilage. It will be reduced in size also, although not to its normal bulk, and sometimes will be found almost globular in shape, like a billiard ball. When this stage has been reached, massage—and as I believe, all other remedies—will be found useless.

MODE OF PERFORMING UTERINE MASSAGE.—This may be done by three different methods: (1) through the abdominal walls; (2) through the abdominal walls and vagina; and (3) through the abdominal walls and rectum.

(1.) *Abdominal Massage.*—When the enlarged uterus can be felt sufficiently above the pubes to enable any part of its walls or fundus to be grasped between the fingers, very efficient massage may be done without invading the vagina; and this method should be preferred in all such cases, provided the vagina is small or unduly tender. The bladder being previously emptied, the patient should be on her back upon a table or hard, unyielding mattress or lounge. The operator then, using both hands, commences by picking up and rolling between the thumb and fingers portions of the skin and other superficial tissues. The entire abdominal surface, as high as the umbilicus, is thus manipulated. The process is then repeated; the deeper tissues being this time taken up and pressed between the fingers, gradually increasing force being employed. These pinchings are alternated with rubbings of the surface with the palms of the outspread hands and the points of the fingers. After five or ten minutes have been spent in this manner, the fingers are sunk deeper into the hypogastric and ovarian regions, and the uterus—so much of it as can be reached—is brought between their tips. The organ is then alternately squeezed and relaxed and rolled between the fingers in every possible direction for twenty or thirty minutes, or until the patient becomes weary.

All the foregoing processes must be performed in the gentlest possible manner, all increase of force employed being so gradual as to be almost imperceptible.

In whatever manner the massage is employed, this preliminary manipulation of the abdominal walls is advisable, and sometimes indispensable; for in many cases the pains and discomfort complained of by patients who have enlargement of the uterus, and which are likely to be referred by them to that organ, really have their seat in the walls of the abdomen, and unless these latter become accustomed to the massage—which almost invariably lessens their sensitiveness—it would be impossible to act effectively upon the uterus beneath. I have no doubt upon this point; for in some instances several days have elapsed before the tenderness of the abdominal walls could be overcome; yet this having at last been accomplished, the uterus could be grasped and firmly pressed without causing any great amount of discomfort.

As already stated, this form of massage can only be used advantageously in the few cases in which the uterus rises considerably above the pelvic brim. Where it has not attained so great a size it cannot be reached in this manner, and the abdomino-vaginal method must be used.

(2.) *Abdomino-Vaginal Massage.*—This is performed

by passing the first and second fingers of one hand into the vagina, and placing the fingers of the other hand above the fundus uteri in the hypogastrium. A single finger in the vagina is not sufficient; it cannot be introduced so far as two, and is also not so useful for making pressure or counter-pressure.

The fingers should be passed first into the space behind the vaginal portion, which is pulled gently forward, and then permitted to return to its former position. This is repeated a half dozen or more times, when the fingers are pushed higher up, so as to reach the supra-vaginal portion of the cervix and lower part of the body. The upper part of the uterus being now steadied by the hand on the outside, it is pressed between the fingers of both hands, repeatedly, for a few seconds at a time, and then relaxed. Every portion of the organ which can be reached should be subjected to these momentary squeezings. Then the manipulations should be reversed. The intra-vaginal fingers should be drawn in front of the cervix, and the latter pushed backwards several times as far as possible short of causing pain. Then, their ends being passed into the space between the bladder and cervix, and their pulps turned against the latter, the fingers of the outside hand should be so adapted that the uterine body may again be brought between the compressing forces, when the squeezings and imparted movements are to be repeated as before. Alternating with the processes described, the uterus should be frequently elevated in the pelvis and held for a few seconds.

The entire procedure should occupy from ten to thirty minutes, according to the sensitiveness of the pelvic structures and the degree of tolerance on the part of the patient. It is better not to attempt too much at one time, or we may, by producing pain in, or aggravating tenderness of the parts, find ourselves obliged to suspend the treatment for some days, and thereby lose time.

(3.) *Abdomino-Rectal Massage.*—This is, unfortunately, the least available of all the forms of uterine manipulation. I say unfortunately, because, owing to the greater ease with which the uterine body can be reached through the rectum than by the vagina, pressure movements by this method would be much more useful. But here, too, as in the vagina, one finger does not present sufficient surface, and the introduction of two fingers causes too much pain. Indeed, the daily introduction of a single finger into the rectum is likely to be followed by irritability of the part. Hence, this form of massage, if expedient at all,—which I greatly doubt,—must be confined to a small class of exceptional cases, in which the vagina is so small or so tender as to make it entirely unavailable for the purpose.

History and Modus Operandi.—Massage is not a new remedy; in some of its forms it is as old as surgery itself. But it had well-nigh sunk into utter obscurity, when, a few years since, its use was revived by Dr. Mezger, of Amsterdam, who soon became renowned for his success with it in the treatment of various chronic conditions of the muscles, bones, and joints. This example was followed by some of the Continental surgeons, and in a short time the remedy was receiving all the attention it deserved,—and possibly more. But just as persons sometimes are made to suffer through the over-kind offices of their friends, so a remedy, though possessing real merit, is occasionally derided or allowed to fall into desuetude, because it does

not fulfill the extravagant expectations which have been raised by enthusiastic and injudicious experimenters. This has been the case to some degree with massage. Many persons who had given it a trial, and who have failed to achieve by its use the brilliant results of Mezger in Europe, in a certain class of cases, or of Mitchell in our own country, in another class, seem unwilling to accord it any virtues whatever. These objectors forget, or overlook, the fact, that in the case of the persons named the remedy was only one of several that were conjointly employed to produce the curative effect; and the other equally important fact, that they both possess a degree of personal so-called magnetism which does not fall to the lot of many men, and by which they are enabled to command all those psychical aids on the part of their patients which are sometimes quite as essential in the cure of disease as are remedies of a more material character. But, after due allowance has been made for these facts, there can be no reasonable doubt of the efficacy of massage as a remedy in certain conditions. We know that a mass of blood effused beneath the skin as the result of external violence may be made to disperse by means of kneading and pressure. The same may be done with infiltrations of serum and semi-organized new formations. In each of these cases the process is the same. The exudations are resorbed by permeable lymphatics, which are active and capable of performing this function just in proportion to the energy of the circulation in the neighboring blood-vessels, especially the small veins. In hypertrophy of the uterus—at least prior to the stage of induration—there is an undue supply of blood to the organ, and owing to some impediment to its return it remains there in larger than normal quantity; this is equally the cause of the enlargement, whether it act by producing increase of one textural element or another. Hence, any remedy, to be efficient, must either remove the impediment to the outflow of blood from the uterus, or must force it out, notwithstanding the impediment. The indications are to lessen the undue and partially stagnant supply of blood; to overcome the stasis; to promote resorption of the excess of tissue. The habitual hyperæmia—the foundation fact—must be removed, and its recurrence prevented. What can be more likely to effect these objects than the movements, frictions, pressures, and kneadings which are comprised in the term massage? And experience has not failed to justify the expectations which so reasonably come from a consideration of the action of this method of treatment.

In order to illustrate the effect of uterine massage, I have selected a few cases in which its beneficial agency has seemed most marked. In several others the improvement has not been either so great or so rapid; while, in still others, where the uterus was hard as well as enlarged, no perceptible change occurred.

CASE I. Anna E., a German woman, thirty-seven years of age, had been married seventeen years. She had four children, the youngest being six years old. She had in addition two abortions, both at about three months. She dated the commencement of her illness back to the first of these,—about three years ago. After its occurrence she was obliged to quit her bed on the second day and undertake a journey, which lasted several days, on cars and stage. For seven or eight weeks she had a continuous bloody discharge, accompanied by a sense of weight and dragging in the pelvis, backache, and profuse leucorrhœa. Menstrua-

tion became abundant, and recurred at shortened intervals. However, under rest and treatment, the symptoms improved somewhat, and at the end of a year she again became pregnant, had another abortion, and this was followed by an exacerbation of all the former troubles. I first saw her seven months after the date of the last miscarriage, during a very profuse menstrual flow, which lasted ten days. When it ceased I made careful investigation of the pelvic organs. I found the uterus large, soft, retroverted, and tender, — the tenderness being especially marked at the lower portion. The vaginal walls were turgid, relaxed, and corrugated, the anterior being easily forced through the vulva by the voluntary efforts of the patient. A laceration of the left side of the os uteri extended to the vaginal junction, permitting a slight degree of eversion of the cervical lining membrane. A sound indicated a depth of three and a half inches. The uterus was readily restored to its normal shape and position, which, however, were only maintained while the organ was held by the instrument. I do not remember to have ever seen such soft and flabby uterine walls; and I felt obliged to use the sound with the utmost care, lest I might find its end going through the fundus.

I gave ergot and hot-water injections. Subsequently she wore large cotton pessaries saturated with solution of alum in glycerine. This latter device gave her much relief. She also took quinine and strychnia. At the end of six weeks there appeared to be a slight reduction in the size of the uterus, — perhaps a quarter of an inch in the depth of the cavity. The tenderness seemed likewise lessened, although still the subject of much complaint.

I now determined to try the effect of massage, and omit all other local means. It was commenced October 18th, and used daily, — at first fifteen minutes at a time, and gradually increased to forty-five minutes. On December 1st the uterus measured two and seven eighths inches, was firm in texture, and so free from tenderness that it could be moved in any direction without discomfort.

The vesicocele was so annoying, however, that I subsequently retrenched the anterior vaginal wall for its relief.

CASE II. Mrs. H., thirty-two years old, consulted me in the spring of 1879. She had first menstruated at fourteen, had become regular at once, and the function had never shown any peculiarity or abnormal condition. She had been married six years, and had never been pregnant. Two years after marriage she noticed a leucorrhœal discharge, found herself getting weak and tiring easily, and intercourse became painful. A physician who examined her at that time found the uterus enlarged, and expressed the fear that it might be the site of a fibrous tumor.

At the time of my consultation with the patient she was pale, but quite stout from abundance of adipose tissue. She complained of headache, constipation, leucorrhœa, and pelvic pain and pressure. I found the uterus greatly enlarged, and so regular in outline that I at once considered the patient pregnant, although no positive signs of that condition were discovered. The fundus could be felt at a point one inch above the navel, and the organ was inclined to the left side. I did not advise any treatment beyond the use of an abdominal supporter, feeling quite sure that time would demonstrate the existence of pregnancy, notwithstanding the assurance of the patient — a very intelligent

lady — that my suspicions were groundless, and that she had menstruated regularly, although scantily.

At the expiration of six weeks, finding no increase in size or other change in the condition of the uterus, and having satisfied myself that the patient had menstruated twice, I ventured to introduce a sound, which, passing without difficulty and in a direction somewhat to the left of the median line, marked a depth of five and a half inches.

The organ, as at the former examination, was soft, smooth, and regular in outline, and tender in every part. The singular and puzzling feature of the case was the entire want of evident cause for such unusually great enlargement.

In the way of treatment, I tried hot vaginal injections, ergot, and weekly scarifications of the cervix. The ergot had to be abandoned after a fortnight, on account of its producing headache and disorder of the stomach, both of which ceased on the discontinuance of the drug. I replaced it by the use of massage. This was first used April 3d, and continued daily until the 18th, when a menstrual period set in and lasted three days, interrupting the treatment. The manipulations, although performed in the gentlest manner, were at first attended by so much pain that they could only be used for four or five minutes, but, after nine or ten days, they could be continued to fifteen and twenty minutes.

Massage was resumed on the 23d, and from this time onward was the only remedy used. It was continued daily, with only three or four interruptions, until May 16th, when menstruation again occurred. The period ceased after three days, and on the 20th I introduced a sound which entered to the depth of four and a quarter inches. The fundus uteri was now about one and a half inches below the umbilicus. The subsequent improvement was neither so great nor so rapid. During the following two months the uterus continued to diminish slowly, but after that time, during the subsequent month, I could not feel sure that any further change took place. On August 8th, the sound entered nearly four inches; and the fundus could still be felt two inches above the symphysis pubis.

Now, notwithstanding the presence of this enlargement, the health of the patient is perfectly good; menstruation is normal; she has no leucorrhœa, no pelvic pain or tenderness, and no vesical or rectal disturbance.

CASE III. L. M., forty-one years of age, was an out-patient of the Woman's Hospital of the State of Illinois. Menstruation first appeared at fourteen, and became regular six months thereafter. The discharge was always attended with pain, which commenced two or three days prior to the appearance of the flow, and continued until the latter was fully established. She was married at twenty-two, had one child eighteen months afterwards, and had been a widow fifteen years.

Three years before consultation she had an attack of sickness resulting from the introduction of a sponge tent for the purpose of inducing an abortion; the patient supposing at the time that she was unlawfully pregnant. After an illness of more than two months' duration menstruation became more profuse, and she had occasional attacks of metrorrhagia. She had leucorrhœa of brownish color, sometimes fetid.

I found her pale, feeble, and exceedingly nervous. The uterus was large, tender, and drawn to the left side. Its normal motility was much lessened. The

os uteri was felt low down in the pelvis, while the fundus reached as high as the level of the upper edge of the pubes. It seemed enlarged fully one third above normal size. By the rectum the enlargement was found to affect especially the posterior wall, giving the impression of the presence of an intra-mural fibroma, which I concluded she had, although I did not verify this opinion by the introduction of the sound, the use of which I refrained from because of the great tenderness of the parts.

After some preliminary measures, I advised the use of massage, the performance of which was intrusted to the resident physician. From the latter I received occasional reports of the progress of the case, but had no opportunity of examining the patient personally for nearly seven months. All treatment had then been suspended for more than two months. Massage had been used three to four times a week for nearly the whole time.

I found the uterus greatly reduced in size and of normal shape; likewise the ridge of cellular inflammatory exudation had wholly disappeared. Menstruation had become regular and of proper amount. The sound, which was now introduced without causing pain, showed the length of the uterine cavity to be three inches.

As already intimated, the foregoing cases have been selected for the purpose of presenting the *best* results which have been obtained by pelvic massage in certain cases. They do not represent the average of success which may be expected,—an average which, from what we know of the nature of the chronic parenchymatous diseases of the uterus, must always be low.

There are a good many cases of enlarged womb, in which I would not expect any treatment to be beneficial, so far as regards diminution of size. The class containing the largest number of these, namely, those in which the stage of induration has been reached, has been already referred to. But there is another class, also very large, in which the hyperplasia depends upon some local condition outside of the uterus itself; for example, inflammatory exudations in the pelvic cellular tissue. The existence of these is always to be suspected when the uterus is found drawn to one or other side (latero-version or latero-flexion). In these cases the broad ligament of that side is likely to be shortened, thickened, and tender,—conditions much more readily detected by rectal than by vaginal examination. Hence, the rectal touch should never be omitted in the investigation of these cases.

Inasmuch as the uterus depends, both for its blood supply and depletion, upon vessels which pass through the pelvic cellular tissue, it is obvious that any obstruction in the latter must result in congestion of the former. Therefore, when spots of undue tenderness, or indurated bands drawing or fixing the uterus in malposition, or ridge-like deposits of inelastic tissue, are found in the immediate vicinity of the uterus, and the latter is at the same time enlarged and tender, we may feel quite confident that the excess of uterine bulk will remain so long as the surrounding hardness continues; and that this latter must be removed by appropriate means before any material improvement can be effected in the size of the uterus.

RECENT PROGRESS IN THERAPEUTICS.¹

BY ROBERT AMORY, M. D., HARV.

THE ANTIFEBRILE EFFECTS OF COLD ENEMATA.²

THE following conclusions from fifty observations in Professor Manassés's clinical wards are deduced.

Cold clysters form a practical means of reducing temperature, the influence of which continues for a considerable time. After clysters at 10° C. the temperature scarcely attains its former height in the axilla for from thirty to forty minutes, in the hypogastrium after an hour, and in the rectum after an hour and a half. With clysters at 5° C. the cooling in the axilla lasts for forty or fifty minutes, but in the hypogastrium and rectum it lasts a longer time than when water at 10° C. is used; so that the prior high temperature has never been observed to be regained, within the interval of two to two and a half hours. The clysters at 10° C. are well borne in all cases, sometimes leaving behind them a pleasant sense of coolness extending over the whole body. Those at 5° C. are by some just as well borne, but in others they induce unpleasant sensations in the abdomen. In recurrent fever even shivering may be produced. The depression of temperature is more considerable in cases of fever than in non-febrile affections or in health. Not only is the temperature diminished, but so also is the rate of the pulse, and the number of respirations, to a slight extent. The greatest reduction of temperature takes place in the rectum, next in the hypogastrium, and least in the axilla. Cold clysters remove the accumulations of fecal masses which so frequently occur in fevers, as also intestinal gases which cause meteorism. Thus the movements of the diaphragm are less constrained. Stools follow the use of the clysters at different times in different individuals, the time varying from a quarter of a minute to two minutes and a half. There can be no doubt that when a clyster is also indicated in non-febrile cases, the cold clyster should be preferred to the warm in all those cases in which, besides emptying the intestine, it is desired to produce a tonic effect on the canal, or to diminish the amount of blood in the pelvic organs. The reporter is led by his own experience to draw a different conclusion. It is highly probable that the use of cold enemata induces, if it does not exaggerate, a catarrhal condition of the rectal mucous membrane, and the reaction after cold enemata induces congestion, whilst the reaction from hot enemata induces local anemia.

CARBOLIC ACID.

Binnendick,³ recounting the toxicological effects of this therapeutic agent, concludes that carbolic acid is a poison, acting directly upon the cerebro-spinal centres as a primary excitant, and secondarily as a paralyzant. Though this substance does not appear to alter the condition of the blood in circulation, yet sometimes hæmoglobin may be detected in the urine after the poisonous effects have been produced.

The toxic effects of the drug are developed very soon after its administration, but will disappear before the whole dose has been eliminated from the system; in one case complete elimination was observed by him

¹ Continued from page 271. We are pleased to acknowledge the receipt of Professor Rutherford's complete work on hepatic stimulants referred to in the first part of this report. This memoir is published by Black at Edinburgh, and is entitled, *Action of Drugs on Secretion of Bile*.

² St. Petersburg, Med. Week., June 14, 1879. Practitioner, September, 1879.

³ Le Progrès Medical, October 4, 1879.

to have occurred twelve hours after its ingestion. Apparently carbolic acid is converted in the system into complex sulphuric ethers of phenol, hydroquinon, and pyrocatechin, which are not so poisonous as carbolic acid. When mixed with glycerin and given to rabbits the poisonous effects are diminished, though the reasons for this are not clear.

ON ALKALINE TREATMENT IN GLYCOSURIA.

Dr. Coignard¹ reports the results of some experiments he made which consisted of irrigation of radishes with alkaline waters, as also the effects of planting other specimens in a soil saturated with an alkali. He refers also to some experiments conducted by Dr. Martin-Damonnette, in 1854. In these some plants were watered with ammoniacal urine, and others were sprinkled with wet wood ashes. In all the experiments, with the exception of a few in which the alkaline irrigant was very feeble, the amount of glucose obtained from plants watered with the alkaline irrigation was very much diminished, if this amount was compared with that obtained from plants exposed to rain-water irrigation, but otherwise subjected to similar treatment of air, sunlight, and soil. Comparing the effects on vegetable life with the effects of an alkaline treatment of patients afflicted with diabetes mellitus, the results are rather striking. Some of these patients were restricted in their diet to starch foods, and others to food without starch; yet in all these cases the amount of glucose obtained from the urine steadily diminished, and, except when the alkaline treatment was pushed too far, the patients improved in general health, and their desire for drink was very much reduced.

Mr. Cornillon,² of Vichy, in commenting upon the treatment of glycosuria, has written quite an elaborate essay based upon his observation of patients resident at the Vichy springs. The result of his observations may be stated in brief as follows: In simple glycosuria, uncomplicated with pulmonary disease, the treatment by Vichy as well as by other alkaline waters, especially when combined with alkaline baths, will reduce very materially the amount of glucose passed in the urine, and the constitutional symptoms of emaciation, thirst, dry skin, etc., will be ameliorated. The improvement begins on the fourth or fifth day, and in his longest and most severe case was consummated on the thirtieth day from the commencement of the alkaline treatment. The restless nights observed in these diabetic patients were replaced by calm and natural sleep. The urine, which before this treatment was acid and pale, became alkaline, and presented a darker shade of color. The peculiar aromatic sweet odor of the urine and sexual impotency slowly but generally disappeared, but not for months, or in some few cases years, after the institution of the alkaline treatment. But in those cases where the diabetes is coincident with phthisical disease, though the symptoms of diabetes in the urine may disappear, yet the pulmonary disease itself may progress to a fatal issue; M. Cornillon believes that even in these cases the alkaline treatment is not contra-indicated, for extension of the active pulmonary disease does not appear to follow its use, unless it had previously existed in a very severe form. He discusses the important question as to whether the patients are so much improved by the alkaline treatment that the

amelioration may be called permanent. Many of his recorded cases would seem to indicate that the cure is permanent, yet as the result of his experience he would advise the continuance of alkaline treatment long after the patients have left the spring apparently free from active symptoms of glycosuria. In this connection the reporter calls to his remembrance the history of two cases of glycosuria occurring in his practice, which were kept under a prolonged treatment of Carlsbad water and tincture of the sesquichloride of iron, with a restriction from non-starchy foods. The treatment was begun three years ago, and had been interrupted for the past eighteen months. At the present time, though the restrictive diet and medicinal treatment is not in force, yet there has been no reappearance of glycosuria nor of the constitutional symptoms incident to diabetes. These symptoms were so marked at the outset of the treatment as to lead directly to the diagnosis before the urine was examined. In one of these cases the urine had the high specific gravity of 1042, but is now reduced to 1026.

BENZOATE OF SODA.

M. J. Bex, in the *Revue des Sciences Médicales*, Juillet, 1880, discusses the action of this remedy from analysis of the papers mentioned below.³

The use of this remedy was instituted by Schueler, of Greifswald, who performed tracheotomy on animals, and then projected through this wound either tuberculous matters or organic germs cultivated after the method of Klebs. All these animals became emaciated and died; after death there was found a generalized miliary tuberculosis in their lungs. Yet those animals who were treated similarly and afterwards subjected to the use of benzoated soda inhalations did not die. Schueler used a dose varying from fifty centigrammes to one gramme for each kilogramme of the animal's weight. He suggested the use of this remedy in men having phthisis, and advised its continuance for several months. At Innsbruck the inhalation of this remedy was practiced on fifteen tuberculous patients in the strength of fifty grammes in a five per cent. aqueous solution, or in one thousand grammes of water. Three of these cases were almost moribund; but at the close of a few weeks they were discharged from the hospital cured, as also were the remaining twelve patients.

We have the authority of Klebs for the statement that the use of this agent by inhalations, or applied topically and combined with its internal administration in doses of twenty or thirty grammes (five and a half to seven drachms), always causes a permanent abatement of the fever in phthisis, a marked increase in the weight of these patients, and a cessation of the catarrhal symptoms; but during the session of the society at Prague this view was vigorously opposed by Halla.

At Berlin the therapeutical effects of this drug were brought into discussion, resulting from the reading of a critical essay by Guttman. He followed the same method of experimentation practiced by Rokitsansky, but arrived at results directly contrary to those of this latter observer, namely, that the benzoate of soda in

¹ Journal de Thérapeutique, No. 21, 1879.

² Le Progrès Médical, December 29 and 27, 1879, and January 3, 1880.

³ Zur Behandlung der Tuberculose, Max Schueler, in Berliner klinische Wochenschrift, November 10, 1879. Ueber Inhalationen von benzoensaurem Natrium bei Lungenschwindsucht, Paul Guttman, Soc. med. Berlin, November 5, 1879. Discussion of said paper by Fraenkel, Senator, Wolff, Steinauer, Fritzsche, Baginsky, Waldenburg, Hardschlag, idem, Nos. 49 and 51, December 8 and 22, 1879. Ueber Anwendung und Wirkung des Natrium-benzoatum bei Phthisie, Wenzel, Ibidem, December 8, 1879. Discussion a la Société de Prague, Klebs, Halle, February 9, 1880.

stead of curing pulmonary phthisis, has no effect upon any of the symptoms, functional or physical, of the disease, and this opinion was verified at the autopsy of nine patients who had undergone treatment with this drug. While it was true that a temporary remission of cough and expectoration followed the inhalation, it is likewise true that a similar improvement follows the inhalation of simple aqueous vapor. The inconveniences of this medication are not great, they being confined chiefly to slight attacks of nausea and vomiting, which appear to be excited by the fatiguing effect of protrusion of the tongue during inhalation, though in two of the patients an hæmoptysis occurred, whilst there had been for several years prior to this treatment no such symptom.

During the discussion which followed the reading of Guttman's communication, it would appear from the clinical experiences of Guttman, Senator, Waldenburg, Fritsche, and M. Wolff that about two hundred phthisical patients were subjected to treatment by this drug; without considering the details of these cases it seems fair to conclude that the therapeutical conclusions of Guttman are well-supported.

The topical use of this agent in tuberculous ulcerations of the throat and larynx is apparently of no benefit, judged by B. Fraenkel's experience. Again, on the other hand, following the indications of the experiments of Graham Brown in Kleb's laboratory there is reason to believe that benzoate of soda has an immediate and specific effect against diphtheria and tuberculosis. Letzerich employed this drug in diphtheria of twenty-four children and three adults. He lost only one case, that of an infant not fully recovered from a previous attack of croup; eight of his cases were before the commencement of this treatment seriously affected by very severe and general constitutional disturbances, such as violent fever, delirium, constipation, and retention of urine. For the period of a year he was in the habit of prescribing five grammes (one drachm) of the benzoate in a potion of ninety grammes (two and three quarter ounces) containing equal quantities (forty grammes) of peppermint water and distilled water, with ten grammes of syrup of bitter orange. To infants he gave half a teaspoonful every hour, to children of three to seven years of age seven or eight grammes, over seven years of age ten to fifteen grammes, always given throughout the day; finally, to adults he gave fifteen to twenty-five grammes. Never, even among nursing children, had he observed any accident, nor was there any caustic action following its topical application to spots on the throat. Hoffmann states that he has successfully treated by this drug twelve diphtheritic sore throats (diphtheria?), eight of this number having been children, and he has never observed any untoward accident following its use. In the gastro-intestinal catarrh of nursing children, Letzerich was astonished with its utility. In vesical catarrh Letzerich, Badt, and Cahen have had three cases advantageously treated. In a case of scarlatinal uræmia and in two cases of nephritis, Hoffmann had seen the albuminuria rapidly disappear after treatment of three doses daily of five grammes of this benzoate of soda. Apparently this drug has no beneficial effect in articular rheumatism.

Gnädiger,¹ after an experience with seventeen children who had been treated by him for diphtheria, on the same plan as that suggested by Letzerich with

benzoate of soda, reports that eight of these patients died, and that the false membranes disappeared no more quickly than when the usual ordinary treatment was resorted to, nor did the use of the drug administered topically or internally prevent the extension of the diphtheritic membrane. Gnädiger prefers the ordinary treatment of ice, chlorate of potassa, and tonics, which seem in the Vienna hospitals to be always the returning point of those physicians who have failed to see the benefits of any novel treatment.

SALICYLIC ACID IN BRONCHIC ACNE.

William Prowse² suggests for bromine acne that "a solution of one grain to the ounce of water, applied frequently, and, when possible, constantly, by means of lint and oiled silk, is a most efficient and certain remedy in the worst cases."

Reports of Societies.

AMERICAN GYNECOLOGICAL SOCIETY.

THE society commenced its fifth annual meeting September 1st, at ten o'clock, in the hall of the Cincinnati Law School. Dr. J. Marion Sims, of New York, presided, and the following members of the association were present: Dr. F. Barker, of New York; Dr. R. Battey, of Rome, Ga.; Dr. S. C. Busey, of Washington, D. C.; Dr. J. R. Chadwick, of Boston; Dr. A. Dunlap, of Springfield, O.; Dr. G. J. Engelmann, of St. Louis, Mo.; Dr. W. F. Howard, of Baltimore, Md.; Dr. T. A. Reamy, of Cincinnati; Dr. J. C. Reeve, of Dayton; Dr. H. P. C. Wilson, of Baltimore; Dr. W. H. Byford, of Chicago; Dr. H. F. Campbell, of Augusta, Ga.; Dr. T. M. Drysdale, of Philadelphia; Dr. G. H. Lyman, of Boston; Dr. T. Parvin, of Indianapolis; Dr. A. R. Jackson, of Chicago; Dr. R. S. Sutton, of Pittsburg, Pa.; and Dr. J. W. Underhill, of Cincinnati. The invited guests present were Dr. A. F. Erich, of St. Louis, Mo.; Dr. Charles Shepard, of Grand Rapids, Mich.; Dr. W. W. Henderson, of Covington, Ky.; and the following gentlemen from Cincinnati: Drs. W. W. Dawson, W. H. Mussey, Thos Wood, J. H. Tate, W. H. Taylor, J. Trush, C. D. Palmer, John Murphy, David Judkins, Jas. T. Whittaker, A. J. Miles, Wm. Carson, A. E. Dandridge, C. O. Wright, W. T. Brown, A. T. Key, P. S. Conner, and G. Bruell.

Dr. T. A. Reamy delivered the address of welcome, as follows:—

Fellows of the American Gynecological Society, — Another year is past; its work is done. From your various fields of labor you have come to participate in the fifth anniversary of our organization. This society was founded for the promotion of all that relates to the diseases of women and obstetrics. Some of the founders and honorary Fellows have passed through the "tragedy of life," and they rest. They did well their work. Their deeds are our heritage. No one can be admitted to your ranks who has not already distinguished himself, or at least by industry and capacity given promise of good special work in the future. There are those among you who have achieved greatness by genius and learning, whose names are honored, and whose opinions are respected wherever gynecology or obstetrics is studied or practiced. There are those in my presence who deserve to have their

¹ Wien. med. Blatt., page 25, 1879.

² British Medical Journal and New Remedies, September, 1880.

names spoken softly and in accents of gratitude and praise wherever a woman can describe her suffering and speak of deliverance from its pangs. The four volumes of published Transactions which have already received the sanction of the profession, home and foreign, are an earnest of what may be expected of the society in the future. They must continue to be a record of experience and opinions from those who, having special opportunities, can best promote and advance this department. Much work is yet to be done before we can lay claim to the standard of a science. Many questions of pathology and treatment are still unsettled. Those engaged in the prosecution of this work have the stimulus of a success which, during the past thirty years, has been almost marvelous. They are likewise encouraged by the sympathy and coöperation of most of the better men in the profession. It is true there are still to be found a few in prominent positions who oppose all that is new. They stand before a specialist in holy horror and deprecation, their own knowledge too superficial to be special. More from narrow-mindedness than from envy or malice, perhaps — more through ignorance than from a genuine spirit of conservatism, which they blindly imagine themselves to possess, they croak and condemn. But the opposition of such is far more to be courted than their approval. But time admonishes that I close by discharging the pleasant duty assigned me. Cincinnati feels honored in having been selected as your place of meeting; the profession here feels honored. In the name of Cincinnati, and in the name of the whole medical profession of Cincinnati and vicinity, I extend to you and to your invited guests the grasp of our hands, the friendship of our hearts, the hospitalities of our homes. Welcome!

The first paper read was that of Dr. Robert Battey, of Rome, Ga., on the subject, What is the Proper Field for Battey's Operation? He said that in the application of "Battey's operation" there was no question of choice, but only of necessity. It was not a matter of expediency to expel the ovaries, but a matter of strict duty, where other remedies fail. The case must be deemed incurable, it must endanger life, and a cure must be reasonably expected before the operation is at all justifiable. He had foreseen the difficulties of its application and its variable conditions many years ago. He enumerated briefly when the operation is absolutely necessary, which is in case of a complete occlusion of the vaginal canal in menstruanda, ovarian epilepsy, ovarian hernia, Casarean section, and a few other cases. He said it was idle to talk about sending a patient to the Virginia Springs, or treating her with violent medicines whenever there are successive nervous perturbations, or reason or life are endangered. There is absolutely no cure in such cases by any other resources of the art. He insisted that it was better to sacrifice these pernicious organs than endanger life. He had treated fifteen cases, and was not convinced of any wrong he had done, though two of these had been fatal.

Dr. Battey's paper provoked considerable discussion. Dr. Fordyce Barker related three cases where Battey's operation had been performed with success. Dr. H. P. C. Wilson, of Baltimore, said that he had now a case in hand, where he intended extirpating the ovaries, and that he had lost one case because of his neglect to employ the operation. Dr. W. H. Byford, of Chicago, spoke of the evil effects caused by the loss of

the ovaries. The patient is subject to hæmorrhages and general depression. He expressed his belief, however, in Battey's operation, and had himself inadvertently performed it in removing a hernial tumor twenty-five years ago. Dr. A. Danlap, of Springfield, O., thought it ought to be the *dernier resort* in extreme cases, and never had a case where the operation was necessary. In conclusion, Dr. J. Marion Sims, of New York, gave a brief outline of his experience in the matter, stating that Spencer Wells had used the operation successfully for the first time in England in 1878; that Dr. Alex. Simpson had performed it twice, and Dr. Austin Tait as many as twenty-eight times in one year. He had eleven special cases in eleven months, and out of the whole number of twenty-eight only two died. He pronounced Dr. Battey's operation as perfectly legitimate in some urgent cases, and had recently performed four operations himself. One of his patients had died, though not from the effects of the operation, and one had not been cured, but had developed worse symptoms than before. He urged that the main point was to discriminate in its use. Dr. Thomas Wood stated that he had never practiced Battey's operation. He said that the destruction of the ovaries makes social life very unpleasant, and gave a remarkable instance of a woman, whose one ovary had been destroyed, and who, nevertheless, bore six children afterward, three of each sex. He seemed to incline to the opinion that life was more pleasant with the ovaries than without them.

The next paper read was by Dr. G. J. Engelmann, of St. Louis, on Two Cases of Anterior Displacement of the Ovary, Simulating Internal Inguinal Hernia.

A luncheon party at the residence of Dr. T. A. Reamy filled the interval between the morning and afternoon sessions of the society. The invitations were confined to the members of this society, and those who, by vote of the society, have been made its guests, and all members of the Obstetrical Society of Cincinnati, of which Dr. Reamy, their host, is President. The distinguished party sat down, about fifty in number.

In the afternoon session Dr. H. P. C. Wilson opened by reading a paper on A Case of Ovariectomy complicated with Pregnancy. Out of twenty-nine cases he had saved twenty-four mothers and twenty children. One tumor had been extirpated which weighed eighty-one pounds. One mother was in a six months' gestation, and after the surgical operation had no difficulty and was delivered safely. In the subsequent discussion Dr. Dunlap told of three cases which came under his personal experience, in one of which he did not know that the patient was pregnant. He was in favor of having an abortion performed previous to the operation in extreme cases. The life of the mother was to be regarded much more than that of an undeveloped child. He expressed himself as opposed to the smaller incisions of ovariotomy. Dr. Chadwick, of Boston, presented another view of the subject, urging that in many cases the operation was not necessary at all. He had two cases where the tumor was as large as the fetal head, and had simply removed it to one side, thus effecting delivery without interfering with the tumor at all. Three weeks ago he had operated on a tumor which measured six feet and weighed one hundred and forty pounds. He was not in favor of operating before the puerperal period, unless in cases of extreme necessity. Dr. Battey spoke of a

case where the woman had ninety pounds of tumor and only seventy pounds of flesh. He tapped over six gallons of chocolate fluid from her at one time, and though she was delivered safely, she died a short time after. He mentioned a few more cases where abortion was produced, in consequence of which the patient died. Dr. Byford explained his method to be the tapping of the patient two or three times before gestation. He characterized abortion as a very malicious practice, tending to the death of both child and mother. He knew of one case where the tumor was not removed until after two happy deliveries of the mother.

Dr. Sims stated that he had had two cases, in one of which he was not aware of the pregnancy of the patient, and yet she entirely recovered. He said that sometimes the tumor bursts and kills the patient, and sometimes bursts to her cure. He would not interfere with tumors when they were small, but when they grow larger they must be operated upon. Dr. W. W. Dawson, of Cincinnati, complained that the fashionable incision was a small one, but he thought that the incision should be large enough to remove all adhesions, and all particles of blood and other matter.

Dr. A. Reeves Jackson, of Chicago, read a paper on Uterine Massage as a Means of Treating Certain Forms of Enlargement. He explained the causes of enlargement, and reviewed the different methods of applying massage. Dr. H. F. Campbell, of Georgia, explained that quinine was the best remedy for such enlargement of the uterus. Dr. T. A. Reuny thought that massage would not contract, but enlarge, the parts. Dr. Sims, in conclusion of the afternoon exercises, congratulated all on the success of the meeting. Dr. J. W. Roseburgh, of Canada, was voted in as a member of the society by acclamation. A number of female physicians were present in the afternoon, listening attentively to the papers read.

In the evening the members of the society sat down to a banquet at the Grand Hotel, in company with about one hundred regular physicians of Cincinnati and vicinity. The banquet was preceded by a gathering in the parlors of the hotel, in the nature of a reception. Dr. J. Marion Sims sat at the head of the table. At the request of the association there was no formal programme of toasts. This courtesy was tendered by the local regular profession, acting jointly with the Obstetrical Society.

The second day's session of the American Gynecological Society opened September 21 with an increased attendance of the medical profession. There were nearly two hundred present, who listened with unabated interest to the papers read. The first essay delivered was that of Dr. R. S. Sutton, of Pittsburg, Pa., on A Case of Cataleptic Convulsions Cured by Trachelorrhaphy, which we give in full:—

Mrs. C., aged thirty-eight years, had borne four children; never miscarried. Her last labor occurred August 19, 1872. None of her labors could be termed preterm, although her disease began, as will be shown, after a laceration of the cervix uteri.

Prior to marriage she had been a vigorous girl, but had suffered from menorrhagia. After marriage she soon became pregnant, and arrived at full term on September 23, 1867. Her pains came on about six p. m. Seven hours afterward she was delivered with forceps, and sustained a partial laceration of the perineum. Her lying-in period was painful and protracted; she had considerable soreness in the pelvic and lower ab-

dominal regions, which persisted long after she left her bed. Her second labor occurred fourteen months later, in November, 1868. The labor was "rapid and easy," and she had a good getting up. She nursed neither of the children. Eight months after this labor, while menstruating, she took an evening drive. After her return she was seized with a convulsion for the first time.

During the following November, about a year from the date of her second labor, she again became pregnant. An occasional convulsion occurred until after the fourth month of utero-gestation, when they became very frequent and were, the patient affirms, provoked by the movements of the fetus. Finally, on August 4, 1870, she was confined at full term. Her labor was "easy and rapid," but she had several convulsions. On August 19, 1872, the time of her fourth and last labor arrived. This labor was "easy and rapid," but several convulsions occurred. A year after this labor she first consulted me. The convulsions were cataleptic, she wore an anxious expression of countenance and she had well marked anæmia.

An examination revealed a slight laceration of the perineum, the uterus retroverted and low in the pelvis.

By means of the speculum the cervix was found congested and eroded. From the cervical canal came an abundant discharge. Her rectum was congested, and a slight anal fissure was observed. She complained of backache, irritable bladder, and a constant leucorrhœa. From this time until November, 1878, a period of five years, she was subjected to local and general treatment. Rest, pessaries, local applications, drugs *ad nauseum*, changes of climate, etc., were vigorously used, without any permanent benefit. In November, 1878, her husband informed me that since her last visit, several months before, she was growing worse, and that attempts at sexual intercourse had been followed by convulsions. After the nurse had placed her upon the table I passed my finger carefully over the surface of the cervix. The right side was healthy, but when the left side, which bore the evidence of a former laceration, was reached, while I was endeavoring to decide its extent and importance, the woman was seized with a convulsion. Instantly it flashed through my mind that I had discovered the trouble; that in the bottom of the laceration the cicatricial tissue was pinching a nerve filament; that here was a neuroma. Again with the sound I sought out in the cleft of the laceration the magic spot. When it was pressed upon the convulsion came at once. Before the patient was released I could produce the convulsion at will. The riddle was at last solved, and I promised if she would submit to a surgical procedure, to cure her; this much I also told her husband.

I did not see her or hear of her again for nearly or quite a year. On November 27, 1879, her husband requested me to meet his family physician, in consultation, in his wife's case.

Consultation. On November 27, 1879, I met Drs. J. P. and Geo. McCord. The former stated that the patient had been under his care since her last visit to me. That she was afraid of a surgical procedure, and insisted upon his services. He also stated that she was "growing worse instead of better," that for several months she had averaged three convulsions per day. I proposed to demonstrate my view of the case. The patient was accordingly placed upon her back, and a round glass pessary removed, which she had worn for

"several months." During the effort to remove the globe she was seized with a convulsion.

After the introduction of Sims's speculum I first demonstrated the existence of a laceration on the left side of the cervix. Then taking a probe and placing the point of it in the angle of the laceration slight pressure provoked the convulsion. The revelation was complete, and the attending physician announced himself well convinced. He then tried the experiment in this way. The speculum was removed and he pressed his finger into the vagina and found he could touch any point on the cervix, excepting at the angle of the laceration, without inducing a paroxysm, but when he put his finger-nail into the angle the convulsion followed at once.

A few days later, December 3, 1879, in the presence of those mentioned and Dr. Rahuser, I performed trachelorraphy. A very large amount of cicatricial tissue was removed and the wound closed with silver sutures, which were removed on the twelfth day afterwards.

The patient made a good recovery and has never had, up to this day, August 30, 1880, another convulsion. Two weeks ago she told me that she was her own housekeeper.

The next paper was on the Extirpation of an Encephaloid Kidney, by Dr. W. H. Byford, of Chicago. We present the entire paper:—

This case was admitted into and treated in the Hospital for Women and Children, in Chicago: and I am indebted to Dr. Mary H. Thompson, the surgeon-in-chief of that institution, for the very brief history of the case previous to the operation, as well as for subsequent notes.

Dr. Thompson was called to see the patient, Mrs. L., a German woman, thirty-nine years of age, about the 1st of February, 1878. She was married eighteen years before, and had had six children, the youngest being eighteen months old. She was living in the dark and damp basement of a small building occupied by a saloon, and, surrounded with very few of the comforts of life, she was under the necessity of doing a great deal of hard work. Up to the birth of the last child she had enjoyed good health. Since that time she had not recovered from the effects of the confinement. Her appetite had been poor, her digestion painful and imperfect; sometimes she was affected with diarrhoea, and at others with obstinate constipation. Her skin was usually dry, and her feet and hands cold. Her nervous system had also suffered very much; she was excitable and melancholy. Fainting fits, which, from the description, were thought to be hystero-epileptic, would at times overcome her, and attacks of severe headache were of common occurrence.

Upon examination, Dr. Thompson found her extremely emaciated, skin dry, pulse accelerated, tongue covered with a clay-colored fur in the middle, while the tip was reddish. The conjunctivæ were stained yellow. While the face and extremities were thin and very much emaciated, the abdomen was greatly enlarged, measuring forty-two inches at the umbilicus. There was fluctuation throughout.

As the case was obscure, and the patient could not have proper treatment, Dr. Thompson had her removed to the hospital on February 27, 1878. The treatment during the month of February had consisted in an occasional dose of blue mass, iodide of potassium,

quinine, iron, and saline laxatives, and as good nourishment as the family could procure.

When she came to the hospital the urine was scanty and high colored, but, on examination, its composition was found to be normal. There was certainly no albumen or pus, and but a small quantity of mucus. The abdomen was found to be largely distended with a thin fluid. When the erect position was assumed the shape was not visibly changed, and there was fluctuation at every point. Resonance was noticeable on the left side posteriorly, and across the epigastric region, but could not be elicited on the right side. In the dorsal and lateral recumbent positions, the points of resonance remained the same. By pressing the hand well down into the abdomen, as the patient lay on her back, a large, irregular, solid tumor was easily discovered. The bulk of it seemed to be on the right side, but it extended decidedly beyond the median line, and was susceptible of considerable movement from the right toward the left side, but not upward or downward. The motion was so free that it presented the idea of either no attachments at all, or that they were very long.

The shape of the tumor somewhat resembled that of a fetus in a strongly flexed condition, only that it seemed larger.

Per vaginam the tumor could not be felt. The uterus occupied a position rather farther forward than usual, but was not otherwise displaced. It measured three inches in length. The posterior *cul-de-sac* was distended and fluctuating. The liver and spleen occupied their normal positions. The question, at this stage of the examination, lay between extra-uterine pregnancy and a tumor of the kidney. It was believed that it could not be an ovarian tumor, because it could not be felt in the pelvis, and the uterus remained in position; or a tumor of the uterus, because it was not attached to that organ. If it was an omental tumor, it was thought that it would have been more superficial and not so movable.

I should have mentioned that the menses had been very irregular after the last child, but we could not learn that there had been the copious, painful discharge, attended with evidences of membranous formation, so generally observed in cases of extra-uterine pregnancy. They seemed to be too frequent, without being copious.

The staff of the hospital, while not committing themselves to a positive diagnosis, were inclined to believe the tumor to be of renal origin, and recommended an explorative incision, to which the patient submitted, with the understanding that the tumor would be removed if practicable.

On March 14th, in the presence of Drs. Bogue, Bartlett, Starkie, Thompson, and Hobbs, a small trocar was thrust into the abdominal wall in the median line, midway between the umbilicus and the symphysis pubis, and about a pint of thin, yellow, serous fluid, devoid of viscosity, drawn off. Believing this to be peritoneal serum, the trocar was withdrawn, and an incision made at the same place, about an inch and a half in length, entirely through the abdominal wall. Through this opening sixteen or eighteen pounds of serum were evacuated. The abdominal wall collapsed about the tumor, and rendered it easily accessible by the fingers. It was attached to the right posterior portion of the abdomen by a thin, broad band, partially divided into two parts, and it could be moved

about with considerable facility. Its surface was nodular and impressible, but there was no fluctuation. It was oval in shape, and appeared to be about eight by six inches. From this exploration, I could not doubt that it was an enlarged and diseased kidney, and I determined to remove it. By extending the incision to about seven inches in length, and pressing the abdominal walls back around it, the tumor was expelled from the cavity, revealing two broad peritoneal folds, strengthened by connective tissue, extending over its sides from the back. These were tied in three parts by double silk ligatures and cut through with scissors, and the tumor liberated. The serum, still in considerable quantities, was absorbed by fine carbolized sponges, and removed. This seemed to clean the peritoneal cavity thoroughly as it was taken out, and left everything as clean as possible. After examining the pedicle, to be assured that the vessels were secure, the ligature was cut short, and the whole dropped into what was plainly the bed of the kidney. The wound was closed with silk sutures, and dressed according to Lister's method. The whole operation was, of course, done under the carbolized spray.

The tumor weighed four and a half pounds. It was examined by Professor J. N. Danforth, pathologist to Cook County Hospital, and reported to be the right kidney degenerated into an encephaloid mass. The patient rallied well from the operation, and at ten o'clock P. M. the pulse was 100, and the temperature 101° ; the skin was moist and cool, the mind clear, and the patient cheerful and hopeful. During the 16th and 17th the temperature fluctuated from 100° to 103° ; there was very little pain. On the 17th the movement of gas in the large intestines caused considerable uneasiness, but there was no tympanitis. For this symptom a rectal tube was introduced and kept in position. During the 18th and 19th the temperature and pulse decreased, the former to $99\frac{1}{2}^{\circ}$ and the latter to 105. On the 18th the wound was examined by Drs. Bartlett, Bogue, and Thompson. It looked very well: there were no signs of pus or other discharges. From this time forward the temperature did not rise above $99\frac{1}{2}^{\circ}$, and the pulse not over 105. March 23d, the stitches were removed and the wound dressed with adhesive straps, and an evacuation of the bowels facilitated by an enema of tepid water.

On the 26th of March there was slight diarrhoea, and the abdomen was somewhat distended; otherwise the conditions remained the same. During the 28th the lower end of the wound opened, and a discharge of gummy and offensive fluid issued from it. It became evident from this that the abdomen contained a quantity of septic material that had to be removed. On the 29th the opening in the lower angle of the wound was enlarged, and two or more pounds of the fluid flowed through it. The cavity of the abdomen was thoroughly washed out through a drainage tube with carbolized water, and the tube allowed to remain in the wound to promote the discharge. The abdominal cavity was cleansed in this way daily until the 12th of April, when it was no longer considered necessary. For several days the discharge continued to be very offensive; but before the intra-peritoneal injections were abandoned, it became devoid of all disagreeable odor.

The patient was discharged from the hospital on the 26th of April, 1878, in good spirits and improving health. I have seen her frequently since the operation. In four or five months she had become fleshy

and ruddy in appearance; and the last time I saw her, on the 1st of July, 1880, she had the appearance of perfect health. I could detect nothing abnormal in the contents of the abdomen or pelvis, and the urine was normal in composition. The impoverished condition of the system made support the main object of the treatment, and as the stomach was uniformly tolerant after the operation, the patient took a liberal quantity of nourishing food. The medicines were quinine, iron, and opium. Occasionally the acetate of potash was given, with a view to promote the urinary secretion.

Although the subject of tumors of the kidney is not exactly gynecological, it is one of very great interest to the gynecologist, and this is my apology for bringing it before the society. All tumors of the abdomen are of especial interest to the gynecologist, on account of the value of a correct differential diagnosis between tumors originating in the uterus and ovaries and those of different origin and nature. Cystic tumors of the kidney, in certain stages of development, are not infrequently mistaken for ovarian tumors. It often requires much skill to make a correct differential diagnosis, and sometimes it cannot be done without exploration. I once knew a gynecologist of experience and ability to remove a kidney in a state of cystic degeneration, believing it to be an ovarian tumor, until the nature and point of attachment led to a correction of the diagnosis. There was one condition in this case, as a point of diagnosis, that seemed to me of considerable importance, and that was the great influence of the tumor upon the peritonæum and general health. The peritoneal cavity was greatly distended by serum. This was not the result of a diminution of secretion from the kidneys, or the loss of albumen from the general mass of blood, because the dropsy did not extend to the connective tissue. If the abdominal dropsy had been caused by the attenuated condition of the blood from general anæmia, the extremities would also have been swollen. The serum was no doubt poured out of the peritonæum because of the irritating influence of the tumor. Is not the peritoneal dropsy, when not accompanied with œdema, a significant item in deciding whether the tumor is benign or malignant in its character? It is certainly a condition that must be regarded as indicating a grave state of disease. The depressed state of the general health of the patient may to a certain extent have been produced by her bad hygienic surroundings; but I believe it was mainly attributable to the malignant nature of the tumor, and that in such cases such a condition must weigh heavily as an evidence of malignant disease.

But the most interesting feature of the case to the general pathologist, as well as to the gynecologist, is the complete recovery of general health after the removal of such a mass of encephaloid disease from the system. So far as I can see by a careful examination the patient is in perfect health. It is too soon, of course, to calculate upon ultimate immunity from the disease; but the length of time that has elapsed since her recovery from the effects of the operation is sufficient encouragement to hold out the operation as one of great promise.

Extirpation of the kidney is at this time attracting the attention of the whole profession in this country and Europe; and many successful cases of the removal of one of these organs for various reasons have been published. Extended experience will some day enable the surgeon to decide upon the circumstances

in which nephrectomy is indicated, and consequently justifiable.

The safety of laparotomy under antiseptic conditions will have much influence in extending the usefulness of the operation for extirpating the kidney, and render it less formidable in the eyes of those who would otherwise doubt the propriety of resorting to it.

Dr. Chadwick, of Boston, and Dr. Reeves Jackson, of Chicago, discussed the matter briefly, and, in the main, agreed with the author of the paper.

The next paper read was by Dr. H. F. Campbell, of Augusta, Ga., on *The Value of Quinine in Gynecic and Obstetric Practice*. His paper was intended to show that quinine injections in the different stages of pregnancy were often beneficial to the patient. He lived in a malarial country, and used quinine quite frequently in cases of pregnancy. It had a tendency to contract the uterus and promote therein a healthy action, as it affects the blood-vessels. He cited many cases out of his practice where quinine had been administered with great success, without the slightest danger of abortion. Dr. T. A. Reamy, after explaining the theory of the supposed dangerous character of sulphate of quinine administered in pregnancy, explained how it promotes the supply of oxygen in malarial districts, and always strengthens a woman in confinement, accelerating an easy delivery. Dr. W. S. Howard, of Baltimore, was a great advocate of quinine, asserting that in case of malarial fever a woman is almost sure of abortion unless it is counteracted. He mentioned one case of typhoid fever, where he had administered from sixteen to twenty grains of quinine per day for three consecutive weeks. It relieved congestion, and was a certain cure for an abscess of the breast. He was not opposed to giving quinine in ten and fifteen grain doses, but deprecated its common and indiscriminate use, like that of calomel many years ago. In concluding the discussion Dr. H. F. Campbell, the author of the paper, said that it had been his misfortune to live in malarial districts the whole of his professional career. During the war he had been on the James River, afterward on the Mississippi, and at home he was on the banks of the Savannah. He said he did not know what he would do without quinine.

The fifth annual address was delivered from manuscript by the President, Dr. J. Marion Sims, of New York, in which he severely criticised some clauses of the constitution and by-laws, and advised that, in order to give the society more life and vigor, the president be not eligible for a second term, though the right of the society to choose him again after an interval of two or more terms ought to be preserved. He advised some changes in the routine of the session, in order to facilitate the complete reading and ample discussion of all the papers. He recommended to extend membership to one hundred, to provide for transferring active fellows to honorary fellowship under certain circumstances; to elect candidates for admission by the society, the council to present all names, after investigating the characters and qualifications of candidates; not to require candidates for membership to submit an essay as a test for the same, and to have the council composed of five or seven members, independent of the other officers of the society. Toward the close he used the following emphatic language: "If we persist in maintaining our present formal and repulsive plan of admitting members, I fear some bold leader may arise and organize a rival national obstetrical society on a

liberal basis that will gather in the young talent of the country which we have succeeded so well in repelling from our ranks. I propose to the friends of this movement to fight it out on this line till our constitution is liberalized, and then we will open our doors and stretch forth our hands and conquer our enemies by compelling them to come in on equal terms with us." He advised the annual conventions to be held hereafter in the East, on account of the predominating number of members living there.

In the afternoon session Dr. G. J. Engelmann, of St. Louis, read a paper on the *Instinctive (or natural) and Physiological Position of Woman in Labor*. His remarks showed an extensive research into the history of the ancient, modern, and uncivilized practice on that subject. He illustrated his facts with numerous pictures skillfully drawn on parchment. He described the various positions in use among the Indian tribes of North America. He was opposed to the ordinary recumbent position, and advised physicians to pay more attention to instinctive impulses than to the formulated directions of medical science. It was a function that purely belonged to the animal nature, and hence instinct ought by all means be consulted. He described the various erect, inclined, and horizontal or recumbent positions, and exhibited a picture showing the practice of the ancients. Among the Sioux tribes of Indians and the barbarians of Central Africa the woman is tied to a tree and has a female assistant. The squatting position is used among some of the African tribes and in Persia. The kneeling postures are mainly in use among the red and yellow races—the Mongolians and Indians. They are also prevalent in Ohio, Indiana, Missouri, and other States. Among the tribes along the Amazon River the patient is delivered swinging in a hammock. He said that the semi-recumbent position was the origin of the obstetric chair, and that the reclining position was mainly used in Vermont and Canada among the French. He particularly favored the semi-recumbent position as the easiest, and as giving the best relaxation to the body.

Dr. J. A. Eve, of Augusta, Ga., in criticising the paper praised its learning and historical research, but differed with the author on several points. He did not believe much in natural instinct, but attributed more importance to the aid of science. The woman's impulses, he said, were not instinctive, so much as aided by the kind sympathies of her friends. The savages were not instructed in this matter, and the question was not of much value except in extreme cases. Dr. Fordyce Barker advocated artificial aid, though he did not entirely overlook the advantages of instinct. Dr. Theophilus Parvin, of Indianapolis, did not attach much importance to the force of gravity during the first parturition, as described by Dr. Engelmann. Dr. Reeves Jackson explained the kneeling positions used by the Pennsylvania Germans, and insisted that they were as effective as the orthodox position on the left side. In winding up the discussion, Dr. Engelmann asserted that he had referred in his paper to normal cases—not to abnormal conditions.

Dr. Fordyce Barker read the nominations for the election of new officers. The candidates for the Presidency are Dr. W. H. Byford, of Chicago, and Dr. S. C. Busey, of Washington, D. C.

In the evening a reception was given by Dr. W. W. Dawson to the members of the society and the profession of Cincinnati, Covington, and Newport.

PROCEEDINGS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION.

THE fourth annual meeting of the American Dermatological Association was held at the Ocean House, Newport, R. I., on Tuesday, August 31, 1880, remaining in session for three days. Dr. L. A. Duhring, president of the Association, occupied the chair. The following members were present: Dr. L. A. Duhring, of Philadelphia; Dr. Arthur Van Harlingen, of Philadelphia; Dr. I. E. Atkinson, of Baltimore; Dr. James C. White, of Boston; Dr. L. D. Bulkley, of New York; Dr. J. Nevins Hyde, of Chicago; Dr. C. Heitzmann, of New York; Dr. J. E. Graham, of Toronto; Dr. W. A. Hardaway, of St. Louis; Dr. Fox, of New York. The meeting was a very satisfactory one, and was admirably conducted. About a dozen papers were read upon subjects connected with the pathology and treatment of diseases of the skin, all of uniform standard of excellence. The committee upon statistics presented reports from different sections of the country, with tables based upon more than eleven thousand cases of skin disease, in which their real and relative frequency in different localities was set forth in each disease upon the list. In considering the question of the prevalence of Chinese leprosy in the United States, but few cases were reported as occurring in California, in comparison with the large numbers of Chinese now living upon the Pacific coast. It was shown, however, that there was a strong reason for hiding the disease among the Chinese, for its discovery would inevitably bring confinement in a hospital, and probably transportation back to China. It was noted by one correspondent that leprosy had almost entirely disappeared in New Orleans, whereas it formerly had prevailed there to such an extent as to require the establishment of leper hospitals in that city.

A resolution was passed offering to the superintendent of the United States Census Bureau the facts and investigations in the report bearing upon the subject of Chinese leprosy, to be used by him should he think it desirable.

Dr. James Nevins Hyde, of Chicago, presented several specimens of Goa powder and chrysophanic acid, which he had found very useful in chronic skin affections.

The president's address gave an account of the progress of the department of medicine devoted to diseases of the skin, within the last decade, which he declared had ushered in a new era of progress for dermatology by establishing it upon sound principles of pathology and of rational treatment. In the course of his address he referred to the services and worth of the late Dr. Tillbury Fox; and also announced the death of Professor Von Hebra, of Vienna, an honorary member of this society, and paid a warm tribute to the exalted character of this distinguished teacher. Later in the session a committee was appointed, which draughted appropriate resolutions of respect to the memory of the great master, which were ordered to be displayed upon the minutes of the meeting.

The following papers were read during the session, which will appear in full in the forthcoming numbers of the *Archives for Dermatology*: Dr. A. Van Harlingen, of Philadelphia, presented a short but very practical paper upon Medicinal Eruptions, which he declared deserved more attention from dermatologists than they had received, both as regards their frequency and the liability to mistake in diagnosis. A very in-

teresting paper upon Ainhum, a disease of the foot among the Africans in Brazil, was read by Dr. J. Nevins Hyde, of Chicago, for Dr. Da Silva Lenia, of Bahia; and it was accompanied by a specimen of a toe from a foot thus affected.

Dr. C. Heitzmann delivered a lecture upon Tumors of the Skin, which considered particularly their histological relationships, and was listened to with marked attention, being illustrated by extemporaneous free-hand pencil drawings.

A paper by Dr. W. A. Hardaway, of St. Louis, reviewed the literature of Papilloma Cutis, giving a *résumé* of all that had been reported under this title. Dr. James C. White presented an essay by Dr. F. B. Greenough, of Boston, entitled Herpes Progenitalis, which contained a systematic study of this apparently trivial, but, in view of its frequency and liability to be confounded with the initial lesion of syphilis, really important affection. Dr. J. E. Graham, of Toronto, presented a case of scleroderma, which elicited an interesting discussion upon the relationship of this disease to morphea. Pityriasis Maculata et Circinata was the title of an exhaustive paper by Dr. L. A. Duhring, in which he described the characteristics of a distinct disease which he claimed had hitherto escaped detection. It was received with marked attention, although its length precluded the reading of it entire.

Dr. L. D. Bulkley communicated a very practical and suggestive article upon Treatment of Eczema of the Hands, in which the want of uniformity in the present practice of authorities upon skin disorders was indicated, and the experience of the members requested upon some therapeutic points. This paper was commendable and concise, and perhaps upon this account did not receive as much attention as it probably merited, as the queries certainly remained unanswered in the subsequent discussion. The Kerion Stage of Tinea Tonsurans was discussed by Dr. I. E. Atkinson, in a very able and interesting clinical paper. Upon the suggestion of the president the title of the paper was amended, since kerion is not, strictly speaking, a stage, but a variety, of tinea tonsurans.

Some experiments upon epilation were detailed by Dr. Heitzmann, and provoked a very interesting discussion, which was decidedly in favor of electrolysis for this purpose. A very interesting case of lichen planus first appearing on the penis was reported by Dr. L. D. Bulkley, and was generally discussed.

Morning and evening sessions were held during the meeting. The members attended strictly to their duties, and the meeting was therefore a very successful one, the weather and surroundings being sufficiently agreeable to favor the best work of the Association. It was decided to hold the next meeting at the same place, and the following officers were elected to serve the ensuing year: President, Dr. J. Nevins Hyde, of Chicago; Vice-Presidents, Dr. E. Wigglesworth, of Boston, and Dr. C. Heitzmann, of New York; Secretary, Dr. Arthur Van Harlingen, of Philadelphia; Treasurer, Dr. I. E. Atkinson, of Baltimore. Time of meeting, August 30, 31, and September 1, 1881. Place of meeting, Ocean House, Newport.

— Gentian has been repeatedly examined for tannic acid with discrepant results. Professor Maisch has again gone over the ground, and concludes that commercial gentian root is free from it.

Medical and Surgical Journal.

THURSDAY, SEPTEMBER 23, 1880.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly by HOUGHTON, MIFFLIN AND COMPANY, Boston. Price, 15 cents a number: \$5.00 a year, including postage.

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THE INDEX CATALOGUE.

THE first volume of this great work, which has been looked forward to for several years, has finally made its appearance, and the great enterprise so ably conceived and carried on by Dr. Billings is now in a fair way to be accomplished. A few words of explanation as to its character may be of interest to our readers. The library of the surgeon-general's office, although not including completely the entire domain of medical and surgical literature, ancient and modern, is nevertheless one of the largest of its kind in existence, and is particularly rich in periodical literature. To be in any sense a national collection, and of value to the profession not only of this country but of the world, a catalogue was, of course, necessary. A mere list of books contained in the library would hardly meet the demands of modern literature. The catalogue includes, therefore, not only the names of authors, but a list of the titles of all original articles in the medical journals and transactions contained in the library; hence the name Index Catalogue. Cross references are also given when necessary. The immense value of such a work as this to literary men who are working up given subjects will at once be seen. In order that the most satisfactory form should be adopted a "Specimen Fasciculus" was printed in 1876, and the form now adopted "has been selected after a careful consideration of the criticisms and suggestions brought out by that Fasciculus." While the arrangement of titles has been adapted chiefly to the wants of English readers and writers, care has been taken to make it available for use in foreign countries. The work of preparation was begun in 1873, and has been carried on persistently and as rapidly as the amount of clerical aid available and the nature of the work would permit. Although a great portion of the labor has been completed for several years, it was not until the session of 1878-9 that an appropriation was obtained from Congress. The \$20,000 then granted has enabled Dr. Billings to prepare two volumes for publication. The great magnitude of this work may be conceived by a glance at volume one, now being distributed. This ponderous volume of nearly nine hundred pages includes but little more than the letter A. The completed set will include nine or ten volumes. The present one opens with a list of Abbreviations of Titles of Periodicals, which alone occupies a space of one hundred and twenty-six pages. There are 9090 author titles, representing 8031 volumes and 6398 pamphlets; also 9000 subject titles of separate books and pamphlets, and 31,604 titles of articles in

periodicals. A writer, referring to Anatomy, will find thirty-eight pages devoted to this subject, with each particular department of the subject and of its literature under its appropriate heading. The same space and detail are given to Amputations.

Many will doubtless say that such a catalogue is of little use without access to the books, but under the admirable organization of the department any writer, under reasonable guaranties, can obtain all the material he may seek by application, when a box of books will be forwarded and deposited in some adjacent library for his inspection. The enormous growth of modern medical literature would make a comprehensive survey of any given subject well-nigh impossible, except for the means which the indomitable energy and enterprise of one individual who has conceived and is carrying out this gigantic undertaking. Dr. Billings gracefully acknowledges the aid he has received from Dr. Robert Fletcher in carrying this volume through the press, and his indebtedness to Drs. H. C. Yarrow and James R. Chadwick for valuable aid in reading proofs. American physicians may well feel proud of the work which has been done by the medical department of our government since the war. The Army Medical Museum and the great Medical and Surgical History of the War have found a fitting sequel in the Library and Catalogue. Had America done nothing else for medical science she might well rest satisfied with the laurels she has won by so efficient a service as that of the surgeon-general's office.

We understand that Dr. Billings hopes to obtain a further grant from Congress at the coming session, and we would urge every physician to use his influence with the representative of his district to that end. As the work is now rapidly approaching completion, it is particularly desirable that any rare articles or works difficult to obtain should be presented to the library. Although it may be of little value to medical science, each one contributes its mite towards bringing about that end so yearned for by every librarian—the making his collection a complete one.

MEDICAL NOTES.

—We take the following from the *Medical Press and Circular*: At the recent distribution of prizes to students of the Dental Hospital of London, Mr. Sibley, the chairman, in his address referred at length to the subject of the education of dentists and other specialists, and among his remarks the following upon special hospitals are worth quoting as the opinion of a highly representative member of the profession. We have no doubt that Mr. Sibley's views on this subject are shared by the vast majority of the profession, and we think thanks are due to those who, like Mr. Sibley, avail themselves of the opportunity of expressing their opinion:—

Little apology is needed to justify the existence of this special hospital (the Dental Hospital). Almost, but perhaps not quite, in the same category stand the

ophthalmic institutions. To a great extent the objects of these might be as well performed in a department of a general hospital, but the good work done at these institutions justifies their existence.

For obvious reasons mental affections and lying-in cases require separate establishments. So, also, consumption is, unhappily, so common and so extensively spread a disease that it would be impossible to take such cases into a general hospital. They would fill and overflow all the available beds, to the exclusion of other cases. It is therefore necessary to have separate institutions in which such patients can be properly cared for.

Small-pox and fever cases require isolation, and therefore must be treated in separate institutions. Children's diseases have some claim to separate management, but most of these cases can be cared for in a children's ward of a large hospital.

This short catalogue includes almost all necessary establishments. The multiplication of special institutions is not calculated to confer proportionate benefits upon the poor. The expenses of management, as a rule, are out of fair relation to the amount of good done, and the affairs of these smaller institutions are not sufficiently looked into by responsible and independent managers.

Another very great evil resulting from the system of multiplication of special hospitals is that medical education is seriously interfered with. The young medical men sent out into the world from the great hospitals have their opportunities of studying various special forms of disease sadly curtailed, and the result must be that the public will be supplied with doctors who have not had sufficient opportunities of studying special but common forms of disease. This may be of little moment to the public living in the great centres of population, where specialists are numerous, but it is of importance to any one who may happen to be in a more remote district, or in distant parts of the world. These evils would be to a great extent remedied by the establishment of more special departments at the general hospitals, affording the opportunities of studying and treating various specialties to the fullest extent, but controlling the conduct of these departments by the general principles which govern the parent institution.

—The Cincinnati *Lancet* and *Clinic* credits the *Revista Medicina Cirurgia* of Madrid with the report of a spontaneous cure of congenital amaurosis: A lady of twenty-two years of age consulted Dr. Santos Fernandes. She is of good form, of nervous, lymphatic temperament, and was born blind. Her parents having lost all hope of having her sight restored, she became resigned to her fate. When about fourteen years of age, the girl one morning was able to see a little, the objects being dimly visible. Being much astounded, she returned to bed, and her mother found her clothes bloody. Her neighbors flocked to see the girl restored to sight. When presented to Fernandes her sight was perfect. Whether a similar case can result in a similar manner remains to be seen.

—A case of sudden death during ether administra-

tion is reported in the *Lancet* for September 4th. The patient was a gentleman, aged sixty-six, who had for some weeks previously been the subject of symptoms which eventually culminated in complete obstruction of the bowels, the site of the obstruction being thought to be either in the lower part of the descending colon or the sigmoid flexure. The patient took the ether without resistance. In ten minutes after the operation in the right lumbar region had been begun he manifested an inclination to vomit, and ejected a quantity of brownish fluid smelling of brandy. He took one deep inspiration, made a second effort to vomit, and quietly died. There was no obstacle in the fauces. No post mortem examination was made. Two causes of death are suggested by Mr. Hartley, who reports the case. Distention of the bowels with gas interfering with respiration, and the "undoubted tendency to death from asthenia in cases of abdominal obstruction." The latter seems to us the proper explanation of death in this case. That condition of the system which has been termed peritonism is one poorly calculated to withstand the fatigue of the various manoeuvres attending a surgical operation, particularly one of such gravity.

—M. Cousin, says the *Practitioner*, publishes in the *Marseille médical*, a paper which confirms the excellent results obtained by Gubler and Bonamy from the use of oxide of zinc in diarrhoea. The majority of cases treated were obstinate and chronic, characterized by abundant and numerous dejections; some were due to simple intestinal catarrh, whilst others were caused by improper food or by cold, others again being symptomatic of tuberculosis. In each case various remedies (opiates, astringents, anti-cathartics, etc.) had been employed without result. M. Roux resorted finally to oxide of zinc, which yielded marked and rapid effects: thus diarrhoea of six, four, and three months' standing was favorably modified within a few days after the administration of the first doses of this remedy. The formula employed, which is the same as that of Gubler and Bonamy, is as follows: Oxide of zinc, 3 grams 50 centigrams. Bicarbonate of soda, 0 grams, 50 centigrams. Make into four powders, one powder to be taken every three hours. The union of the soda bicarbonate with the oxide of zinc causes the latter to be more readily tolerated.

—Some time since it was announced that a prize of one hundred pounds had been offered by Mr. J. V. Bennett-Stanford, for the best essay on Hydrophobia: Its Nature, Prevention, and Treatment. The duty of adjudicating the award was accepted by the Royal College of Physicians, and, the report of the examining committee having been presented, it appears the successful essayist is M. Bourrel, of Paris. There were nineteen essays sent in, and in addition to the one receiving the prize a second, bearing the motto "*multorum amorum opus*," was highly commended by the examiners, who regretted the fact that there was no second prize with which to reward its author. Mr. Bennett-Stanford has offered ten pounds toward the sum of fifty pounds to be subscribed for the purpose, which it is to be hoped will be accomplished. The

arrangements for publishing the successful essay have not been made as yet, and it seems to be an open question whether this shall be done by the giver of the prize, by its recipient, or by the Royal College of Physicians, which has already contributed the perusal of nineteen essays. The only other alternative seems to be the consignment of the prize-essay to a dusty pigeon-hole.

—The *Medical Press and Circular* of August 4th says: "Our weekly summary of the death-rate in foreign cities, from the returns of the registrar-general, shows that St. Petersburg, Berlin, and New York have the highest death-rate at the present time of the cities of the world. Whilst the largest city in Christendom, London, maintains its average rate of mortality, that in the three cities mentioned is about one hundred and fifty per cent. higher."

—At the request of several readers the *St. Louis Courier of Medicine* publishes the Hippocratic oath, as follows:—

I swear by Apollo the physician, and Esculapius, and Health and All-heal, and all the gods and goddesses, that, according to my ability and judgment, I will keep this oath and this stipulation,—to reckon him who taught me this art equally dear to me as my parents; to share my substance with him, and relieve his necessities if required; to look upon his offspring in the same footing as my own brothers, and to teach them this art, if they shall wish to learn it, without fee or stipulation,—and that by precept, lecture, and every other mode of instruction I will impart a knowledge of the art to my own sons and those of my teachers, and to disciples bound by a stipulation and oath according to the law of medicine, but to none others. I will follow that system of regimen which, according to my ability and judgment, I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous. I will give no deadly medicine to any one if asked, nor suggest any such counsel; and in like manner I will not give to a woman a pessary to produce abortion. With purity and with holiness I will pass my life and practice my art. I will not cut persons laboring under the stone, but will leave this to be done by men who are practitioners of this work. Into whatever houses I enter, I will go into them for the benefit of the sick, and will abstain from every voluntary act of mischief and corruption; and, further, from the seduction of females or males, of freemen and slaves. Whatever, in connection with my professional practice, or not in connection with it, I see or hear in the life of men, which ought not to be spoken of abroad, I will not divulge, as reckoning that all such should be kept secret. While I continue to keep this oath unviolated, may it be granted to me to enjoy life and the practice of the art, respected by all men, in all times! But should I trespass and violate this oath, may the reverse be my lot!

—Professor William H. Van Buren writes thus to the *Louisville Medical News* on Litholapaxy (Bigelow's method): Midsummer brings to the metropolis a certain proportion of surgical visitors, among whom the cases of stone in the bladder just now interest me

most in consequence of the accumulating evidence in favor of the new operation. Within a week I have subjected three cases, aged respectively sixty-seven, sixty-five, and sixty-three, to rapid evacuation by lithotripsy,—the litholapaxy of Bigelow,—removing the stone entirely at one sitting under ether, with excellent results. In all of these cases the stone or stones consisted of hard urates and uric acid with no phosphatic addition; the time employed was twenty, forty, and fifty-five minutes, and the corresponding weights ninety, one hundred and thirty, and two hundred and twenty-five grains. In all three the prostate was enlarged; in one of them very much so, rendering it necessary to pick up the fragments with the jaws of the lithotrite reversed, from a deep pouch behind the enlarged gland; but this case did better in some respects than the others.

Since I recognized the great fact of the extreme tolerance of the bladder, first fully demonstrated by Bigelow in 1878, I have done no other operation for stone in the adult, and the cases in which I have been more or less directly concerned, now numbering more than thirty, show but one death.

When we call to mind the conclusions arrived at when Sir Henry Thompson's analysis of five hundred cases of stone was presented and discussed at the Medico-Chirurgical Society of London, the results of which were accepted as the best attained up to that time by lithotripsy, and which justified Sir James Paget in deciding that he should still regard lithotomy as the rule in operating for stone, and reserve lithotripsy for exceptional cases, we can hardly fail to recognize that this conclusion is in the way of being overturned by the American innovation of evacuation by lithotripsy and the washing-bottle at one operation, applied to all cases. I received recently a copy of the last edition of his well-known work on lithotomy and lithotripsy from Sir Henry Thompson, and after studying his latest expression of opinion concerning this new method of operating I confess to a feeling of regret and disappointment that this eminent writer has not more fully and frankly acknowledged that our countryman Bigelow was the first to prove by demonstration the heretofore unsuspected tolerance of the bladder under lithotripsy, and to propose this discovery as the basis of a new method. I have practiced and taught the old operation of lithotomy for many years, following the methods and teachings of Civiate and Thompson, but I am free to confess that until Dr. Bigelow made public his results in 1878 I had never been led to suspect from the teachings of these eminent authorities that the bladder could be relied upon to tolerate the continued use of crushing instruments for an hour or longer without serious consequences. Before Bigelow the practice had been uniformly enforced of short sittings, through fear of harm from the prolonged contact of instruments. I have in more than one instance been compelled to resort to lithotomy after a first short séance of lithotripsy, in order to get rid of a mass of sharp-edged fragments which had got up an acute cystitis. I shall never again be exposed to this dangerous necessity, for I am satisfied by my own experience of the new method that in

any case justifying a resort to lithotripsy the operation should be continued until all fragments have been removed. In other words, the danger in the crushing operation arises, not from the prolonged and careful use of instruments in the bladder, but from leaving fragments capable of keeping up irritation within its cavity. If the bladder is left free from fragments there is little subsequent danger.

Of course a prolonged séance of lithotripsy and washing would be hardly possible without anaesthesia. If possible it would be attended pretty certainly by greater difficulty and danger. I have repeatedly been struck with the facility with which full-sized evacuating tubes entered the bladder during anaesthesia, in cases of stone with enlarged prostate, in which the previous use of the more delicate searcher, without ether, had given evidence of a long, narrow, and tortuous passage. Sir James Paget assumed, on the occasion already mentioned, that the operation of lithotripsy in the skillful hands of Sir Henry Thompson had reached its greatest perfection as to detail and its highest probable percentage of success, and that further improvements were not to be looked for, and this assumption was received with acquiescence. It is becoming every day more evident that since this assertion a novel feature, which promises to do away with most previous teachings and to greatly enhance its successful daily use, has been added to lithotripsy. This novel feature is the hitherto unsuspected tolerance of the bladder under prolonged instrumentation and its successful demonstration. The credit of this demonstration belongs to Bigelow. It was almost grasped by that excellent surgeon, Moore, of Rochester, N. Y. (Trans. Amer. Med. Assoc., 1872), who only lacked opportunity to mature his "new method." The great utility of anaesthesia in diminishing its pain and danger renders the prolonged operation practicable for daily use. It is therefore doubly an American improvement in the treatment of stone in the bladder. I have been looking for some evidence from the enterprising surgeons in your stone region concerning the new operation.

PHILADELPHIA.

—Professor Gross has returned, and resumed his duties at Jefferson College, apparently much invigorated and improved in health by his trip. The title of Doctor of Laws, conferred upon the distinguished teacher by Cambridge University during his attendance upon the British Medical Association, is highly appreciated by his numerous friends, who consider it as an honor to American surgery through its veteran representative.

—The medical schools have begun their preliminary courses of lectures. Jefferson commenced September 6th, and the University of Pennsylvania September 13th. At both schools the regular course of lectures will be inaugurated Monday, October 1, 1880.

—The well-known Philadelphia bogus diploma man, Buchanan, who had been admitted to bail, and had recently disappeared, being supposed to have committed suicide by leaping from a steamer into the Delaware, has finally been found and re-arrested. He

arrived in Philadelphia on the 12th in charge of a detective. He had dyed his hair, shaved his whiskers, and grown a month's mustache, also dyed. He is now in Moyamensing prison, awaiting appearance in the court of quarter sessions. Chapman, his brother-in-law, who was not under arrest, slipped out as a train entered the station, and is at large. Buchanan was taken home, and had rather an affecting interview with his wife. He shed tears freely, seems quite broken up, and will very likely confess the whole thing. The most interest now attaches to the suicide plot, and who personated Buchanan in it. While in Michigan Buchanan sold several diplomas at thirty dollars each. He was arrested last week, having been decoyed to this side of the Canada line by one of his relatives, who proposed to assist him in some spiritualistic jugglery in which he was now employing his wits. Those who think a medical license law not "in accordance with the spirit of our institutions" would do well to recall the freedom which has permitted this man, and we doubt not many like him, to pursue his trade openly for years unharmed.

PHARMACEUTICAL NOTES.

—Mr. Saunders, of London, Canada, has shown that nearly all the decoctions and infusions of the Pharmacopœia can be made as well, and many of them better, by diluting the fluid extracts to the required degree, and filtering.—*Proc. Am. Pharm. Ass.*, 1879.

—Mr. J. R. James, from an examination of "ostrich pepsin" and "ingluvin," came to the conclusion that they were entirely useless as digestants, ten grains of each having no effect upon a quantity of albumen that one half grain of pig pepsine completely dissolved.—*Pharm. Journ. and Tr.*, February 21, 1880.

Miscellany.

MEDICAL AND SURGICAL NOTES IN THE PACIFIC.

MR. EDITOR.—Medical education in the United States is, as a rule, far from satisfactory, but it is perfection when compared to the almost barbaric crudity of the teachings in the Spanish American Republics. From Mexico to Chili there is little difference. In Mexico the most enlightened medical men have been educated in the United States or France, but these constitute but a small minority, the bulk of the profession being primitively taught the rudiments of medicine in the cities of Mexico or Guatemala, and as they are never known to study after leaving college, are little above the plane of the "Indian medicine man." Medical journals are seldom read by the most prominent, and are unknown to the general practitioners.

Throughout Central America, medicine, if possible, is at a still lower ebb. The college in the city of Guatemala furnishes nearly all the profession, the United States and French colleges contributing a few. In La Union, San Salvador, I was called to see a woman suffering from ovarian cyst; the poor creature had been plastered with the entire flora of the country,

tapped several times through the thickest portion of the abdominal muscles, on the opposite side from the tumor, — with what result can be imagined, — and was altogether in a deplorable state. Ovariectomy could alone save her, but owing to our short stay, a week, it could not be done. I took an aspirator on shore to assist in the diagnosis, and found the family connections, to the number of twenty, in waiting for me. When aspiration was done, and they saw no remaining wound, an enthusiastic bravo was given with all the zest of the Plaza de Toros.

At Puntarenas, Costa Rica, I met Dr. Morales, the leading physician of the city, and, upon interrogation, was not surprised when he told me that they practiced medicine entirely upon the *compendium* system. The doctor acknowledged that he knew nothing of recent progress in medicine, and had never seen more than a half dozen medical journals. I showed him the Boston Medical and Surgical, and explained its hidden meaning; he seemed interested in its novelty, and took the publisher's address, promising to subscribe at once. Much good may it be to the community.

YELLOW FEVER IN PANAMA.

The Lackawanna arrived at Panama, June 24, 1880, and remained three days, maintaining guarded communication with shore. An official investigation of the sanitary condition of the port discovered the presence of two cases of yellow fever in the general hospital, and several semi-officially known in the city. There had been thirty cases, with six deaths, reported by Dr. Amador, the president of the board of health, since the beginning of the epidemic. These facts were strenuously opposed by the American consul, Panama *Star and Herald*, and one Dr. *Stumers* on account of injury to commerce. The consul reported officially to Captain Gillis, of the Lackawanna, that there was no yellow fever in Panama, nor had there been any. You can judge from this what the value of our consular reports to the National Board of Health must be. We considered Panama a dangerously infected port, and left for Peru.

CAYMAN'S OIL IN CONSUMPTION.

In northern Peru, especially in the Chira Valley, the oil from the *crocodilus palpebrosus* and *crocodilus trigonatus*, as obtained directly from the reptile, is used freely in consumption and cachexia with most satisfactory results. It has almost entirely superseded cod-liver oil, being thought more nourishing and palatable. It is given in tablespoonful doses, after meals, for long periods. I have not been able to get a specimen in Lima, but hope to obtain some in the north, to send to the United States for analysis and trial.

LISTERISM IN THE TROPICS.

Six cases of badly incised and lacerated wounds have been treated antiseptically with most excellent results, between latitude 10° north and south. There was very little suppuration in any instance, union being rapid, dry, and firm. In one case in which the thumb was severed at the second joint with the exception of the external lateral ligament and a small strip of skin, union took place by direct adhesion, a slight plastic exudation alone being found. The joint is quite movable, and becoming more so every day. The results have been so encouraging that we have returned to antiseptic dressings exclusively after Lister's method.

SUDDEN AND TRANSIENT SWELLINGS OF THE LIPS.

A case of this peculiar disease in a young man has been under observation for several months. The lower lip is generally selected for attack, the swelling coming on in the night, and passing off the next day, the local temperature is increased about one degree, but there is scarcely any pain or soreness. As a rule the attacks are more frequent in cold weather. The last one came on July 24th, in cold, damp weather, off the coast of Peru, and ran a peculiar course of four days, the advent being, as usual, at night; the first night the lower lip was attacked, the second the upper lip, the third the right cheek, and the fourth the right temple, the swelling of course disappearing, or nearly so, during intervening days. Its pathology is obscure; oedema it certainly is not; active hyperæmia was present in every instance, due to reflex vaso-motor inhibition, caused by sudden impressions of cold.

The Lackawanna is lying off Callao at present, and I shall endeavor to give you a report on the general and field hospitals of Lima.

A. C. HEFFENGER, M. D.,

Passed Assistant Surgeon United States Navy.

INGLUVIN.

MR. EDITOR, — The following testimonial, clipped from the advertising columns of the JOURNAL, is a surprise to all parties concerned, — Dr. Howe, Dr. Cross, and myself.

We are none of us aware of having written or stated anything of the kind. Dr. Howe and myself have never reported a case of chronic dyspepsia. Dr. Cross did not have chronic dyspepsia. Warner's ingluvin was never of any marked benefit, either transient or permanent, to him. Yours truly,

E. P. HURD, M. D.

NEWBURYPORT, September 13, 1880.

BROOKLYN, N. Y., August 10, 1878.

MESSRS. WARNER & Co.:

DEAR SIRS, — It is with pleasure that I report to you briefly my experience and also that of eminent physicians as to the valuable medicinal qualities of ingluvin, and testify to its superiority in all cases over pepsin.

Drs. F. A. Howe and E. P. Hurd, of Newburyport, Mass., report a case of chronic dyspepsia as follows: Our associate in medicine, Dr. E. Cross, of this city, was taken violently sick. For a time his life was despaired of; everything was tried, but with no good effect. Finally, ingluvin was administered in doses varying from five to ten grains; to our surprise, the patient began at once to mend, and rapidly convalesced. We cannot speak too highly of ingluvin in this case; it is certainly a valuable remedy.

PROFESSOR ACLAND ON PUBLIC MEDICINE IN THE UNITED STATES AND JAPAN.

FROM the address of Prof. Henry W. Acland, F. R. S., delivered at the opening of the section of public medicine, of which he is president, at the recent meeting of the British Medical Association, we take the following extract: —

This is not a suitable occasion for comparing the sanitary progress of other European nations with our

own; but there are two countries, not European, of which I may ask leave to say a few words. No sanitary work at the present moment exceeds in interest the proceedings in respect of health organization and administration inaugurated last year by the National Board of Health in the United States.

In the words of the act of Congress, "The duties of the National Board of Health shall be to obtain information upon all matters affecting the public health; to advise the several departments of the government, the executives of the several States, . . . on all questions submitted by them, or whenever, in the opinion of the board, such advice may tend to the preservation and improvement of the public health;" and they were required to submit a plan for national public health organization, which plan shall be prepared after consultation with the principal sanitary organizations and the secretaries of the several States of the United States.

And then there were constituted the following standing committees: (1) on rules and interpretation of the constituting act; (2) on finance and accounts; (3) on epidemics and contagious diseases; (4) on adulteration and deterioration of food and drugs; (5) on registration and vital statistics; (6) on state and municipal and local sanitary legislation; (7) on diseases of domestic animals.

Besides these seven committees there is an executive committee, with three as a quorum, including the president. This committee is held to be in permanent session. Arrangements were made whereby the executive is fully informed of all the proceedings of the other committees. Care is taken that all proceedings shall be confidential, except such as are communicated to the press by the proper officer of the board.

The board publishes a weekly bulletin, with occasional supplements on matters of importance. These official bulletins, of which one volume is now complete, will gradually become a medium of intercommunication between all the States of the Union, on such subjects as possess an interest common to them all.

It is necessary to bear in mind that the United States are "by no means an homogeneous whole," but have all sorts of climates, and all sorts of people as regards education and occupation; that the laws of the different States (except as regards foreign affairs, post-office, and customs) are made by the States themselves, and the central government at Washington has no control over the individual States except in those particulars.

Philosophically viewed, therefore, the attempted system of health organization is one dependent for its success on the wise adjustment of the central and local interests respectively; that is, on a tempered and temperate recognition of home rule or local government. And at present there is no sign that the practical wisdom of the American people is likely to fail them here, for the central board is advisory, and is only executive at the wish of the local authorities.

The work of this board is one of great interest from its magnitude and complexity, partly owing to the mobility and variety of condition in the population, and partly from the fact that it is undertaken when the united medical profession throughout the world has become fully alive to the vast importance of preventive medicine, and therefore is desirous to obtain precise information and reasonable regulations in respect of sanitary laws.

The States and Territories contain more than three and a half millions of square miles, extending nearly three thousand miles from north to southwest on the Atlantic coast, fifteen hundred miles on the west, and more than three thousand miles across from east to west.

The kind of information bearing on human health, which will be systematically accumulated, is such as will have had no previous parallel.

It is hoped that it may not be improper to observe that the best sanitarians of the United States fully recognize the debt which is due to the self-denying and active persons who, since 1842, have laid the foundations in this country of complete sanitary administration of the science of public health, and made our regulations as complete as they are.

It is worthy of notice that the United States Health Department is truly and practically a board, every member except the solicitor-general being selected on grounds of special fitness for sanitary work. Our local government board is not a board in the same sense, nor composed in the same way of persons chosen for their special knowledge. I say this, of course, under reserve, and with some diffidence. But it is understood that our five secretaries of state, the lord president, lord privy seal, and chancellor of the exchequer, do not and cannot take any active part in the proceedings in the board of nine, the number of the American board. In what relations the legal, engineering, medical, statistical, relief departments stand to the board as a board does not appear on the face of the constitution of the English board. The committees in the United States are essentially sub-departments of the common board, which unites under the president for all general consultative purposes. But into full particulars of this kind it were beside the present object, and indeed not proper, to enter in this place or on this occasion.

Nor can I fail to allude to another sanitary bureau which has been in operation for five years, that of the imperial Japanese government. I will not enter fully into the history of this bureau. But it is to be noted that its code is constructed on the model of codes in Europe and the United States. It publishes a magazine of information on home and foreign affairs. It is engaged in a work of great difficulty, in consequence partly of the large proportion which uneducated bear as yet to educated physicians; but it is carrying on this work in a temper of equal prudence and of zeal which is worthy of all praise. It is really interesting to find the same difficulties as some of those which affect us here appreciated by a very different but remarkable people, at an opposite portion of the globe, and to find them met in the same manner.

THE LATE MISS NEILSON.

DR. W. E. JOHNSTON, of the Boulevard Malesherbes, Paris, gives the following account of the actress's last illness in a letter to the *London Times*: "For the last five years I have had the charge of Miss Neilson's health during her visits to Paris, one of the treatments running through a period of four months. The disease from which she suffered principally was gastralgia, — one of the forms of dyspepsia attended with neuralgia of the stomach, a form extremely fantastic in its com-

ing and going, and in her case quite as dependent on moral causes as on errors of diet. The last fatal attack, in the Bois de Boulogne, was evidently one of her usual attacks of gastralgia, which might have been relieved then, as it often had been before, by a free use of morphia. The unfortunate lady sent her maid for me at seven o'clock, but to my great regret I was absent that evening on a visit to my family in the country, and did not hear of her illness till I heard of her death. At three o'clock in the morning, twelve hours from the commencement of the attack, during a most violent recurrence of the pain, she suddenly ceased to complain, went into a state of syncope, and died in the syncope. The post-mortem examination, made the next day by Dr. Brouardel, professor of legal medicine at the Medical School of Paris, and now one of the first authorities in Europe in legal medicine, disclosed the extraordinary fact, one of the rarest in the history of medicine, that in her writhing she had ruptured a varicose vein in the left Falloppian tube, and had died from internal hæmorrhage. Two quarts and a half of blood were found in the peritoneal cavity, and the ruptured vein presented an orifice of from four to five millimetres in diameter."

The following additional particulars of the fatal ill-

ness of the distinguished *artiste* will be read with interest: Dr. Monnier, of 12, Rue Copernic, was sent for and arrived at four o'clock. He found great physiological disturbance and vesical irritation, pains in the back, and oppression of the chest, with difficulty of breathing; pulse scarcely perceptible. He ordered tea, administered laudanum and ether, and gave instructions for linseed-meal poultices to be applied. The pain was not permanently relieved. Syncope occurred shortly afterwards, but the patient was restored by the application of warmth. Some time subsequently copious vomiting set in. About this time in the case a curious incident occurred, which somewhat disturbed the patient: a bat flew in at an open window and hovered around the bed. "Look at that great bird flying about me!" said Miss Neilson. After a while she grew quieter, and Dr. Monnier took his leave. Subsequently Dr. Gantillon was called in, and ordered two pills (colocynth), which acted freely. At 3.30 Dr. Monnier received an intimation that the patient was worse. On arrival at the house he found her apparently asleep, but was somewhat alarmed by her appearance. On returning to the room after a short absence, he discovered Miss Neilson had been dead about half an hour.

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 11, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal Zymotic Diseases.	Diarrhoeal Diseases.	Lung Diseases.	Diphtheria and Croup.	Typhoid Fever.
New York.....	1,085,000	569	255	50.40	17.57	9.67	7.38	.70
Philadelphia.....	901,380	302	64	17.22	6.62	1.65	3.97	2.98
Brooklyn.....	564,400	255	137	38.43	21.96	5.88	8.63	1.17
Chicago.....	—	181	108	40.88	14.36	4.42	13.81	3.31
St. Louis.....	—	110	38	50.60	15.45	.91	—	2.73
Baltimore.....	393,796	156	79	26.28	11.54	3.21	2.56	2.65
Boston.....	363,938	84	37	38.41	30.46	7.28	3.97	3.57
Cincinnati.....	280,000	84	37	21.43	11.90	2.38	1.19	—
New Orleans.....	210,000	90	24	16.67	2.22	5.56	—	—
District of Columbia.....	170,000	83	37	22.89	6.02	6.02	8.43	—
Buffalo.....	—	—	—	—	—	—	—	—
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,649	49	28	36.73	12.24	4.08	12.24	6.12
Milwaukee.....	127,000	42	19	21.43	14.29	4.76	—	—
Providence.....	104,862	38	17	28.95	21.05	5.26	—	2.63
New Haven.....	60,000	20	10	25.00	10.00	—	—	5.00
Charleston.....	57,000	25	14	16.00	8.00	4.00	—	—
Nashville.....	37,000	15	6	20.00	6.67	—	—	6.67
Lowell.....	59,340	36	25	50.00	41.67	2.78	—	2.78
Worcester.....	58,040	26	10	38.46	23.08	7.69	3.85	3.85
Cambridge.....	52,860	16	8	25.00	12.50	6.25	—	12.50
Fall River.....	48,626	37	28	13.51	8.11	5.41	2.70	2.70
Lawrence.....	39,068	15	4	13.33	6.67	—	6.67	—
Lynn.....	38,576	22	11	18.18	4.55	—	13.62	—
Springfield.....	33,536	9	3	11.11	11.11	—	—	—
Salem.....	27,347	6	4	50.00	33.33	—	16.67	—
New Bedford.....	27,268	13	5	15.38	7.69	7.69	—	—
Somerville.....	24,964	9	7	77.78	66.67	—	—	—
Holyoke.....	21,961	8	3	25.00	25.00	—	—	—
Chelsea.....	21,780	15	11	46.67	33.33	—	13.33	—
Taunton.....	21,145	4	1	—	—	—	—	—
Gloucester.....	19,288	13	5	23.08	15.38	38.46	7.69	—
Haverhill.....	18,478	11	3	36.36	9.09	—	18.18	—
Newton.....	16,994	1	1	—	—	100.00	—	—
Newburyport.....	13,470	6	4	50.00	33.33	—	—	6.67
Fitchburg.....	12,270	5	3	—	—	—	—	—
Sixteen Massachusetts towns.....	134,158	41	21	34.15	26.83	7.32	4.88	2.44

Deaths reported, 2463; 1102 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 720, diarrhoeal diseases 386, consumption 329, diphtheria and croup 140, lung diseases 135, malarial fevers 64, typhoid fever 49, scarlet fever 31, whooping-cough 31, small-pox seven, cerebro-spinal meningitis five, erysipelas five, measles two. From *malarial fevers*, New York 14, New Orleans 12, St. Louis 11, Brooklyn nine, District of Columbia six, Baltimore four, Chicago three, Cincinnati, New Haven, Charleston, Worcester, and Haverhill one. From *scarlet fever*, Chicago eight, New York five, Baltimore four, Brooklyn and Pittsburgh three, Providence two, Philadelphia, Cincinnati, Milwaukee, Worcester, New Bedford, and Somerville one. From *whooping-cough*, New York and Baltimore six, Brooklyn four, Chicago three, Philadelphia and Lowell two, St. Louis, Boston, Cincinnati, District of Columbia, Milwaukee, New Haven, Charleston, and Nashville one. From *small-pox*, Philadelphia seven. From *cerebro-spinal meningitis*, New York two, Philadelphia, Chicago, and Milwaukee one. From *erysipelas*, Brooklyn, Chicago, Baltimore, Boston, and New Orleans one. From *measles*, Chicago and Cincinnati one.

Forty-nine cases of diphtheria, 18 of scarlet fever, seven of whooping-cough, six of typhoid fever, and three of measles were reported in Brooklyn; diphtheria 14, scarlet fever two, in Boston; scarlet fever 19, diphtheria 10, in Milwaukee; diphtheria six, scarlet fever six, typhoid fever three, measles two, diarrhoeal diseases one, in Providence; scarlet fever four, diphtheria two, in New Bedford.

In 35 cities and towns of Massachusetts, with a population of 1,652,907 (population of the State 1,783,812), the total death-

rate for the week was 22.05 against 25.09 and 24.00 for the previous two weeks.

Total number of deaths slightly increased, deaths under five years, and deaths from diarrhoeal diseases slightly diminished.

For the week ending August 21st, in 149 German cities and towns, with an estimated population of 7,638,984, the death-rate was 25.2. Deaths reported, 5256; 2582 under five: pulmonary consumption 397, acute diseases of the respiratory organs 207, diphtheria and croup 98, typhoid fever 75, scarlet fever 64, whooping-cough 56, measles and röteln 32, puerperal fever 14, typhus fever (Ebbing, Thorn) two, small-pox (Königsberg, Bromberg) two. The death-rates ranged from 13.8 in Metz to 38.5 in Danzig; Königsberg 37.8; Breslau 34.3; Munich 27.3; Dresden 26.2; Berlin 29.4; Leipzig 24.1; Hamburg 30.5; Hannover 21; Bremen 25.8; Cologne 34.9; Frankfurt 20; Strasburg 35.7.

For the week ending August 28th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 25.1. Deaths reported, 3605; diarrhoea 958, acute diseases of the respiratory organs 124, scarlet fever 105, whooping-cough 76, fever 49, measles 32, diphtheria 16, small-pox (London) three. The death-rates ranged from 16 in Bristol to 35 in Leicester and Liverpool; London 21; Birmingham 27; Manchester 33. In Edinburgh 17; Glasgow 39; Dublin 38.

In the 20 chief towns in Switzerland for the week ending August 28th, population 526,856, there were 39 deaths from diarrhoeal diseases, acute diseases of the respiratory organs 13, diphtheria and croup seven, typhoid fever six, scarlet fever three, measles two, erysipelas one.

The meteorological record for the week in Boston was as follows:—

Date.	Barometer.		Thermometer.		Relative Humidity.			Direction of Wind.		Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.		Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
1880.																	
Sept. 5	29.86	80	93	71	90	40	64	59	W	W	W	8	12	9	C	F	C
" 6	29.83	78	92	66	69	39	69	63	W	W	W	10	13	12	F	F	O
" 7	29.95	66	77	63	64	48	78	62	N	E	NE	5	4	1	R	O	O
" 8	30.04	60	66	58	58	52	77	76	N	NE	NE	11	18	18	O	O	F
" 9	30.08	57	62	54	70	66	93	94	NE	NE	NE	17	20	22	O	O	R
" 10	30.03	54	57	52	100	100	81	61	NE	N	NW	26	23	9	R	R	O
" 11	30.22	63	77	49	79	33	72	68	W	W	W	11	7	6	C	C	C
Week.	30.00	65	93	49			69		W.							26 5	1.49

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM SEPTEMBER 11, 1880, TO SEPTEMBER 17, 1880.

MOORE, JOHN, major and surgeon. Assigned to temporary duty as member of the Medical Examining Board in New York city. S. O. 194, A. G. O., September 11, 1880.

CROSKRITTE, H. M., captain and assistant surgeon. Having reported in person at these headquarters, is assigned to temporary duty at Fort Sidney, Nebraska. S. O. 83, Department of the Platte, September 7, 1880.

AINSWORTH, F. C., captain and assistant surgeon. Granted leave of absence for six months. S. O. 196, A. G. O., September 14, 1880.

PRICE, C. E., captain and assistant surgeon. To report in person to the commanding general, Department of the East, for assignment to duty. S. O. 196, C. S., A. G. O.

REVIEWS.—Gentlemen who have received books for notice in the JOURNAL are requested to send in the reviews at their earliest possible convenience.—Ed.

BOOKS AND PAMPHLETS RECEIVED.—Notes on the Diseases of Women. Specially designed for Students preparing for Examination. By J. J. Reynolds, M. D.

A Contribution to the Pathological Histology of Acute Parotitis. By Edward C. Wendt, M. D. (Reprint.)

Internal Urethrotomy: Are the Benefits to be derived from it, as now advocated for the Relief of Stricture, commensurate with its Dangers? By Ambrose L. Ranney, M. D. (Reprint.)

Sanitary Association of Lynn. Annual Report of the Executive Council.

Circulars of Information of the Bureau of Education. No. 3. 1880. Legal Rights of Children.

Department of the Interior. Bureau of Education. Progress of Western Education in China and Siam.

The Indian School at Carlisle Barracks.

Vacation Colonies for Sickly School Children.

Transactions of the Mississippi State Medical Association, 1880.

Annual Address before the American Academy of Medicine at New York, September 16, 1879. By Lewis R. Steiner, M. D.

The Art of Prolonging Life. By Christopher William Hufeland. Edited by Erasmus Wilson, M. D. Philadelphia: Lindsay and Blakiston. 1880.

American Health Primers. School and Industrial Hygiene. By D. F. Lincoln, M. D. Philadelphia: Presley Blakiston. 1880.

What to do first in Accidents or Poisoning. By Charles W. Dulles, M. D. Philadelphia: Presley Blakiston. 1880.

Excision of the Lower End of the Femur. A Paper read before the Iowa State Medical Society. By J. W. Smith, M. D. (Reprint.)

Lectures.

CLINICAL LECTURES ON THE PHYSIOLOGICAL PATHOLOGY OF SYPHILIS.

DELIVERED AT THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK, SESSION OF 1878-79.

BY FESSENDEN N. OTIS, M. D.,

Clinical Professor of Genito-Urinary Diseases, etc.

VIII. TREATMENT OF SYPHILIS.

Thus far, mercury alone has been suggested in the cure of syphilis — this is simply because it is now conceded by all recent accepted authorities to be, when judiciously administered, the most certain — in point of fact, the only certain — means at our command for hastening and establishing a cure for syphilis during the active period of the disease. Since, according to the principles which have been previously insisted on, and to persons, otherwise healthy, who have acquired syphilis, it constitutes a perfectly safe remedy, — the most speedy in its effects and most easy of administration. Through its persistent and intelligent use by far the largest proportion of cases of syphilis may be carried to a complete and satisfactory cure. And yet it is not because mercury aids in the cure of the *initial lesion* or the *eruptions* of the active stage that it is chiefly valuable: it is that, better than any other known remedy, it prevents the later manifestations — the sequelae of syphilis, compared with which, the temporary inconveniences and sufferings of the early manifestations of the disease are insignificant. These will pass off in time, often in a very short time, and frequently with so little inconvenience or annoyance as to escape observation, — and this with any sort of treatment, or with no treatment: but without a thorough mercurial treatment, the liability to trouble from late lesions — the lesions of so-called tertiary syphilis, constitutes an ever-present peril throughout the life-time of the patient. With it he may rest in comparative security.

There are certain cases, however, where mercury is not well borne, where even the smallest quantity sets up serious irritation in the mucous surfaces, or in the lymphatic and salivary glands; where it aggravates the suppurative processes when present, and *predisposes* every manifestation of syphilis to suppuration. Some one, or even all, these accidents may be found resulting from the persistent use of mercury in persons of a highly scrofulous temperament. There are also rare cases where the susceptibility to the influence of this medicine, independently of any marked scrofulous tendencies, is abnormal.² The occurrence of syphilis in such constitutions is especially unfortunate, and must always occasion great solicitude, not only on account of the liability of the disease to pursue a more unfavorable course in such cases, but from the fact that the destruction and elimination of the syphilitic products (absolutely necessary to a cure of syphilis) is rendered difficult by reason of the lack of means to hasten tissue metamorphosis in such cases without including the healthy cell and tissue material, — material which, though capable of laudable development and stability under favoring circumstances, yet, when deteriorated

by the invasion of the syphilitic influence, is prone to break down under the stimulation required to set up fatty metamorphosis of the syphilitic products. Under such circumstances, if with judicious general care, and the use of tonic and supporting treatment, we shall find that tolerance of the remedy, in any form, is not attainable, we are then obliged to make use of other means or measures of recognized value in hastening transformation of tissue. We must, however, recognize the fact, that without mercury we have no prompt and reliable agent in combating the earliest manifestations of the disease.

Iodine and its compounds are found to be remedial agents of recognized value in hastening tissue metamorphosis. Iodine has been long celebrated for its influence in scrofulous hyperplasias, and especially in the treatment of bronchocele or goitre; but Dr. Wallace, of Dublin, was the first, in 1832, to present the iodide of potassium to the profession as of especial value in the treatment of syphilis. It was at once accepted as the best and readiest form of introducing iodine into the system, and soon came to be considered by many as a substitute for mercury — fully equal in its curative power, in all stages of syphilis, while comparatively innocuous in its effects upon the general organism.

Headland³ has credited Dr. Williams, of London, with being the first, in 1834, to claim that its chief value was in the treatment of the *late lesions* due to syphilis. It was then suggested that this value was partly, if not wholly, due to the power of the iodide of potassium to unite with certain insoluble forms of mercury, forming a soluble salt, through the absorption of which, the mercury previously administered but not completely absorbed, was rendered efficacious. Dr. Headland says: "It may sometimes fail to effect a cure: a failure which is often due to the *omission of mercury in the primary disease*."⁴

Notwithstanding these teachings, which were widely accepted, the iodide of potassium continued to be used in the early stages of syphilis, as well as in the later, as a substitute for mercury, and especially so, on account of strong prejudices against that remedy occasioned by its injudicious administration in syphilis, and its indiscriminate use in all forms of venereal disease.

To this same prejudice may be attributed the fact that, up to the present time, the iodide of potassium has continued to be used by many physicians, in the treatment of the early lesions of syphilis, to the exclusion of mercury; but the results of careful and extended clinical observation by our leading authorities in such matters have shown that its curative influence, in the early stages of syphilis, is small, and that its *power to prevent the later lesions of the disease* (in cases when no mercurials have been used) is so insignificant as to be scarcely recognizable. Its curative influence in the *later manifestations* due to syphilis, namely, in the true sequelae of the disease, is of a high order, and will be presently considered; but for all the active period, covering the initial lesion from its commencement, through the so-called secondary stage, including

² Headland on the Action of Medicines, 4th ed., London, 1867, page 204.

³ "The mercurial salts, like those of most other metals, form insoluble compounds with albuminous substances;" in this form it is claimed that mercury is chlorides in the tissues, and remains until coming in contact with chlorides, bromides, or iodides, it is re-dissolved and again brought into the circulation in an influential form. (Ibid., page 201.)

¹ Concluded from page 289.

² Bismarck says: "Mercurial treatment is contra-indicated in but few cases of syphilis, and chiefly when the disease is met with in patients who are already seriously affected by some other disease." (Ziessens's Encyc., vol. iii., page 291.)

all lesions incident to it, we have no well-settled testimony of the value of iodine or any of its compounds in interfering materially with the natural course of the disease.

In the absence, however, of any better means, we may use the iodide of potassium in the early stage of syphilis in doses of from five to ten grains, three times a day, in combination with a strong decoction or the fluid extract of sarsaparilla, using also such other measures and medicines as are of known or probable use in hastening tissue metamorphosis, as may be deemed judicious and found practicable in any given case.

We must not forget that the very *crowding* of the superfluous cells, which constitute the active element in syphilis, is highly conducive to their fatty degeneration, and that hence the tendency of the active lesions of syphilis is always toward recovery, *sua sponte*; that, in all probability, nine tenths of all the cases would recover completely in a year or two, if left to the unaided resources of nature. The importance of active interference lies, as has been before impressed upon you, chiefly in the fact that it is during this active period that, without efficient treatment, the damage to the lymphatic system which results in the late or so-called tertiary manifestations of syphilis is claimed to occur. The manner in which such manifestations are brought about was thoroughly discussed during Lectures V. and VI., devoted to the Period of Lymphatic Obstruction, page 41 *et sequitur*. The so-called "gummy material," there shown to constitute the substantial basis of every lesion of late syphilis, was demonstrated to be simply a collection of lymphatic elements, in no way differing from normal cell and tissue growth, confined *in loco* by obstruction to the lymphatic circulation at the points where the lesions occurred. The manner in which, through disturbances of nutrition, destruction of every kind of tissue occurred, was shown. Cases (page 44 *et seq.*) were brought before you illustrating the peculiar appearances and conditions associated with late syphilitic lesions of the skin, the cellular tissue, and the bones. One thing was made prominent in connection with all these cases, and in carefully executed plates representing lesions of the brain, the nervous system, and the viscera, namely, — *accumulations of the so-called gummy material in various conditions and stages of development*. Two prime necessities were shown to be essential to cure in every case: First, the disintegration, absorption, and elimination of a material, the presence of which was claimed to produce by mechanical pressure the various forms of disturbed nutrition and tissue necrosis, presenting; second, to break up and remove the fibrous material upon which the constriction of the lymph channels was claimed to depend. The so-called "gummioid material" was shown to be a simple collection of germinal elements and their debris.

The administration of iodine and the iodide of potassium was repeatedly alluded to as a potent agent in inducing fatty degeneration and elimination of such material, to be in fact as essential in the successful treatment of these late or tertiary lesions due to syphilis, as mercury was shown to be in the earlier manifestations and conditions of the disease. This is, and has long been, the reputation possessed by iodine and its compounds throughout the civilized world, and it is based *entirely upon the results of clinical observation*. What I propose now is to examine into the properties and powers of iodine and its com-

pounds, to see if we cannot find, in their highly curative action upon the late lesions due to syphilis, a confirmation of our position in regard to the causes of these lesions, and the manner of their improvement and cure under the influence of measures clinically proved to be efficient, and thus substitute a scientific reason for the administration of an approved class of remedies in place of the heretofore empirical assumption that they act as antidotes or specifics or tonics in the cure of the late lesions of syphilis.

In the first place iodine is unequivocally one of the most diffusible of all known remedies. It volatilizes with promptness, and is highly soluble. It is readily taken up by the blood, and thus carried to every portion of the human organism. It has been found by chemical analysis in the blood, saliva, milk, urine, and, according to Ringer, even in the urine of a sucking child whose mother was taking the iodide of potassium. This, then, fully establishes the capacity of iodine to come into actual contact with the products of syphilitic action in any subject of the disease. In the second place, its capacity to modify the products of new formation both in health and disease are well recognized. Fothergill says: "By means of iodine in its various forms (the most distinct and powerful absorbent with which we are acquainted) we excite the lymphatics into greater activity, and so reduce certain tissue enlargements, especially such as consist of certain forms of connective tissue."¹

Lancereaux says: "The salt of iodine is met with in the blood, with all its chemical qualities; . . . it does not modify the blood globules in form or number, but it has the property of acting upon the albumen of the blood. Like mercury, iodine would thus exert a modifying, *solvent* action upon the albumen, and to this action are due, according to Overbeck, the therapeutic effects of the preparations of iodine in syphilis."²

Headland says: "When given for some time it has the effect of impoverishing the blood and diminishing the quantity of fibrine."³ According to Mialhe, "Iodine is one of the most energetic of the class of fluidifiants,"⁴ or agents, which promote fluidity.⁵ Bartholow says that "the iodides increase waste and the elimination of the products of waste." In short, then, according to the best and most recent authorities, we have in iodine and the iodide of potassium remedial agents of the highest value in stimulating the functions of absorption and secretion, of reducing albumen and fibrine in the system, — remedies, also, possessing highly solvent properties when brought into contact with cells and tissues of new formation, — in short, of promoting in well-known ways the process of tissue metamorphosis, through which alone the so-called *gummy material*, which (as far as known, the only material causing the lesions of late syphilis) can be dissolved and eliminated. In the acknowledged absence of any demonstrable virus we are forced to accept a material explanation of these lesions due to syphilis. They have been shown to consist simply of normal germinal elements, accumulated at points where such lesions have occurred, and in sufficient degree to cause by the mechanical obstruction, the disturbance associated with their presence. To a contraction or obstruction of the lymphatic channels at such points alone can

¹ Fothergill on Treatment, page 448.

² Lancereaux on Syphilis, page 330.

³ Headland on the Action of Medicines, page 207.

⁴ Headland, foot-note, page 393.

⁵ Therapeutics, MS., 1879, page 188.

we refer the localized accumulation of this superfluous germinal material. Contractions can only occur through antecedent deposit of fibrous or connective tissue material, such as has been shown to result to greater or less degree throughout the lymphatic system in the active stage of syphilis.

We have then in the treatment of all the late lesions due to syphilis, and according to these views, two pathological conditions which legitimately demand consideration: first, the accumulated material which produces damage to the various structures involved, by mechanical pressure; second, the fibrous material, causing the contraction or obliteration of the lymphatic channels. In the first condition we should expect prompt and efficient relief to the accumulated germinal material through the influence of iodine and the iodide of potassium. Iodide of potassium, says Ringer, is the most soluble of all forms of iodine. It has been found also to be a form the most convenient for administration, and the one most usually acceptable in its effects upon the digestive apparatus. It has, therefore, been most generally used in the treatment of the so-called tertiary stage of syphilis.

Of the practical results of its use, simply as expressing the accepted status of this remedy in the late lesions due to syphilis, I will quote from the most recent authorities on therapeutics in this country, and which is but the reflection of the teachings of distinguished syphilographers throughout the world at the present day. "No therapeutical fact is more conspicuous than the cure of syphilis of the nervous system (arising from the presence of so-called gummy material) by the iodides. Mental disorders, epileptiform seizures, paralytic states, etc., dependent upon *gummatous nodes*, etc., are usually removed (by their use) in a manner little short of magical. Syphilitic paraplegia is equally amenable to the same means. The various neuralgias of syphilitic origin (that is to say caused by the presence of gummata), occurring in any situation, are usually very promptly cured by the iodide of potassium. . . . There is no therapeutical fact more conclusively established than the power of iodide of potassa, in large doses, to arrest destructive syphilitic ulceration of the nares, palate, tonsils, and larynx."¹ Through their solvent or fluidifiant properties; through their action in stimulating the function of the mucous, lymphatic, and salivary glands; through its power to hasten tissue metamorphosis, iodine and its compounds constitute just the remedies which, from a purely scientific standpoint, we should select as best calculated to remove the elements of new formation which are demonstrated in the constitution of the so-called "*gummy material*." We have prescribed the iodide of potassium to arrest the progress of disease in the cases hitherto brought before you (pages 14 et seq.), and it is just the remedy which we shall find it judicious to prescribe in every case of late trouble due to syphilis, of whatever appearance, or in whatever locality, unless through some personal idiosyncrasy this form of iodine is not well borne.

The second condition alluded to as calling for attention in the treatment of the late lesions due to syphilis is that of the lymphatic channels, where we have shown that there is reason for believing contractions and obstructions due to deposit and organization more or less complete of fibrous material. Here we find, as might

have been inferred *a priori*, that the iodides are not sufficient; that while competent to cause the removal of the gummy material, in the great majority of cases (as previously suggested at page 50), the condition for its reaccumulation remains, and relapses occur. This is a well-established clinical fact. It is also as well established that through administration of a mercurial, in addition to or in combination with the iodide of potassium cures are more speedy and permanent; and hence it has come to be considered requisite for the successful management of lesions of all kinds due to late syphilis to combine mercury with the iodide of potassium. Fothergill says, "By the combination, then, of mercury to break down structurally the neoplastic growths, and iodine to stimulate the lymphatics, we can remove the products of excessive or perverted nutrition."²

It has, I think, been conclusively shown that the so-called gummy material of syphilis is, in the broadest view which can be scientifically taken in regard to it, nothing more than "the products of excessive or perverted nutrition." As such, then, we treat them with mercury and the iodide of potassium; not with the intention of neutralizing a virus, but upon principles which enable us, in case of inability from idiosyncrasy of the patient or from any other cause, to supply other remedial agents and measures, which, though less efficient, will yet be in the direction of intelligent effort to remove not alone the immediate results of syphilitic action, but to combat and often dissipate the conditions upon which the persistent recurrence of the lesions due to late syphilis is shown to depend.

Original Articles.

THE INFLUENCE OF AORTIC ANEURISM AND AORTIC INSUFFICIENCY, SINGLY AND COMBINED, ON THE RETARDATION OF THE PULSE.

BY A. T. KEYT, M. D., CINCINNATI, OHIO.

"L'anévrisme de la portion initiale de l'aorte coexistant avec une insuffisance aortique large, on n'observe pas l'exagération générale du retard du pouls qui est caractéristique de l'anévrisme siégeant à ce niveau; l'influence retardatrice de l'anévrisme est contrebalancée, par l'influence inverse de l'insuffisance aortique; la résultante de ces deux effets opposés qui se combinent, est la conservation de la valeur normale ou presque normale du retard du pouls."¹

In the above paragraph François-Franck states in effect three distinct propositions:—

(1.) Aneurism of the ascending portion of the aorta increases the retardation of the pulse above the normal value.

(2.) Large insufficiency of the aortic valves diminishes the retardation of the pulse below the normal value.

(3.) The coexistence of aortic aneurism with large aortic insufficiency causes the retardation of the pulse to preserve the normal, or nearly normal, value.

The truth of the first proposition has been sufficiently attested by François-Franck's researches and my own.³ That aortic aneurism produces abnormal delay of the pulse is no longer a question, but remains as one of the great facts of clinical sphygmography.

In regard to the second proposition, François-Franck first insisted on theoretical grounds that the pulse

¹ Treatise on Therapeutics, page 188. By Roberts Bartholow. Appleton & Co., New York, 1879.

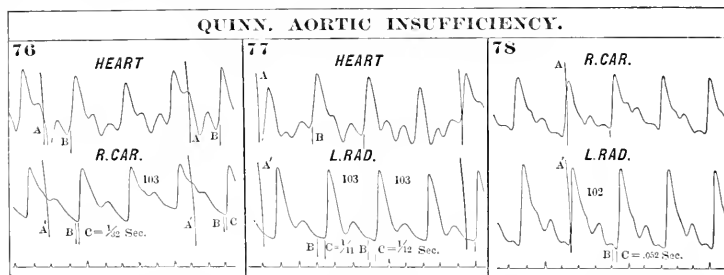
² Fothergill on Treatment, page 449.

³ Journal de l'Anat. et de la Physiol., t. xv. (Mars-Avril, 1879).

⁴ New York Medical Record, November 23, 1879.

would appear earlier than normal in the condition of large aortic insufficiency, and afterwards was able to produce clinical cases in proof of the correctness of the view. I also, before I had known of M. Franck's researches, had arrived by *à priori* reasoning at this same conclusion,¹ and now, in substantiation, I will place on record the following case:—

Cincinnati Hospital. Service of Dr. C. G. Coiegys. Quinn, age thirty-two years. Diagnosis, aortic insufficiency, with hypertrophy of left ventricle.



Graphic records taken March 27, 1880. No. 76 shows simultaneous tracings of the heart and right carotid, and No. 77 of the heart and left radial; the corresponding time in each also is shown. By very careful measurement² the delay of the carotid pulse on the heart is placed at one thirty-second of a second. The normal delay with pulse-rate at 103, as in this instance, would be about twice this interval. The cardio-radial interval is shown to measure one eleventh to one twelfth of a second. The normal interval would be not less than one eighth of a second.

This was a plain case of free aortic regurgitation, and the graphic records can only be regarded as demonstrating a greatly abbreviated cardio-arterial interval as the direct effect of the aortic insufficiency.

What is the explanation of this interesting fact? In large aortic insufficiency the base of the arterial column rests against the sides of the ventricle instead of against the aortic valves, and is advanced, causing rise of the pulse with the first movement of ventricular contraction. The result is due to shortening or near extinction of the presphygmic interval. This explanation is so complete and satisfactory to my mind, that I am surprised that François-Franck should, without reference to the presphygmic interval, attempt to explain the fact through the idea of increased rate of transmission of the pulse-wave under the conditions of aortic insufficiency.

The velocity of the pulse-wave in this case was rapid indeed, as shown in No. 78, where the time-difference between the carotid and radial pulses measures about one nineteenth of a second. But the greatest possible reduction of the cardio-carotid transit interval would signify fail to account for the great reduction here instanced of the cardio-carotid interval. Therefore the reduction must have been due to marked abbreviation of the presphygmic interval.

¹ Cincinnati Lancet and Clinic, March 22, 1879.

² My custom is to make and mark all measurements from the original slides, and then trust photographic transfer and skillful engraving for correct reproductions; and so accurate is this work, that usually the measurements from the reproductions correspond exactly with those from the originals.

In practical value this fact. I think, stands first among the list of clinical facts brought to light by the graphic method. It stands as the exponent of large aortic insufficiency. This condition and no other will produce abnormal precipitation of the pulse on the heart.

In this connection, however, it is important to observe that the phenomenon under consideration will only be manifest in complete (large) insufficiency of the aortic valves, — the condition in which they are per-

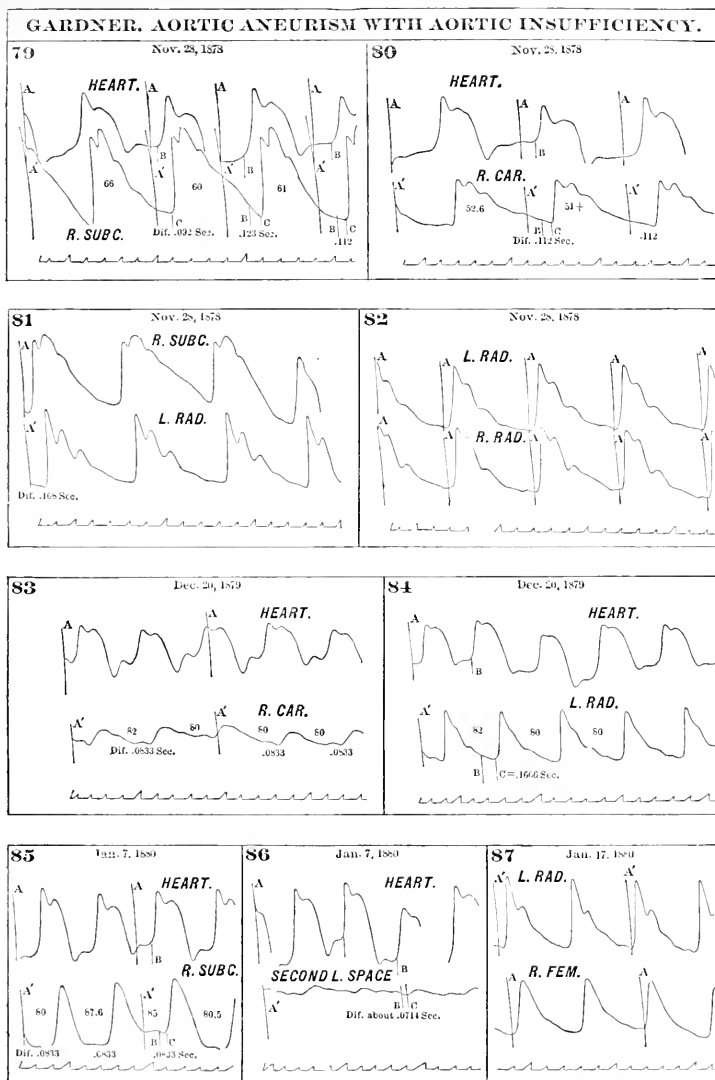
manently open, and the beginning of ventricular systole finds no barrier between the blood in the ventricle and the blood in the aorta. The condition of partial insufficiency in which the valves permit reflux for a time after the beginning of diastole, yet finally close so that the beginning of systole finds the barrier intact, will not signal the phenomenon.

The third proposition is necessarily deducible from the two preceding. If aortic aneurism causes retardation of the pulse, and aortic insufficiency causes precipitation of the pulse, then the conjoint action of the two conditions would counteract each other, and cause the succession of the pulse on the heart to approximate more or less nearly the normal time.

The following case is given in exemplification of this interesting and important fact:—

Charles Gardner, aged fifty-six years, came under my notice in November, 1878, presenting the following symptoms and physical signs: General weakness, dyspnea on exertion, inability to lie down, pains in chest, back of head, left side of neck, and left shoulder; pulse to fingers strong, full, infrequent, and regular; heart's impulse increased; area of cardiac dullness increased; pronounced double murmur heard over front of chest and in the back; the systolic accentuated at the right base, and conducted towards right clavicle; the diastolic also accentuated at right base, but propagated downwards over body of left ventricle; murmur but faintly heard at apex; at the site of the right subclavian pulse, above the clavicle, a pulsating tumor the size of a pigeon's egg; also visible, but less prominent, pulsation of left subclavian. Graphic observations with my compound sphygmograph were taken November 28th. Samples of the tracings are here faithfully reproduced. No. 79 shows the heart and right subclavian tumor; No. 80, the heart and right carotid; No. 81, the heart and left radial; and No. 82, the two radials, — each pair taken simultaneously, with accompanying time in fifths of seconds.

In December, 1879, I noted the case again. There had been progressive decline, the pains had become more severe and persistent. The action of the heart



and arteries had greatly diminished, and the pulsations become more frequent. The subclavian pulsations had subsided within normal limits. The evidences of enlarged heart, and the murmurs, with the same characters, continued; and in addition feeble undulations were perceptible in the second right interspace near the sternum, and in the first and second left interspaces. Also, the voice at times showed failure, and the power of deglutition was not always perfect. December 20th, tracings were obtained as shown in Nos. 83 and 84;

again, January 7, 1880, as shown in Nos. 85 and 86, and January 17th, as shown in No. 87.

The patient continued to decline, and died July 13, 1880, right hemiplegia setting in a day or two previous to his death.

At the post mortem were present Drs. Isham, Freeman, Barrows, and myself. The following are the notes: Pericardium contained several ounces of fluid. Left ventricle hypertrophied, walls fully one inch thick. Mitral valves, with the exception of slight thickening

towards the base, healthy; evidently fatty, competent during life. Aortic orifice enlarged; aortic valves thickened, corrugated, and calcified throughout; evidently wholly incompetent during life. Ascending aorta greatly dilated, atheromatous, and studded with calcareous matter. Transverse portion of arch the seat of a large aneurism. The sac projected from the anterior superior portion of the wall, and was attached to the upper portion of the sternum, the left clavicle, and first left rib, and pressed upon the trachea and oesophagus. It was full three inches in interior diameter; its walls were soft and flabby, about the thickness of normal left auricular parietes. The surface of the sternum, against which the tumor pressed, was eroded, and about half its thickness removed; also, there was erosion of the sternal end of the left clavicle and first left rib. A mass of laminated fibrine the size of a walnut occupied the distal portion of the sac and projected into the ascending aorta. The latter was also much dilated. The innominate and first part of the right subclavian were dilated to about twice the normal diameters. The right and left common carotids and left subclavian were about normal size. Both auricles, the right ventricle, and right-side valves were normal.

This case was complete, and a typical one of combined aortic aneurism and aortic insufficiency. The sphygmographic records were also complete. The latter we examine with interest, especially at present, with reference to the succession of the arterial pulses on the systole of the ventricle. Evidently aneurism, as in the present case, of the transverse portion of the arch, involving the origins of the three great arteries, namely, innominate, left common carotid, and left subclavian, entails the same effect on the succession of the pulses as aneurism of the ascending portion only; that is, the pulses are all abnormally delayed, and the symmetrical pulses of either side are equally delayed.

The tracings were taken and the successions measured with the greatest care; so the intervals expressed on the plates are reliable, and must approximate throughout very closely the true ones. The showings are as follows:—

November 28, 1878. No. 79. Pulse-rate 66-60. Cardio-subclavian interval .109 second (average).

No. 80. Pulse-rate 52-51. Cardio-carotid interval .112 second.
December 24, 1879. No. 83. Pulse-rate 82-80. Cardio-carotid interval .0833 second.

No. 84. Pulse-rate 82-80. Cardio-radial interval .1666 second.
January 7, 1880. No. 85. Pulse-rate 87-80. Cardio-subclavian interval .0833 second.

These measurements are sufficiently near the normal. In the variations of the time-differences, however, I noticed a bearing towards the longer time, and the average of all the observations, of which a portion only are shown, would indicate rather longer time than obtains in strictly normal conditions, but not sufficiently prolonged to exceed the healthy range or permit the counting of such delay as a definite indication. Then in this case the coexisting aortic aneurism and aortic insufficiency so counterbalanced each other that the retardation of the pulses on the heart was within the normal range.

According to the size and yielding nature of the aneurism must be the amount of delay impressed upon the pulse. An aneurism may be such in these respects as to cause a delay that would overbalance the precipitation entailed by the aortic insufficiency. On the other hand, the conditions may be reversed, and a large aortic insufficiency entail a precipitation that would

overbalance the delay caused by the aortic aneurism. However, when the two conditions coexist, the delay will never be so great as to definitely favor the wrong diagnosis of aortic aneurism alone, nor so small as to definitely favor the wrong diagnosis of aortic insufficiency alone. *If the diagnosis of aortic aneurism be certain, and the pulse, notably the carotid or subclavian, shows no abnormal delay, the conclusion is justified that aortic insufficiency coexists. If the diagnosis of large aortic insufficiency be certain, and the pulse, notably the carotid or subclavian, shows no abnormal precipitation, the conclusion is positive that aortic aneurism coexists.*

So in our case the ordinary signs and symptoms, at the first examination, were sufficient to determine the presence of large aortic insufficiency. Accepting this, the want of abnormal precipitation of the carotid and subclavian pulses enabled me to arrive at the diagnosis of coexisting aortic aneurism before there were any other indications of this condition.

As of interest relating to the localization of aortic aneurism: No. 82 shows the two radial pulses simultaneous, which proves that the aneurism was seated in the ascending portion anterior to the origin of the innominate, or that it was seated in the transverse portion so as to include the origins of both the innominate and left subclavian (and of course also the left common carotid). No. 87 shows the left radial as compared with the right femoral slightly delayed. This is the more usual normal relationship of these pulses, and proves that the aneurism was anterior to the origin of the left subclavian artery. Evidently, had the aneurism been below the origin of the left subclavian, the femoral would have shown delay as compared with the radial. No. 86 shows that the pulsation in the second left interspace succeeded the cardiac pulsation about .0714 of a second, and therefore aided the diagnosis of aneurism as located.

No. 80 is given to show a very ample and finely delineated radial pulse, and the rate of transmission of the pulse-wave between the subclavian and radial points under the conditions then existing in the case. The time-difference measures .108 second, which indicates a rather slow pulse-wave transmission. If this be compared with the carotid-radial interval in the case of Quinn, namely, .052 second, as shown in No. 78, a remarkable difference becomes apparent in the pulse-wave velocity of the two cases. The causes of this diversity are to be found in the dissimilar conditions which pertain to the respective cases.

A CASE OF ENCYSTED ASCITES SIMULATING OVARIAN DROPSY; OPERATION; DEATH; AUTOPSY.

BY AUG. F. ERICH, M. D.,

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The following case, illustrating the difficulties of the differential diagnosis between encysted dropsy of the peritoneum and of the ovary, is published as a contribution to the statistics of those mistakes in diagnosis which to a wise physician are said to be "more instructive than twenty successes."¹

Annie Talbot, colored, aged twenty, unmarried, but

¹ D. Hayes Agnew. Address before the Pennsylvania State Medical Society, 1878.

mother of two children, consulted me at the Central Dispensary on August 26, 1875, on account of an abdominal tumor. Her last child was born in 1872. She has had no abortions. Menstruation began when she was thirteen years old, and continued regularly until between two and three years ago. At that time she began to have pains in the abdomen, and about two years ago she noticed a tumor in the right iliac region. Since then she has had a great deal of pain in that situation, and the tumor has been constantly enlarging. From the first appearance of the tumor her menstruation had become very irregular, and the amount of the discharge had generally been large. During the last six months she had ceased to menstruate. She has never had leucorrhœa. Has much pain while walking, which she describes as sharp and lancinating.

The abdomen at the umbilicus measured thirty-two inches, the right half being decidedly larger than the left. There were present all the physical signs of a large ovarian cyst in the right side of the abdomen, such as rotundity of the abdomen in the supine posture, dullness on percussion over the surface of the abdomen in the same position, percussion sounds unaltered upon change of position. No evidences of renal, hepatic, or cardiac disease. Skin normal as to color, moisture, etc. No œdema of the feet. The sitting posture affected the shape of the abdomen but little; the line of dullness on its upper boundary, however, was curved, with its convexity upward. Aortic pulsation was transmitted. The uterus was retroverted, of normal size, and slightly movable. A smooth and round tumor occupied the entire roof of the vagina. Her health had not failed more than is usual in ovarian dropsy.

The late Professor Thomas R. Brown, whose untimely death leaves a void in the ranks of progressive surgeons not easy to fill, was present at the examination, and stated that the patient had been under his care for some time; that he had examined her carefully, and diagnosed unilocular ovarian cyst. He had evacuated the cyst by tapping, and finding, upon careful palpation of the abdomen, only so much of the cyst remaining as could be attributed to the collapsed cyst walls, and the fluid evacuated corresponding to all the chemical and microscopic characters stated to be present in ovarian cystic fluids, he sent the case to me for operation. Concurring in the opinion of Professor Brown, with reference to the nature of the case, I determined to operate as soon as more favorable weather set in.

The patient, having suffered much from pain and loss of sleep, presented that peculiarly anxious expression of countenance so characteristic of ovarian dropsy. She was placed upon tonics and alteratives, and also opiates for the relief of pain and sleeplessness. Under this treatment she soon gained flesh, and lost entirely that anxious expression of the face already mentioned, so that on the day of operation she presented a good supply of adipose tissue, and was otherwise in good condition for the operation.

About the middle of September the patient had an attack of peritonitis, which, however, yielded readily to large doses of morphia and quinine. A few days before the operation she was etherized and subjected to another most careful examination, in the presence and with the assistance of Professors Brown and Lynch. During this examination two additional facts were elicited:—

(1.) The presence of a small amount of ascitic fluid in the peritoneal cavity, especially on the left side of the abdomen.

(2.) Slight resonance at a circumscribed point upon the anterior surface of the tumor, near the umbilicus.

The small amount of the ascitic fluid was thought to be the result of the recent attack of peritonitis, and the circumscribed resonance attributed to a loop of intestine adhering to the anterior surface of the tumor, — a rare condition referred to by Peaslee.¹

No other disease except encysted dropsy of the peritoneum could present so many characteristic signs of ovarian cyst as were present in this case; but so many of the suppo-ol distinctive signs of this disease, as laid down by Peaslee,² were absent, that the diagnosis of ovarian cyst was, I think, justified. The diagnostic features of ovarian dropsy, as given by Peaslee, were nearly all present, as rapid growth of the tumor, impairment of health, with the peculiar features, prominence of abdomen, tumor felt per vaginam, uterus behind tumor, large quantity of fluid, and, as positively stated by Professor Brown, a microscopist of experience, the presence of the so-called "ovarian cell." In view of these facts it was decided to operate. On October 29, 1875, after all the usual preparations for ovariotomy had been made, the patient was etherized, and an explorative incision of three inches in length was made in the linea alba. Upon entering the peritoneum a profuse quantity of amber-colored fluid gushed forth, making it evident that the cyst had been opened. An introduction of the hand into the cavity soon satisfied me that the case was one of encysted ascites. I next proceeded to detach the adhesions, and in doing so opened the main cavity of the peritoneum, which was indicated by a new gush of a similar fluid. Finding what seemed to be small cysts between coils of intestine adherent to each other, I enlarged the incision to five inches, opened a number of cysts ranging in size from a hen's egg to an orange, and after carefully cleaning out the abdominal cavity a Thomas's drainage tube was introduced, and the wound closed by deep sutures of silver wire and superficial sutures of silk. The time occupied in the operation from the first incision to the closing of the wound was sixty-one minutes.

Immediately after the operation the patient's temperature was 98.25° F.; pulse 100. She was put to bed, and pain averted by hypodermic injections of morphia. She was nourished by rectal injections of a mixture consisting of beef-essence, sweet cream, egg, and whisky. In addition four grains of quinine were given, also per rectum. Later, when the injections were no longer retained, astringents were added to check the diarrhœa. Nothing but ice with a little whisky or table tea could be given by the mouth without exciting vomiting. The abdominal cavity was washed out every eight hours with carbolic water of the strength of sixteen grammes to the pint. Later, one drachm of chloride of sodium was added to each pint of the injection. The temperature, pulse, and respiration were recorded every six hours. The temperature generally ranged between 100° F. and 101° F., only four out of the observations taken rising as high as 103° F. The range of the pulse was between 110 and 160, and the respiration between 20 and 24. The observation taken

¹ Ovarian Tumors, New York, 1872, page 150.

² Op. cit., pages 155, 156.

on the sixth day after the operation and five hours before death was, temperature 101.5° F., pulse 140, respiration 18.

Symptoms of septicæmia were developed as early as the third day. Neither temperature, pulse, or respiration indicated the approach of death. The rapidly failing strength and progressively increasing loss of consciousness were the only indications of that issue. Death took place at 1.53 p. m., of November 4th, the patient having lived a little over six days after the operation. The autopsy was held by my colleague Professor Bevan, whose report is as follows:—

POST-MORTEM EXAMINATION OF ANNIE TALEOTT.

"Section made eight hours after death, November 4, 1875:—

"The wound through the abdominal walls made at the operation was five inches in length; the lower part of this incision externally had united around the drainage tube; the external upper part of wound ununited. At points corresponding to the wire and silk sutures adhesion had taken place.

"The post-mortem incision was made from the median line to the angle of the eighth rib, then to crest of the right ilium, along Poupart's ligament to the crest of the left ilium, and the flap thus included turned to the left side.

"The ascending and transverse colon was adherent to the parietes; the stomach was bound firmly to the liver and transverse colon. The peritonæum, both visceral and parietal layers, was of a creamy white color, and everywhere covered with recently exuded lymph. The whole mass of the intestines was firmly bound together, to the neighboring organs and to the abdominal walls. Here and there small pouches or cysts, containing serum, and varying in size from a walnut to a coconut, were found. They were completely enveloped by either peritoneal adhesions or bridges of lymph. Immediately under the liver and between that organ and the ascending colon was quite a large pouch or cyst; another cyst was found on a line with the umbilicus, between the internal border of the colon, small intestines, and abdominal parietes. The entire contents of the abdomen were bathed with a yellowish ochre-colored fluid of a highly offensive odor. The drainage tube had passed behind the uterus, lymph had formed a complete wall around it, and by an adhesion between the posterior and lower portion of the uterus and the rectum Douglas's cul-de-sac had been obliterated. The ovaries were normal. A cyst of the size of a hen's egg was found at the fundus uteri. The peritonæum over and around the symphysis pubis was much thickened and easily torn. The internal surface of the operative incision was united at one or two points, whilst its edges generally were blackened and gangrenous; this gangrenous condition extended some distance on the small intestines beneath the wound. Kidneys normal. Liver of normal size and color, but very friable. Lungs adherent by their bases to the pleura and diaphragm, but otherwise natural. No evidences of tubercle or glandular enlargement about the body. Heart normal."

The death of the patient was evidently due more to septicæmia than to peritonitis. Perfect drainage and washing out of the abdominal cavity was rendered impossible by the numerous divisions formed by the adhesions between the intestines. In addition, the intestines surrounding the drainage tube had become

agglutinated, thus preventing the water entering the main cavity of the peritonæum. This accident suggests the propriety of connecting the drainage tube with the injection apparatus in such a manner as to cause the water partially to fill and distend the cavity before allowing it to escape. I have learned to consider a drainage tube a sometimes necessary evil, and think that it should be dispensed with whenever the peritonæum can be kept clean without it.

An examination of the fluid removed from the cysts gave a specific gravity of 1030; it was of an amber color, did not coagulate spontaneously, and left a thick deposit. A microscopic examination discovered granular bodies corresponding to the "ovarian cell" described by Dr. Drysdale, of Philadelphia, and by him considered diagnostic of ovarian cysts.

After a careful consideration of all the circumstances of this case, and after no inconsiderable subsequent experience, I am as yet "aware of no means by which such cases are to be distinguished from ovarian dropsy."¹

RECENT PROGRESS IN ANATOMY.

BY THOMAS DWIGHT, M. D.

THE DEVELOPMENT OF THE STERNUM AND OF THE STERNO-CLAVICULAR JOINT.²

THE observations recorded in this paper refer to three points in the early development of the human sternum and its neighboring parts, namely: the bone itself, the ensiform cartilage, and the parts included between the inner ends of the clavicles. The work has been carefully performed, and the article is about as readable as the nature of the subject will permit. Dr. Ruge's method has been to examine the parts of young human embryos in glycerine with a low power, and then to make a number of microscopic sections of them.

Two views have been held as to the development of the sternum; one that it is formed by the fusion of two lateral halves, the other, that it is originally a median organ. The latter view, which, we believe, has had but few supporters, may now be definitely set aside, at least for the human sternum. Dr. Ruge unfortunately has not seen any of the very earliest stages, but he shows that the two halves appear in connection with the ribs. In a fetus three em. long they are still separate, though nearly touching in the region of the manubrium. It is there that they first unite, and the line of union runs downward. A transverse line between the second ribs shows the separation of the manubrium from the body. In early stages a similar line is observed between the third ribs. This subsequently disappears in a way that recalls the primary segmentation of the notochord.

Dr. Ruge finds that the ensiform cartilage is also double in its origin, and is formed in a similar way in connection with the ends of the eighth and ninth ribs. A retrograde metamorphosis on each side of this cartilage brings about the adult condition. The author calls attention to the fact that most mammals, and even some of the highest, have more than seven pairs of sternal ribs; hence their transient appearance in the embryo is in accord with several well known phenomena. The occasional variations observed in the

¹ T. Spencer Wells. Disease of the Ovaries, page 134.

² By G. Ruge. Morphologisches Jahrbuch, Band VI., Heft 3, 1880.

adult when more or fewer than seven ribs join the sternum point to a deficiency or an excess of the retrograde process.

Ruge's observations on the upper end of the sternum are very curious, but their signification is not evident. At an early period, when the two halves of the sternum are still distinct, a body appears above each half, between it and the clavicle. Should the too hasty reader jump at the conclusion that these represent the inter-articular cartilages, we beg leave to tell him that he is entirely wrong. The case is by no means so simple. These two bodies become more distinctly cartilaginous and unite into one. At the same time they change their position, so that by the time they form but one, this lies between the upper ends of the sternum, and when at last these unite they inclose it. The lines of separation disappear, and this therefore forms the upper central portion of the manubrium. At about the time this union takes place, changes are observed in the tissue between the sternum and the clavicle. Three layers appear on each side, which are separated one from another by fissures which form the cavities of the joint. The middle layer becomes the inter-articular fibro-cartilage; the outer and inner the cartilage on the clavicle and sternum, respectively. Ruge is inclined to ascribe the little episternal cartilages or bones, which occasionally occur, to remnants of the inner of these three layers. He also seems disposed to hold that all three of them represent the episternum. If so, it must be admitted that the sterno-clavicular joint occurs in the episternum itself. This interpretation is, we think, to be taken with caution. The meaning of the central piece which is included in the sternum is also very obscure. Ruge mentions the possibility of its coming from a seventh cervical rib, which subsequently retrogresses. He thinks that its perfect union with the sternum is in favor of its having also a costal origin. We are inclined to agree with him on this point, and to think it very likely that this piece represents the episternum, which is thus originally double like the rest of the bone and the ensiform cartilage; on the other hand, we see no occasion to suppose that the early stages of the sterno-clavicular joints represent anything else than what they actually are.

THE PHARYNGEAL TONSIL AND BURSA.¹

In two words, the pharyngeal tonsil is a mass of adenoid tissue in the mucous membrane of the top of the pharynx, and the bursa is a median depression or fold in the same. It is frequently divided by a transverse fold into an anterior and posterior portion. Ganghofner considers the existence of the bursa as the rule and not the exception. He finds no demonstration of the theory that it represents a fetal passage from the pharynx to the cranial cavity. He describes the gross appearances of the pharyngeal tonsil of the new born child essentially as follows. The mucous membrane of the roof of the pharynx presents a number (some six or seven) of ridges. The two nearest the median line run about longitudinally, but the outer ones are convex. Their anterior ends converge in the forward third of the roof of the pharynx, and the posterior ends converge to a depression inclosed by the two innermost ridges.

The ridges of this tonsil can be observed in embryos of even three months, with the help of a lens. In chil-

dren of two or three years they are more distinctly marked. Later, the outer ones are less plain. In the full-grown adult the pharyngeal tonsil is only exceptionally found, at least in examining from the surface.

THE ACTION OF THE INTERCOSTALS² AND OF THE DIAPHRAGM.³

Professor Ebner publishes the results of a vast amount of work on the perplexing question of the action of the intercostal muscles and of the *levator costarum*. The essential part of his method consists in measuring the length of the muscle in various positions, and in assuming that a position in which the points of origin and insertion are brought nearer together is occasioned in part, at least, by the action of the muscle thus shortened. There is probably little danger of error in applying this method to most muscles of the body, but in the case of the intercostals it must be treated with reserve; for, after all, it is by no means established that in ordinary respiration these muscles take much part in causing the movements of the chest. Professor Ebner experimented on thoraces from which everything had been removed but the muscles in question. In some cases an iron rod was passed through the vertebral canal, and the sternum raised and lowered. In other cases, motions of flexion and extension were imparted to the spine. Twisting was also tried, and on other subjects the motions of respiration were imitated by inflating the lungs. We do not propose to give Professor Ebner's results, for in spite of the great labor he has evidently spent on the subject, we fear his researches are of little value. The question is not what the intercostals might do if they acted alone, but how they act, if at all, in respiration as it actually occurs. To try to imitate it by inflating the lungs is absurd, for no amount of inflation can bring the diaphragm and several muscles of the trunk into contraction. Their contraction makes many points, which otherwise would be movable, more or less fixed ones; and, of course, alters all the mechanical relations of the thorax. Any method in which this is lost sight of must necessarily give wrong results. Though this paper does little towards solving the question really at issue, there are parts of it that are well worth reading.

We take Dr. Forbes's paper in this connection because the action of the diaphragm is of such great importance in respiration. Not only does its contraction affect the lower ribs, but, in order that it may contract effectually, it is necessary that the lower ribs should be fixed, at least to some extent. This we believe is done by the *quadratus lumborum*, the deep muscles of the back, and possibly by the abdominal muscles. If this be admitted, all experiments which ignore this fixation, and in which the thorax is assumed to be freely and equally movable, are evidently valueless.

Dr. Forbes, it is true, does not touch this part of the subject. His object is to show the importance of the diaphragm in protecting the heart and in promoting the circulation; hence he, not unnaturally, tends to undervalue its respiratory functions. He calls attention to some points of anatomy which deserve to be remembered. After a general description of the diaphragm, he thus discusses its relations to the pericardium:—

"From the right and left external lateral surfaces of

¹ By Dr. F. Ganghofner. Sitzungsberichte der Akademie des Wissenschaften zu Wien, Band LXXVIII., Heft 1-5, 1879.

² By Prof. V. v. Ebner. Archiv für Anatomie und Entwicklungsgeschichte, 1880, second and third Heft.

³ By W. S. Forbes, M. D. The American Journal of the Medical Sciences, July, 1880.

the fibrous membrane of the pericardium, and from near the apex of the pericardial cone, prolongations of the fibrous tissues continue upwards as strong bands, forming the antero-lateral parietes of the superior portion of the posterior mediastinal space and reaching the inner aspect of the first rib on each side, and, coalescing with the thoracic fascia of Sir Astley Cooper, are held in a fixed position by this fascia, which is stretched across the apex of the thoracic cone. These two strong bands, continuous with the lateral portion of the pericardium, thus form fibrous planes reaching from each side of the central tendon of the diaphragm to the bony apex of the thoracic cone. They form what may be called the superior tendinous crura of the diaphragm, upon the sides of which the phrenic nerves descend to reach the diaphragm; and by means of transverse and oblique bands of fibrous tissue connecting these tendinous crura together at and above the pericardial cone, a strong fibrous scaffolding is formed on which the great cardiac vessels are supported and protected. These superior tendinous crura of the diaphragm are inextensible."

We will now quote Dr. Forbes from remarks on the consequences of this arrangement: "The muscular fibres at the circumference of the diaphragm contracting, and the pericardial portion of the central tendon being fixed on a plane with the lower part of the body of the ninth dorsal vertebra, which cannot descend on account of the superior crura and the fibrous scaffolding which I have pointed out, the following parts are acted upon: the aortic arch of the diaphragm is drawn forward and made more free; the muscular œsophageal opening is contracted; the tendinous vena cava opening is held open to its fullest extent. Continuing to contract, the muscular circumference of the diaphragm now exerts its force on the pericardium and the superior crura or lateral fibrous planes, and upon the fibrous scaffolding between these crura, thus holding it open and tense, — open to allow the flow of blood to and from the heart, and tense in order to protect the heart and blood-vessels, which if not protected would have their function greatly impaired by pressure on the part of the now expanding lungs." Dr. Forbes points out that the diaphragm would act in this manner even if prevented from descending, but he does not seem fully to appreciate how important it is that the lower part of the thorax should be to some extent fixed.

Dr. Forbes gives the diaphragm credit for another important function, that of closing the *ductus arteriosus* at birth. The fibrous scaffolding surrounding this vessel is indirectly connected with muscular fibres of the diaphragm, and as these contract it compresses the duct and favors the formation of a clot in it. At the same time, the collateral circulation through the still small pulmonary arteries is promoted. Dr. Forbes denies that "the expansion of the lungs *per se*" has anything to do with the closure of the *ductus arteriosus*. We are not convinced of the correctness of his views on these latter points. Whatever other functions the diaphragm may have, and it has others besides those mentioned here, it is certain that its action in respiration is very important.

THE CARVATORES COCCYGIS.¹

Professor M. Watson reports a case of the occurrence of these very rare muscles, which were probably first described by Albinus. Some anatomists say that

ing of them; others mention them, but in a manner that suggests that one has borrowed the account from another. Professor Watson describes them as of equal size and symmetrically situated. They were two and a half inches long, the greatest breadth being half an inch. They arose from the anterior surface of the sacrum, between the third and fourth anterior sacral foramina, and were attached to the bodies of the last sacral and first coccygeal vertebrae. The two muscles united in a tendon which was inserted into the last piece of the coccyx, though the bulk of the fibres went into the third and fourth coccygeal vertebrae and a few into the second. It is evident that the two muscles have the shape of a V. These muscles are said to be wanting in the anthropoid apes, but they are found, we believe, in most mammals, and are said to be strongly developed in those who use the tail as an organ of prehension.

Hospital Practice and Clinical Memoranda.

BOSTON CITY HOSPITAL.

CASES REPORTED BY H. L. BURRILL, M. D.

INCISED WOUND INTO PERITONEAL CAVITY; INTENTINE WOUNDED; ESCAPE OF FÆCES; RECOVERY.

On the evening of May 27, 1879, J. B., aged thirty-eight, stevedore, was stabbed by his wife with a sheath knife.

On May 28th he entered the hospital with an incised wound three and one half inches to the right of and on a level with the umbilicus. A serous fluid is discharging from the wound; it is one and a half inches in depth; a probe passes downwards and slightly to the right a distance of three and a half inches into the abdomen. No marked abdominal tenderness. Pulse 90. Temperature 99.4° F. A graduated compress was placed over the wound. One half a grain of morphine was given subcutaneously.

May 29th. This p. m. feces were discharged from abdominal wound. Pain not severe. Abdomen tympanitic. Much more tenderness on right than on left side.

May 31st. Wound still discharging freely.

June 1st. Very little pain; considerable tenderness over right lower portion of abdomen.

June 2d. Patient attempted to get out of bed last night. Quite delirious. One sixth of a grain of morphia was given subcutaneously. Quite rational, however, this morning.

June 3d. No discharge of fecal matter since yesterday afternoon.

June 5th. Very slight tenderness, except very near the wound. No fecal discharge from wound. Dejection last night.

June 6th. Had two natural dejections to-day.

June 14th. There is to-day for the first time a discharge of pus from the wound.

June 25th. Discharge has wholly ceased, and wound is completely closed. Patient moves about the ward.

June 30th. Patient comfortable. Has normal, painless dejections.

During the next month was about the ward; had no pain, digested food, and walked well, and on July 30th was dismissed, "well."

¹ Journal of Anatomy and Physiology, July, 1880.

WOUND OF ABDOMINAL PARIETES; PROTRUSION OF OMENTUM; LISTER DRESSING; RECOVERY.

While playing one evening, B. G., aged ten, slipped, fell, and was impaled on an iron picket-fence. Entered hospital half an hour later.

There was a wound one and three quarters inches long, situated at the junction of the middle and inner thirds of a line between the right anterior superior spine of the ilium and the spine of the pubes; from this wound a swelling extended upwards and inwards, about three inches, towards the umbilicus; through this wound protruded a piece of omentum the size of an English walnut.

Patient being etherized, Dr. Ingalls reduced the omentum which had protruded in the above-mentioned oblique direction. A "counter opening" was made opposite the upper end of the swelling into the abdominal cavity; a deep silver and four superficial sutures approximated the edges of this opening. Two superficial sutures were used in the original wound, leaving an opening for drainage in the centre. Full "Lister" precautions. Milk diet.

September 20th. Very comfortable. No pain. Temperature 100° F. From this time the temperature never went above 99° F.

September 25th. No constitutional disturbance has been observed. No opiates have ever been necessary.

October 1st. "Lister" for the first time disturbed; no leakage. Sutures removed, and excellent union found. Adhesive plaster to support the parts, and simple cerate dressing.

October 10th. Is up and about the ward, and on the 11th was discharged, well, with a nearly linear cicatrix.

WOUND OF ABDOMEN; PROTRUSION OF INTESTINE; INTESTINE REPLACED; RECOVERY.

J. S., thirty-two years old, bar-tender, had always been in excellent health, but a steady drinker. In a "bar-room fight" was stabbed in the left hypogastric region. Entered the hospital August 3d, with an incised wound, commencing two inches within and a little above the left anterior superior spine of the ilium; it is one inch in length, and passes obliquely upwards and inwards; protruding from it is a knuckle of intestine two inches in length, which had been exposed about an hour and a half, and was red and injected. Hot cloths applied.

The knuckle slipped back into the abdomen before the arrival of Dr. Fifield (an hour's interval), who found on digital examination of wound that the muscle and fascia were so widely separated at the internal opening that deep sutures were deemed unavailing; consequently two superficial sutures were taken, and wound closed; adhesive plaster; pledget of lint and compress applied over all. There was also a slight incised wound on left thigh, but of no particular moment.

Patient put to bed; foot of bed elevated; thighs slightly flexed and supported by a pillow. One grain of opium given every six hours; four ounces of brandy per diem; milk diet.

August 4th. Patient comfortable, but slightly feverish.

August 5th. Complaints of pain in wound of leg. No abdominal tenderness. Passes flatus.

August 6th. Very comfortable. Opium every eight hours.

August 7th. Stitches removed from wound on thigh.

August 9th. Bandage and stitches removed from abdominal wound; only a drop of pus; wound gapes, approximated by adhesive plaster. Two ounces of brandy per diem.

August 11th. Opium omitted, and a cathartic given, followed by three copious dejections.

August 12th. No pain or abdominal tenderness. Wound nearly closed.

August 18th. Wound has entirely closed, leaving a cicatrix one inch in length and one fourth inch wide. The temperature in this case was not above 100° F., except on the third day, when it reached 102° F., but it fell the next morning.

September 4th. Patient has been waiting for a truss; now has a well-fitted abdominal truss, which he is to wear whenever in the upright position. Discharged, well.

Reports of Societies.

THE AMERICAN GYNÆCOLOGICAL SOCIETY.

The third day's meeting was called to order on Friday, September 3d, at nine A. M. The following gentlemen were elected officers of the society: President, Dr. W. H. Byford, of Chicago; vice-presidents, Dr. T. A. Reamy of Cincinnati, and Dr. H. F. Campbell of Augusta; council, Dr. A. H. Smith of Philadelphia, Dr. J. C. Reeve of Dayton, Dr. G. H. Lyman of Boston, Dr. J. T. Johnson of Washington; secretary, Dr. James R. Chadwick, of Boston; treasurer, Dr. Paul F. Mundé, of New York. It was voted to meet next year in New York, on the third Wednesday of September. Dr. D. H. Storer was promoted to honorary fellowship in the society. Dr. C. D. Palmer, of Cincinnati, was elected a Fellow. The sum of \$400 was voted to the secretary for clerical services.

Dr. Theophilus Parvin, of Indianapolis, read a paper on Secondary Puerperal Hemorrhage, which will shortly be published in the JOURNAL. The following discussion took place on the subject.

DISCUSSION OF DR. PARVIN'S PAPER.

Dr. Campbell said: Every one who has had experience in obstetrics must admit that hemorrhage is one of the most frightful accidents that can occur after labor. It is one of the most rapid in producing death. I have had a great deal of experience, but I am glad to say that my patient has never actually died during one of these hemorrhages, although I have been intensely alarmed by them. It is my habit before labor and during labor to act with a view of fighting off all accidents, but above all others hemorrhage. I compress the uterus for the separation of the placenta, and knead it if the thinness of the walls of the abdomen permit it. I compress it and examine it every few minutes. I have a morbid horror of hemorrhages. The binder is spoken of by some with disrespect, but I have the greatest respect for it, and use it; it acts like the compression of the sheet we used to apply in tapping after ascites. It prevents a faintness from the sudden relaxation of the abdominal muscles.

When called to one of these cases, I remove the clots, call for a piece of ice and run it up to the womb,

and give a dose of ergot and compress the abdomen. I place a book in the region of the umbilicus and a binder upon it. But where ice will not stop it my resource is in the injection of iodine. I was present in four cases of application of the tincture of the solution of iodine in hæmorrhage. It leaves no clot, produces no pain, and generally effects a contraction instantaneous and permanent. I use a Mattison syringe. I pour into an ordinary wine-glass one ounce of tincture of iodine and four of water, introduce my tube, and begin to inject the iodine. Its effect is wonderful and delightful. The clots fall out, and in an instant you feel a firm contraction. I have never known it to fail, and have reason to feel that with iodine in my obstetrical bag, and the tube, etc., I am ready in such cases while the heart still beats. That I present as a perfectly reliable and not dangerous application, providing the fatal stage of insanguination has not taken place. As to iron, I have a horror of it; I would just as soon put a brickbat in the womb. It makes a clot as hard as an old piece of putty after it had been in a window pane for ten years. In some cases I might first try iron with a mop, so as to leave little there to form a coagulum.

Dr. Wilson spoke in substance as follows: In a considerable obstetric practice for thirty years I have had but three cases of alarming puerperal hæmorrhage. I have attributed that in a great measure to the fact that I never pull upon the cord. When the placenta remains, I always prefer to put my hand into the uterus. I never leave a woman until I pass my hand into the cavity of the uterus and let it remain there until I feel a contraction of the uterus and expulsion of the placenta. I think a large majority of cases of secondary puerperal hæmorrhage result from the retention of some small portion of the placenta. There is some foreign substance remaining which sets up the hæmorrhage. I have seen a number of secondary puerperal hæmorrhages continue from one to two months, and in every instance I have met with I have found some small portion remaining in the uterus; so that if I have a case of secondary puerperal hæmorrhage I never fail to carry my finger into the uterus. You can always, in these cases, with your hand on the abdomen, shove down the uterus so that you can examine it. Of course, the cure for this is to remove any small foreign substance which may be found in it. I have never been bold enough to inject iron into the cavity of the uterus. In one of my cases the uterus contracted five or six times, and expanded as it contracted. In my desperation—the woman was dying under my hands—I gave the woman ergot and put a lump of ice in the uterus. It would contract as often as my hand would be inserted, and then expand again. I had not time to get an electric battery, or to have a consultation, or anything. The woman was dying. In an instant it flashed on my mind that under other circumstances I would use the curette. Instantly I put my hand in, and, with pretty long finger nails, I raked and raked until my hand was expelled, and then she had no further dilatation, and the woman got well.

Dr. Barker said he had listened with a great deal of interest to this paper and to the discussion. His views as to the theory, causation, and practice in these cases had been fully expressed in print. He had listened with great interest, not knowing whether the author of the paper lived in a malarial region.

The author of the paper alluded to albumen in the blood as a cause, but did not make any special reference to malarial poisoning, so far as I understood. I wish to inquire of those who reside in malarial regions whether it is not a quite frequent cause. Within the last few years we have often had severe complications of the puerperal and malarial states; so much so that I was induced to prepare a paper on what I termed *puerperal malarial fever*. In one out of ten cases secondary hæmorrhages attends these cases. What I wish to ascertain is whether this is equally observed in other malarial sections.

With regard to the administration of tincture of iodine, I am sorry to say that I have not met with such complete success as Dr. Campbell. One of my colleagues in obstetrics used iodine in one of these cases without effect. Every other resource had been used prior to this, with the exception of hot-water injections. We then agreed to use hot-water injections. We injected something like two gallons of water at a temperature of 110° F. into the vagina. This contracted the uterus, the patient recovered with great rapidity, and there was no recurrence of it.

Iron I have often used. I am well aware of the objections to it, as to what it produces, but in no case have I seen any fatal results. I have always seen it result favorably. But I do not think I shall use it again, except as a last resort, when all other resources have failed.

Dr. Engelmann said he had treated some cases by introducing the speculum and mopping the uterine cavity with a solution of iron. If small wads of cotton are soaked in a solution of iron and the uterine cavity mopped with them, the organ generally contracts. This method was to be used only in cases where the hæmorrhage was not caused by a retained mass.

Dr. Campbell said: Dr. Barker referred to malarial causes as producing hæmorrhage. I live in a strictly malarial district, and from my observations I can fully indorse what he says of post-puerperal affections that malaria may produce. I find that the fever which comes on with the paroxysms, and even the hæmorrhages of an intermittent character, are wonderfully modified, if not cured, by the administration of quinine.

Dr. Parvin said he regretted that he had not referred in his paper to malarial poisoning as a cause of secondary puerperal hæmorrhage. It was recognized by physicians as one of the reasons for the administration of quinine to patients after confinement; but if it happened to be a malarial region, and at a time when the malarial poison was peculiarly rife, he would administer quinine both before and subsequent to the confinement.

Dr. W. T. Howard, of Baltimore, read a paper on *Three Fatal Cases of Rupture of the Uterus, with Laparotomy*. This paper was discussed by Drs. Wilson, Parvin, Campbell, and Howard. The society adjourned at one P. M.

In the afternoon session the first paper read was by Dr. James R. Chadwick, of Boston, on the *Hot Rectal Douche*. He said:—

In selecting a title for this paper I have intentionally rejected the term "enema" lest it should suggest that the practice of injecting hot water into the rectum has for its purpose the removal from that viscus of its fecal contents. I have, moreover, sought to ally my use of hot water in the rectum to the well known hot

vaginal douche, because their chief purposes and results are similar, though I believe the hot rectal douche to be in many cases more efficient.

The first group of cases in which I have of late been in the habit of relying upon the hot rectal douche as the sole therapeutic means, includes cases having for their prominent symptom *diarrhœa*, whether acute or chronic, characterized by small frequent evacuations, the cause of which has seemed attributable to inflammation or at least irritation of the mucous membrane lining the rectum and large intestine. Reasoning from the marked benefit derived from the use of water to wash out the morbid secretions of the mucous membrane of the bladder in cystitis, I have for three years been employing the same means for the same purpose in analogous conditions of the lower segment of the alimentary canal, with a like remedial effect. Of course we all know that cold or warm enemata have been resorted to from time immemorial in the treatment of rectal irritability, yet the chief avowed purpose has been the removal of the fecal masses, which, when present, have very properly been regarded as one source of the irritation. In the cases which I shall detail, the dependence of the diarrhœa upon the irritation produced by fecal scybala was definitely eliminated.

Then followed a report of four cases of diarrhœa. He then continued:—

The douche has in my hands proved useful in many other cases of similar character, with one single exception of which I have notes. It was a case of neurasthenia, at one time complicated with retroversion; the douche arrested the diarrhœa at first, but failed utterly to do so on subsequent occasions.

My experience has, however, been so generally satisfactory that I now rarely resort to internal remedies for the arrest of such diarrhœas as can be attributed to conditions of the rectum and large intestine, by which practice I avoid the deleterious effects of opiates, astringents, etc., upon the general system.

Having been brought up to believe that the hot vaginal douche, as carried out and extolled by Dr. Emmet, should be the chief reliance of physicians in the treatment of all inflammatory conditions within the pelvis, I was early in my practice disappointed with the results of its use, considering the great labor and no little expense involved in the carrying of it out. Dr. Emmet says that the injections cannot be properly taken by the patient unaided; there must therefore be a nurse or friend; the woman must be upon her back, the bed or couch must be so arranged that the hips will be higher than the head; she must have a syringe and bed-pan, both of which will probably require filling or emptying more than once during each injection, or must be exceptionally large and cumbersome, or else the bed-pan must be supplied with an overflow pipe discharging into a vessel by the side of the bed. Among the greater part of my patients I have found it impossible, for one reason or another, to secure the requisite attention to all these details. The result was disappointment to me as well as lack of benefit to the patient. Seeking to circumvent these obstacles to success in treatment, my attention was drawn to the very limited extent of the organs and tissues commonly affected with which the vaginal walls come in contact.

When the peritonæum investing the adjacent organs becomes inflamed, it is manifest that the alimentary canal, as the route by which hot water may be brought into close propinquity with the inflamed sur-

faces, has an incalculable superiority over the vagina, except perhaps in the acute stage of inflammation, when the peristaltic action, which would probably be excited by a rectal douche, might be productive of more harm than the heat and moisture of good. In consequence of this one contra-indication I have restricted my use of the hot rectal douche to the post-inflammatory stage of disease. At such a period hot water introduced into the rectum, in the manner hereafter to be described, will fill the whole pelvic and part of the abdominal cavities, disseminating a grateful warmth, relieving pains, producing, if Emmet's theory be correct, anæmia of the tissues, with which it comes into close propinquity, and promoting resolution and absorption of effused lymph. The effect, moreover, does not cease with the injection, for a large part of the water will often be retained for a considerable period of time. Incidentally the removal of feces, thus rendered certain, is of benefit.

The method of administration of the hot rectal douche, with a view to attaining its utmost benefits, aims at securing the passage of the water in large volume to as high a point as possible in the alimentary tract and its retention for as long a period as possible. Water is taken at as high a temperature as can be borne by the hand; the patient is placed upon her side, preferably the right, in bed; a fountain syringe holding two quarts is employed, suspended quite low, so that the flow of water may be slow; as soon as the patient has a sensation of a desire to defæcate, or the rectum is felt by the finger in the vagina to be distended, the current of water is arrested for a few minutes, without withdrawal of the nozzle from the anus. In this wise one or two quarts of water may commonly be introduced without exciting peristaltic action. The patient must remain quiet for a quarter to half an hour, when, if not sooner, the rectum will generally expel a portion if not all of the water. I am unable to state how high in the intestine the water usually passes, but I am satisfied that it occasionally traverses the whole large intestine to the ileo-cæcal valve.

I generally direct that the douches shall be taken two or three times a day for two or three weeks, then to be intermitted for a week, although this last precaution I hardly think necessary, for I have several times continued the injections four or five weeks without causing any ill effect upon the rectum. In a certain number of cases the douche has given rise to pain at the time of injection, or immediately afterward; when I have considered it as contra-indicated.

In conclusion, I would reiterate that I recommend the douche chiefly for two entirely distinct classes of cases:—

First, inflammatory conditions of the rectum and large intestine—acute or chronic—characterized by diarrhœa, pain, backache, etc.

Second, the conditions that follow inflammations of the pelvic organs and of the pelvic peritonæum or cellular tissue, characterized by painful defæcation, backache, pain or burning sensations in the abdomen, etc.

The paper was then discussed by Drs. Howard, Campbell, Reamy, and Chadwick. The last paper was by Dr. J. A. Eve, of Augusta, on Occlusion of the Gravid Uterus. Dr. Eve said:—

Occlusion of the pregnant uterus must be of extremely rare occurrence, for there is comparatively little written on the subject in the principal standard obstetric works.

There is only one case reported in the *Obstetric Journal of Great Britain and Ireland*, and reference made to another, but none either in the *American Journal of Obstetrics*, or in the *Transactions of the American Gynecological Society*.

Dr. Hamilton, of Falkirk, referred to a case of occlusion, in a discussion on the use of the forceps before the Edinburgh Obstetrical Society.

In Dr. Hodge's elaborate work on the principles and practice of obstetrics, under the head of Vaginal Hysterotomy, he relates two cases of occlusion which occurred in the practice of Dr. Bedford; this would certainly indicate that none had ever been encountered in his own most extensive practice.

The following short extract from Cazeaux is all he says on the subject:—

"At the present day it is an ascertained fact that the neck of the womb may be entirely obliterated at the time of labor; and, where a case of this kind does occur, the vaginal Cæsarean operation should doubtless be performed. But it is an exceedingly rare occurrence, and the accoucheur must not permit himself to be deceived by a great obliquity of the cervix, rendering the orifice of difficult access, or by the agglutination of the lips of the os tince, since it is possible for an overlapping of the two latter to be mistaken for an absolute obliteration of the orifice. 'Several times,' says Duges, 'we have found the anterior lip covered and embraced by the posterior one, which thus masked the opening, so that the finger could only penetrate it in a very oblique direction; though, when effected, this introduction furnished a means of rectifying the error promptly, and of reducing the parts to a more favorable state.' A complete obliteration of the cervix, when certainly detected, evidently demands the vaginal Cæsarean operation."

Dr. Playfair has known occlusion to recur in two successive pregnancies in the same woman. Dr. Harris, the editor of the second American edition, remarks: "Occlusion of the uterus, from inflammatory change, sometimes so alters the cervix that no sign of the original opening can be discovered; and in two such instances, in the United States, the Cæsarean operation has been performed, in which the women were saved." It is to be hoped it was the vaginal, and not the abdominal, Cæsarean section.

Dr. Leishman, in his excellent system of midwifery, reports no case of entire occlusion, but he teaches the proper treatment, should such a case occur,—that is, early incision. He advises an antero-posterior incision, which, though preferable to the lateral, is certainly not so safe as the crucial or multiple incisions.

In Dr. Chambaud's case the patient first came under treatment, during the third month of pregnancy, for hæmorrhage. By appropriate treatment the hæmorrhage was arrested, but returned after a short time.

Dr. Chambaud is certainly correct in believing that the incision was deferred too long after the commencement of labor, but the great mistake was in not calling him to the case much sooner.

My own experience with nitrate of silver, during pregnancy, has been very different. In former years, when nitrate of silver was the general remedy in cervical inflammation, I treated a number of cases of endocervicitis, both early and late, during gestation, and always with the most satisfactory results.

Whilst stenosis and sometimes complete occlusion have followed the employment of nitrate of silver in

the absence of pregnancy, in no instance has the least contraction been observed in the pregnant uterus; so much has this been the case, that I have supposed that the normal ramollissement of the cervix, attendant on pregnancy, prevented any tendency to contraction or rigidity of the os or cervix from its use. I have treated a number of patients with nitrate of silver who had previously been the subjects of frequent miscarriages, and thus enabled them to complete their gestation, the labor at full term being unembarrassed by stenosis or occlusion of the cervix.

No credit is claimed for the prevention of contraction or occlusion, in cases treated by nitrate of silver during pregnancy, for neither was apprehended. However, since I have more frequently employed iodized phenol instead of nitrate of silver, no occlusion, stenosis, or rigidity has been observed to follow its application, and the result has generally been more satisfactory. The only case of occlusion of the gravid uterus, seen by me, occurred in the practice of my friends, Drs. W. L. and E. D. Alfriend, of Sparta, Ga.

Diagnosis.—The diagnosis in some cases would unquestionably be very difficult, possibly requiring the introduction of the whole hand into the vagina; it is even possible, as Denman supposes, that a case of great obliquity might be mistaken for occlusion; that is, the os may have turned so far back, or to one side, as to be out of reach of the examining finger.

In great anterior obliquity the cervix is turned so far back into the hollow of the sacrum that it cannot be reached without placing the patient on her back, elevating the pelvis, and raising the uterus; and it might possibly be necessary to insert the whole hand into the vagina.

In a case of lateral obliquity in which labor had continued some days, during which time the attending physician had only once touched the cervix, as soon as the patient's position was changed from the side to the back, and the womb placed in the median line, the os was readily reached, and the labor terminated rapidly.

Etiology.—Inflammation must generally, if not always, be the cause of occlusion during pregnancy, whether the inflammation be the result of mechanical injury, cauterization, syphilis, or gonorrhœa, etc. Among such causes as exert this influence very rarely, Dr. Eklund mentions "deep spontaneous ulcerative lesions occurring during pregnancy; likewise diphtheritic formations, and vaginal injections with caustic liquids."¹

Treatment.—As soon as the diagnosis is declared, the proper treatment must certainly be an early recourse to incision: that is, after the failure of endeavors to open the os by the finger, probe, or sound, and after sufficient time had been allowed to determine whether the uterine contractions could overcome the occlusion. Further delay could not be otherwise than disastrous to the mother or child, or to both, as it has been in several cases recorded by Ashwell, and other authors.

Craniotomy and the forceps have been required, after incisions, to accomplish the delivery; these procedures were doubtless necessary, owing to the long delay before recourse was had to incision, or, possibly, may have been required, owing to some peculiarity of the case, independent of the occlusion.

¹ Strictures of the Cervical Canal, by A. Fredrik Eklund, M. D. Upsal, Stockholm, Sweden. Translated from the Swedish by A. Sibley Campbell, A. B., M. D., Augusta, Georgia.

Incision, crucial or multiple, is the treatment for occlusion, which should be resorted to as soon as detected. I would urge, both for the purpose of discovering and diagnosing this rare but troublesome lesion, and for the more intelligent and efficient performance of the incisions, that a speculum be employed.

Recent Literature.

Transactions of the American Gynecological Society.

Vol. IV. For the year 1879. 8vo, pp. 506. Boston: Houghton, Mifflin & Co. 1880.

THE general style and character of this volume are, as usual, exceedingly good, and the society certainly has reason to be proud of its published Transactions. That it should still require nine months to prepare the volume for issue is to be greatly regretted, for its value would be much enhanced to the profession generally if they could receive it in November or December of the same year, instead of in June of the year following. To this end the secretary presented a motion at the last meeting which would undoubtedly have overcome this serious difficulty; but the motion was unfortunately rejected.

The book opens with the Annual Address of the president, Dr. T. G. Thomas, upon the Gynecology of the Future, and its Relations to Surgery. The conservative tone throughout the address is very pleasing. By this is not meant a refusal to give timely and necessary surgical interference, as will be seen from the following extract: "I assume the position that an enlightened conservative surgery is the pivot around which is to revolve the gynecology of the future; that he who is incapable of meeting the demand for this will, in the future, be, by that fact, incapacitated from rising to the required level; and that a gynecologist of the future without surgical attainments will be as impossible as an ophthalmologist without them is to-day." The discussions of the next two papers on Intra-Uterine Medication, by Dr. James P. White and Dr. Robert Battey, were united after the reading by the latter, and proved one of the most interesting as well as instructive discussions of the meeting. It is to be regretted, however, that at its close the society as such did not give expression to some definite opinion upon a subject of so great importance, that the profession at large might have something to guide them in the practice, as an opinion so expressed would do.

The next two papers in order, The Treatment of Puerperal Septicæmia by Intra-Uterine Injections, by Dr. E. W. Jenks, and Cases of Sporadic Septicæmia in Gynecological Practice, by Dr. J. R. Chadwick, were of great value; the first had real worth in itself, particularly in its summary of conclusions at the close, and the cases of the second elicited very valuable discussions by some of the most influential members of the society. Dr. S. C. Busey's paper on the Cicatrices of Pregnancy shows an amount of study in its preparation which it is pleasing to see. One of the very best articles in the volume is that on Prolapse of the Ovaries, by Dr. P. F. Mundé. Its subject is a much-neglected one, whose importance is, however, keenly felt by every gynecologist. It is treated in a most systematic and practical manner, and every physician should possess the volume for this monogram alone.

Dr. T. Spencer Wells then contributes a case of Re-

moval of Both Ovaries for Dysmenorrhœa, which is followed by an article on Kolpo-Cystotomy by Galvano-Cantery, by Dr. J. Byrne.

An exceedingly important article of the volume is next in order, on Measurements of the Uterine Cavity in Childbed, by Dr. A. D. Sinclair; being the result of a series of carefully conducted examinations by Dr. W. L. Richardson, at the Boston Lying-In Hospital. The writer shows a much more rapid involution undergone by the uterus after labor than has been usually admitted.

Dr. Isaac E. Taylor furnishes two articles: The Early Application of the Forceps in the First Stage of Natural Labor, and Atresia of the Vagina. Other very interesting articles are reported by Drs. W. Goodell, J. T. Johnson, J. C. Reeves, E. Van de Warker, W. H. Byford, W. T. Lusk, N. Bozeman, W. L. Richardson, and H. F. Campbell. The book closes with a memorial sketch, by Dr. Parvin, of Dr. Marmaduke B. Wright, one of the honorary members of the society.

Eyesight: Good and Bad. A Treatise on the Exercise and Preservation of Vision. By ROBERT BRIDENELL CARTER, F. R. C. S., etc. London: Macmillan & Co. 1880.

Mr. Carter's style is so pleasing that there is a strong presumption that anything he has written will be agreeable reading. But this is not the only merit of the little book before us. Written for lay readers, as the author phrases it, "to teach precepts and injunctions which every one should know," it yet contains many practical hints as to the proper employment of glasses, the arrangement of light, etc., that may well be of value to the physician also. For the purpose for which the volume was intended we know of none better, if any as good as this. Mr. Carter makes one statement, however, which should not go uncontradicted, namely, that "Holmgren's method for detection of color-blindness is the only certain one." Excellent as this method is, it is by no means alone in accuracy.

—The Gymnasium for Ladies and Children, which has received such cordial support since its establishment two years ago, will begin its third year on Monday, October 11th, in new and greatly enlarged quarters. It has been removed from 34 Essex Street to the fine and spacious hall at No. 503 Washington Street. The gymnasium will remain as hitherto under the direction and personal supervision of Miss Mary E. Allen. The long-existing need for more commodious and convenient quarters will be admirably met in the new establishment. The light, ventilation, and heating appliances are said to be all that could be desired, and the dimensions of the hall allow full scope for the working of the different apparatus, and for effective marching and other evolutions. Several well-arranged dressing-rooms, heated by steam, and with toilet conveniences, are attached, and everything needed for the comfort of patrons will be carefully provided. Patients sent by physicians will receive careful attention. Some of our best physicians testify to the care exercised by Miss Allen over the ladies and children intrusted to her charge.

Medical and Surgical Journal.

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A HEALTH JUBILEE.

IN the last two years, when yellow fever was ravaging a part of the country, there was plenty of groaning and lamentation. It is very fit that there should be a proper recognition of the complete immunity of the whole country from this affliction the present summer. This is one subject, at least, in regard to which the North and the South may indulge themselves in a solidity of opinion and a solidarity of interests.

Last week the city of Memphis celebrated by a health jubilee the first freedom from devastation for three years.

The city was decorated with flags and crowded with visitors, who came at the invitation of its merchants to join in the celebration of its renewed salubrity. The procession was more than three miles long, and was composed of representatives of every branch of business and trade.

It is to be hoped there may be many anniversaries of this festivity; how many depends largely upon the inhabitants of Memphis and of other Southern cities themselves. That city is at present well cleansed, its worst features as a breeder of pestilence are abolished, and there is good assurance that things will not be allowed to relapse to their former condition. How thoroughly adapted the new system of drainage may prove to the peculiar local exigencies, time and experience alone will show. The city of Memphis, at least, has done everything which it was in her power to do to deserve immunity from disease, and we heartily congratulate her upon the reward which she is beginning to reap.

A certain engineer is reported to have discovered that New Orleans, instead of being a difficult place to drain, is one of the easiest in the country to put in good hygienic order in this respect. The discovery, if genuine, is a valuable one, and its application can be awaited only with impatience.

A LARGE CALCULUS.

It is not often that one has an opportunity to see so large a stone as that removed last week from a man at the Massachusetts General Hospital, by Dr. Bigelow. The dimensions were $3\frac{3}{4} \times 3\frac{1}{2} \times 3$ inches in its three diameters, not far from the measurements of a well-compressed infant's head. The pelvis that contained it was exceptionally narrow, the patient being small in stature. Curiously enough he had been able

to work until three months ago as a factory-engine fireman, and three years ago, after passing several small calculi, he was sounded, and no stone was found. The specimen has not been examined chemically, but, although exceedingly hard, it is nevertheless supposed to be phosphatic. Dr. Bigelow determined to attempt crushing, which, with his powerful instruments, seemed a possibility; but at the end of half an hour he had evacuated only 476 grains by tube No. 30. In addition to the hardness of the stone it was found that its large diameter was too great to allow the instrument to be locked over it. He therefore decided to cut. Extraction was effected with great difficulty, the stone being adherent to the left side of the bladder; at last, by grasping it with Fergusson's lion forceps, by strongly pressing it down from above the pelvis, when it protruded into the abdomen, it was finally removed. The patient was much exhausted, but at the time of writing (the third day) has a pulse of 96 and a temperature 99° F. only. The calculus in all weighed 6166 grains, and after drying, not far from 12 ounces. The individual carrying this huge concretion in his bladder came from Watertown, near Boston, being a patient of Dr. Hosmer.

The few who were fortunate enough to be present at an operation presenting such unusual complications, so easily met and overcome by the skillful operator, will be likely to reckon the occasion as one of the most interesting in their surgical experiences.

BAD DRAINAGE UNDERLYING GOOD HYGIENE.

It is very desirable that the Health Department of the State Board of Health, Lunacy, and Charity should be in a position to practice in its own immediate surroundings, and in those of its officers, those good hygienic precepts the diffusion of which throughout the State has been one of its most important functions. It is indeed hard, after having preached zealously and conscientiously to others, to be forced to stand before the world as an involuntary castaway.

Yet it is the sad irony of fact that the very rooms in the State House in which so much good work has been done, and from which so many warning circulars have been issued to put the inhabitants of the State at large on their guard against bad drainage, and to protect them from the so-called filth diseases, are themselves invaded by an irreverent atmosphere bearing the effluvia of defective drainage. Were typhoid fever the child of bad drains it should have found here long ago a congenial birthplace. It is only possible for one who has had work to do in this mephitic atmosphere to appreciate at its full value the remarkable energy displayed in the labors of the board.

It seems as if officials of the commonwealth who have the power to control large manufacturing industries and to purify rivers were more helpless than the poorest private citizen in obtaining for themselves that first necessary of life, — good air.

MEDICAL NOTES.

— We are glad to be able to state that Dr. Calvin Ellis has returned from Mount Desert with health greatly improved. — Dr. Charles D. Homans sustained a Pott's fracture while roaming among the rocks at Mount Desert a few weeks since. He bids fair, however, to make a rapid recovery. — President Eliot returns this week from a summer trip to Europe.

— No progress has been made in building the new medical school, although land for the purpose was purchased by the corporation early last spring. It is situated in the rear of the lot intended for the new city library, which latter is to front upon "Art Square."

— On Sunday, September 19th, James C. Dorr, a popular physician of Medford, died in that town, at the age of fifty-seven years. He was a native of Milton, N. H., and a graduate of Dartmouth College in the class of 1851. After several years of successful medical practice in Medford, he received from President Lincoln a commission as surgeon in the Union army, and served in Washington, and afterwards in Tennessee, where he acted as medical purveyor. The state of his health compelled him to resign his commission before the close of the war, and he has since been actively engaged in the practice of his profession in Medford. In the hope of improving his impaired health he visited Europe a few years since, and traveled extensively in Great Britain and on the Continent. Few men in Medford were better known or more highly esteemed, and in his death that community has sustained a heavy loss.

— The first step towards the establishment of vacation colonies in Europe for poor sickly pupils was made by Pastor Bion, who, after having been transferred from Trogen, Canton Appenzell, to Zürich, was struck by the languid and sickly looks of many pupils. He at once decided to give them relief. After having collected the necessary means, he was enabled, in July, 1876, to send 34 boys and 30 girls, in charge of five male and several female teachers, and in the following year 39 boys and 55 girls, in charge of five male and eight female teachers, for fourteen days, into the country in the vicinity of Trogen.

Reports as to the success of these colonies led the sanitary counselor, Dr. Varentrapp, at Frankfort-on-the-Main, to visit them. The impression which the colonies made on him induced him to imitate them at home; and so, in the year 1878, a committee was organized for this purpose at Frankfort. Of the 173 boys who applied to be admitted, the committee, aided by two physicians, selected the 97 who appeared to be the weakest. Of these 97 children, 93 were between the ages of nine and fourteen years, two were eight years old, one fifteen, and one seventeen. They were divided into eight groups, each of which was placed in charge of a teacher. The children left the city July 24, and returned July 25th. The total expenses amounted to 5373 marks 30 pfennige (one mark equals 23.8 cents), or 55 marks 39 pfennige for each child (\$13.18).

The children were all greatly improved in health on their return.

In 1879, 241 boys and 164 girls applied for admission. Of these numbers, 85 boys and 48 girls were sent into the country, where they remained twenty-five days. The expenses amounted to 7478 marks 50 pfennige, or 56 marks 30 pfennige (\$13.40) for every child.

The city of Dresden also organized a committee last year for this purpose. Five thousand four hundred marks were collected, and 36 boys and 30 girls were sent into the country. The results were excellent.

At Stuttgart, vacation colonies were organized by a committee under Dr. Albert Sigl. In 1879, 55 children were sent into the country from July 18th to August 11th. The amount of money collected for this purpose was 3720 marks.

Finally, the city of Vienna must be mentioned. In 1879, 20 boys were sent to a country place at Weissenbach.

This year (1880) the city of Berlin is going to join the movement. The local committee has for president the minister of state, Dr. Falk.

— In a recent work entitled *Histoire de la Médecine à Troyes*, Dr. Guichet relates that the College of Physicians of that town brought an action against a certain Nicolas Bailli for administering internal remedies to his patients and *putting them to sleep*. In defense Bailli declared that, having observed that in great operations, amputations, incisions, actual and potential cauterizations, many patients slipped through his hands for want of sleep, he had studied the secrets of nature, and had at last found a cordial, or marvelous essence, which put them to sleep softly, and appeased their sensibility to pain.

— The permanent commission on the hygiene of infancy in France, after examining a number of papers and letters sent in in competition for the prize offered for the best treatise on Artificial Nursing, report that nearly all those who have considered the subject arrive at the following conclusions: (1.) When absolutely uncontrollable circumstances make it impossible that the child should be suckled, either by the mother or by a wet nurse, artificial nourishment should be resorted to at home, only by the mother, or under her immediate superintendence. (2.) When there is a necessity for bringing up the infant by hand, and not under the mother's care, it should be placed under the care of a conscientious, careful, and experienced woman, having a good supply of fresh milk. (3.) Mixed feeding is a good method, and accustoms the child to artificial nourishment. (4.) Bringing up by hand, when applied under good conditions, for robust children, the offspring of healthy parents, gives, when employed at home, and especially in the country, excellent results, and is certainly superior to suckling by wet-nurses living at home with their husbands, and poorly remunerated. (5.) Bringing up by hand, when attempted beyond the reach of family superintendence, yields results inferior to suckling under the same conditions. (6.) Bringing up by hand in a collection of children certainly exposes the infants to great risks, and generally ends fatally, whatever may be the pre-

cautions taken and the hygienic measures adopted. To these conclusions M. Villiers, the secretary of the commission, adds the following recommendations: Where breast-milk is wanting for the infant, the milk of a cow or goat which has recently been delivered, or of milk of the first milking; or, if that cannot be had, warm milk diluted with half water during the first week, and, during the second week, with a fourth part of added water slightly sweetened, according to the digestive power of the child. This milk should be given to the children from glass or earthenware vessels, which should be carefully washed every time they are used. No vessels should be used which contain lead, or mouth-pieces made with vulcanized india rubber. It should be borne in mind that feeding with the bottle or feeding-cup entirely without the breast greatly increases the chances of illness and death to the child, unless such method of nourishment is made use of in the family circle and by experienced persons. This plan of feeding cannot be adopted in the midst of a collection of children without causing them to incur the greatest risks.

— In the *Dublin Journal of Medical Science* for August appears the following review. For unmitigated lucidity of meaning it is perfect:—

Physiological Therapeutics: a New Theory. By T. W. POOLE, M. D. Toronto. 1879.

We greatly suspect that the judgment of most of those who read this book may be expressed in the words of the author himself, who, in the concluding paragraph, with a seeming forecast of his fate, says: "Some will treat our pages with silent contempt; others will characterize them as 'mere theory,' and, consequently, regard them as unworthy of serious attention."

— Dr. Heath, president of the American Farmers' Club, recently read a very important paper before that society on the subject of tuberculosis in domestic animals, and some of its effects on human health. He says that this disease prevails extensively among such animals all over the world, and especially in populous and crowded localities. Cows which are kept shut up in close, foul air, as is the case with large numbers in and about London, are very liable to it. He says that observations in Mexico have led to the conclusion that thirty-four per cent. of all beasts slaughtered there are more or less affected with this disease, and he is of opinion that fifty per cent. of the cows kept in large towns are thus diseased. The fact that this is not more generally recognized is of course owing to the animals being slaughtered before the disorder has attained any very noticeable development. According to Dr. Heath, if cows, like human beings, were allowed to die from natural causes, the proportion succumbing to tuberculosis would be quite as great, and probably much greater. — *London Medical Record*.

— M. Potain, at the recent meeting of the French Association for the Advancement of Science, read a paper on Milk Diet in Heart Disease. Milk diet is particularly efficacious in secondary cardiac affections, as hypertrophy or simple dilatation of a gastric or

renal origin. The diet modifies the condition of the kidney and the stomach, because it gives these organs almost complete rest; therefore, to be thoroughly efficacious it should be absolute and more or less prolonged. It may be usefully employed in cases of simple reflex palpitation, of gastric origin. It may also be advantageously used for its diuretic action in dropsy, especially, and perhaps exclusively, when the dropsy is of renal origin.

— M. Chereau, in a French medical journal, gives the following interesting history of the origin of the stethoscope:—

One day, as Laennec was crossing the court of the Louvre, he observed some children, who, with ears applied to the two extremities of a long beam, were transmitting reciprocally the light sound provoked by the stroke of the finger against the opposite end. In the intermediate space no sound was perceptible. The careful observer reflected, and soon, like Archimedes, he was able to exclaim, "I have found it!"

Some time afterward, in fact it was in 1816, being consulted for a young woman who presented general symptoms of heart disease, in which percussion gave small results on account of the stoutness of the subject, the age and sex of the patient forbidding his listening directly with the ear, he remembered the children of the court of the Louvre. Immediately he took a paper copy-book, of which he made a roll closely pressed together, placed one end of it upon the chest of the young woman, applied the other to his ear, and found with pleasure that in that manner he could perceive much more clearly the beats of the heart. So a play of children and regard for modesty were two facts which led to the discovery of medical auscultation.

— A case of complete transposition of viscera was recently observed in a young girl, aged seventeen, who died under the care of Dr. Dumont at the Hotel Dieu at Caen. At the autopsy, all the viscera, both thoracic and abdominal, though perfectly normal in form and structure, were completely transposed, those usually on the right being on the left side and *vice versa*. Their relative positions, however, were perfectly maintained, so that there was no interference with the functions.

— The fifth annual meeting of the American Academy of Medicine was held in Manning Hall, Brown University, Providence, R. I., on Tuesday last.

— The *North American Review* for October begins with a political article, which is followed by an article by Mr. Edison on the electric light. M. Charnay continues his very interesting account of his researches in Central America; and articles on the Observance of the Sabbath, the Campaign of 1862, the Taxation of Church Property, the Recent Progress in Astronomy, make up the number.

— Recent investigations in Scotland on Hydrophobia show that in nearly every case the disease arose in "pet" animals.

— According to the *Record* a woman in Illinois recently gave birth to five children. All of them were alive at last accounts.

— Dr. J. Marion Sims has recently been decorated with the order of Leopold by the King of the Belgians. If we may believe the statement of an "interviewer" published in the *New York World*, it was obtained for him through the intercession of his daughter.

— Bologna has lately received a bequest from Professor Rizzoli of 250,000 francs to found an orthopedic hospital. We had supposed the remarkably successful case of "Madame duCen" had rendered any such institutions unnecessary.

— M. Ricord has lately been suffering from the clumsy operations of a "corn doctor." The operator's instrument penetrated the subjacent articulation, and at one time it was feared that amputation of the toe would be necessary. *La France médicale* is surprised at the imprudence of the great physician, who, it thinks, ought to know the great danger of selecting an unqualified party to look after one's extremities.

PHARMACEUTICAL NOTES.

— The oleo-resin of *Aspidium marginale*, *Schwartz*, a fern common in this country, closely allied to the official male fern, has been successfully used for tape-worm. It was given in three-gramme doses.

Miscellany.

HISTORY OF FIVE CASES OF INTERMITTENT FEVER THAT OCCURRED AT DROWNVILLE (BARRINGTON), R. I., AUGUST, 1880.

BY STEPHEN S. KEENE, M. D.

CASE I. A man, age sixty, English, good constitution, good health, never having had intermittent, in Rhode Island twenty years, residing at Drownville fourteen years, working a farm there, having been exposed to the night air, was surprised, on the 24th of August, by a chill, followed by fever and perspiration, the paroxysm lasting five or six hours.

On the 26th, two days later, a second paroxysm occurred, on the 28th a third, on the 30th a fourth, all presenting the same characteristics, and lasting the same period of time. He sent for me on the 1st of September, when I found him undergoing his fifth paroxysm of well-marked intermittent fever.

I ordered twenty grains of sulphate quinine, to be given two days later, one or two hours before the chill expected on 3d of September, with rest and nourishment. This was done, and the patient has had no more chills or fever, two weeks having transpired.

CASE II. A daughter of the first case, age eighteen, good constitution, good health, has never been out of Rhode Island, and has lived in the same house with the father fourteen years. Having been exposed to the night air, was seized, on the 25th August, with a chill, followed by fever and perspiration, the paroxysm being of the same character and duration as that of the first case.

On the 27th, two days later, a second paroxysm occurred, on the 29th a third, on the 31st a fourth, all having the same character and duration. Twenty grains of sulphate quinine was ordered, as in the first

case, with nourishment and quiet, and there has been no recurrence of the paroxysms.

Iron was directed to be taken a week after the disappearance of the paroxysms in each case.

Three more cases at Drownville, concerning whose history I made careful inquiry, and for whom I prescribed, presented the same characteristic phenomena as the first two.

Twelve cases occurring at Drownville have been reported to me, all having apparently the same type. The epidemic began about the middle of August.

The territory around Drownville is flat and marshy, bordering on Bullock's Cove, a shallow oyster pond, with extensive muddy shores at low tide; beside, the water in the neighboring ponds has been unusually low. This, with the unwonted heat of the season, may account for the advent of a disease quite familiar two degrees farther south.

At the brick-yard at Nyatt, one mile from Drownville, there have been ninety cases of a fever, apparently of the intermittent type. Similar cases have also occurred in the neighboring cottages along the shore at Nyatt.

There are extensive excavations at these brick-yards filled with rain-water, having no outlet.

This is the first time *epidemic intermittent fever* has been observed in Rhode Island, there being no record of it anterior to the present.

THE WHALE TENDON LIGATURE AS A SUBSTITUTE FOR LISTER'S CATGUT LIGATURE.

MR. EDITOR, — I have received recently from my friend, Dr. Leland, of Tokio, Japan, a little pamphlet upon the Whale Tendon Ligature, by T. Ishiguro, M. D., chief surgeon of the imperial Japanese army, and if the subject has not previously been brought to the notice of the readers of the JOURNAL I will ask you to allow me to make the following extracts, which I think will have something of interest for the surgical community.

The mode of preparing the ligature, he says, is as follows: "First, a whale's tendon is dissected by the points of needles, and teased out until the fibres look very like those of hemp. Secondly, the longest and finest fibres among them are selected, and they are then spun together as ordinary silk thread." The ligature so made was subjected to the following tests: "First, a weight of four pounds four ounces was suspended on a cord of one metre in length and 0.18 gramme in weight, but it was not broken." "Second, the ligature was boiled for seventy-two hours, and then kept at blood heat for five days, but only showed slight expansion or softening, without the least dissolution or loss of strength." "Third, the ligature was soaked in a solution of pepsin (two drachms), dilute hydrochloric acid (one drachm), and aqua (five ounces), and then kept at the temperature of the body for twenty hours, but showed not the least sign of dissolution." "Fourth, it was tested likewise by soaking in acetic acid and lactic acid (both in a diluted state) and also in liquor potassæ, in all of which cases the strength of the ligature was proved by like results." "Fifth, the first actual trial was made upon a patient in whom excision of the femur was necessary. In this case one of the ends of the ligature was cut off close to the knot, while the other was left hanging out of the

wound. After the lapse of seven days an examination was made, and it was found that not the least trace of the ligature was to be detected. Subsequent trials proved that three days after the application were quite sufficient for the full absorption of this ligature." Trials were then made as to the rapidity of its absorption, for "a too speedy absorption would cause secondary hemorrhage." In the amputation of a leg the ligature was applied, and there was not the least manifestation of secondary hemorrhage; a like success also followed in the ligature of the femoral artery.

In conclusion, Dr. Ishiguro says the merits of the ligature are the following: "First, it is the cheapest. Second, it is readily conveyed and preserved. Third, it is easily procurable. Taking these three points into consideration, and bearing in mind the strength which the ligature naturally possesses, and which can be still more increased by soaking it in carbolic oil, it may be concluded that it can be relied on to answer every purpose of a ligature and suture."

I will add that I am informed by Dr. Leland that a piece of the ligature six feet in length is worth from twelve to fifteen cents.

EDWARD O. OTIS, M. D.

OBITUARY.

JEREMIAH SPOFFORD, M. D., died recently, aged ninety-three. The funeral took place on Saturday last. Although a citizen of Groveland, the active years of his life were identified with Haverhill. From 1821 he was for many years editor and one of the proprietors of the *Haverhill Gazette*, having associated with him John G. Whittier. He was born in the portion of Rowley now Georgetown. He was forty-seven years a physician in Groveland, and was senior member of the Massachusetts Medical Society, having received a license in 1813, and becoming a member in 1817. He was also the oldest newspaper editor in Essex County. In early life he was a school-teacher, and ever retained a lively interest in education, and through life was given to literary pursuits. Till within a few weeks of his death he frequently contributed vigorous articles to several journals in the country upon the various subjects in which he had ever been interested, and thus kept up his connection with the moving world. He was the author of *Reminiscences of Seventy Years*, *Fifty Years in the Practice of Medicine*.

NOTES ON FASTING.

THE *Medical Press* has imbibed some pretty long yawns culled from American newspapers, from which it estimates that Tanner's profits amounted to considerably over one hundred thousand dollars. These may console him for his complete failure on the "lecture platform." He certainly needs all the consolation that can be given at the present time. The same journal gives an account of a similar fasting experiment made upon some horses in Paris in 1876:—

There was, indeed, this difference between the two cases: that the fast was forced upon the poor quadrupeds without their consent, and that there was a pretense of utility about the French experiment. The aim, as it was stated at the time, was to discover how

long horses could go without food, in the event of the scarcity which accompanies a state of siege. The following results were obtained from the inhuman experiment: (1.) It was proved beyond all doubt that a horse can hold out for twenty-five days without any solid nourishment, provided it is supplied with sufficient and good drinking-water. (2.) A horse can barely hold out five days without water. (3.) If a horse is well fed for ten days, but insufficiently provided with water throughout the same period, it will not outlive the eleventh day. One horse, from which water had been entirely withheld for three days, drank on the fourth day sixty litres of water within three minutes. A horse which received no solid nourishment for twelve days was nevertheless in a condition on the twelfth day of its fast to draw a load of two hundred and seventy-nine kilos.

UNUSUAL CASE OF ASCARIS.

AN exchange gives the following extraordinary statement taken from a French journal: In the year 1876, a lad, twelve years of age, exhibiting some symptoms of worms, some chopped garlic boiled in milk was administered to him, and in the course of the day he passed at different times fifty ascarides lumbricoides. He continued to pass more and more every day, so that he evacuated as many as six hundred in the same day, the worms being enveloped in a mucus resembling white of egg in appearance, and rolled up in a ball, separating themselves after their ejection. At first they were only passed by the anus, but in a short time they were expelled also by the mouth, and in the end exclusively by the latter. During five months he did not fail to discharge worms daily, generally from three hundred to four hundred. When Dr. Fauconneau-Dufresne first saw the boy, in July, 1878, he had passed fewer than for some time past, and he found him with a pale, puffed, and very emaciated face, eating much, but usually vomiting his food soon after he had taken it. Sometimes the worms were expelled with the food, but generally they were voided alone. The worms were discharged living, were five or six inches long, and about as broad as a quill. Besides the garlic, he had taken some pomegranate, and now castor-oil and calomel, together with occasional doses of garlic, were prescribed. This treatment produced a continuous diarrhœa; but he had a good appetite, passed fewer worms, and was able to go out, and even to school. Seen again in January, 1879, when Corsican moss was prescribed. The worms were passed less frequently during this month, and in smaller numbers, and almost always dead. During February the moss was continued, with occasional purgatives, and the worms were much fewer, and dead. In March and April both dead and living worms were discharged; and at the end of the latter month santonine and calomel were prescribed. These had to be suspended from time to time, but the number of worms kept continually diminishing, and from August, 1879, to May, 1880, none whatever had appeared. The total number of worms counted during the three years, and for the most part ejected by vomiting, was 5126; many more having also been passed without having been counted. The greatest number recorded by M. Duvaime amounted to 2500, which were passed in the course of five months.

THE NEED OF HOLIDAYS.

In the course of his very able and interesting address, in the Medico-Psychological Section, at Cambridge, last week, Dr. Crichton Browne instanced, among the evidences of increased weakness and liability to the neurotic diseases and insanity, the fact that "annual holidays have become a necessity, instead of a luxury." It cannot be denied that, either from habit or necessity, the routine worker—whether "with what he is pleased to call his mind," or that lesser combination of the intellectual faculties by which the routine business of life is transacted—has come to look for a respite from his labors once a year as one of the essentials of existence. In the days when we were young this was not the way in which the annual holiday was regarded. Those who could afford it went out of town; but their object was pleasure, not "relief," still less "recuperation," in any serious sense. Most men worked harder, though generally in a more pleasurable way, during their vacation, than throughout the rest of the year. Now the jaded creature of oppressive and exacting circumstances crawls away to "rest." His plaintive desire is to get anywhere out of the din and turmoil and "worry" (that wondrous word) of the busy world,—far, "far from the madding crowd." There is something humiliating in all this. It is a feeble sort of human nature we seem to have inherited. We should like to see the question of causation fully and impartially discussed, in view of the abundantly evident fact that we have as a nation left off drinking sound-brewed ale and well-matured wines, and have taken to imbibing vast quantities of tea and coffee, weak, watery, and acid wines, rivers of mineral waters, real and factitious, and to eating for food the made dishes and flimsy compounds so common on the Continent. Were our grandfathers wholly wrong when they associated the courage and stature of the British shop-keeper with the roast beef and ale of old England?—*London Lancet*.

THE TREATMENT OF EMPYEMA.

ANTISEPTIC treatment of this disease is at present fashionable, but more has been claimed for the method than we think it deserves. We give the following contribution to the subject from the *Medical Times and Gazette*:—

Antiseptic surgery has done much to render success more certain, but the antiseptic dressing of an empyema and the insertion of a drainage-tube give trouble, and a simpler plan has been long a desideratum. The siphon trocar, as used by Dr. Douglas Powell and others, is sufficiently simple, but is open to the objection that if the chest is washed out after drawing off the pus, the same tube being used for both operations, septic matter is liable to enter and infect the pleural cavity. Most of Dr. Goldammer's cases were treated by incision under the spray and antiseptic dressing, resection of part of a rib being performed in several. The last case, however, to which he refers in his lecture was treated by a new method, recommended by Dr. Kashimura, assistant to Professor Baelz, of Tokio, Japan (*Berliner klin. Wochenschrift*, No. 3, 1880), and which is the simplest imaginable, consisting in puncturing and evacuating the pleural cavity, washing it out freely with an antiseptic liquid, and then allowing the

opening to close. The instrument (figured by Dr. Kashimura) consists of a canula provided with a stopcock, which closes its outer end after the withdrawal of the trocar, and with two lateral openings to which india-rubber tubes are attached with spring clamps, so that either can be closed or opened at pleasure. Before tapping, these tubes are filled with thymol-water and clamped. When the instrument has been introduced, the stopcock is closed, and one of the tubes, which dips into a vessel of thymol-water, is opened, and the pus allowed to escape. The first tube is then clamped, and the second, which communicates with an irrigator containing warm thymol-water, is opened, and the antiseptic allowed to enter the pleural cavity. It is then evacuated by the first tube, and the process is repeated until the wash-water returns uncolored. The canula is then withdrawn, and the opening closed. Of course the whole of the instrument is assumed to be thoroughly disinfected before use. The cases hitherto treated by this plan, though not numerous, are eminently satisfactory; all have recovered. Dr. Goldammer tapped a woman aged forty-one, in a state of great prostration, with an empyema of a month's standing, and removed seven hundred to eight hundred cubic centimetres of pus. About two litres of thymol-water were used to wash out the cavity. She was operated on on February 19, 1880; eight days afterwards all traces of the effusion had disappeared, and there was no return of it later on. The patient, who had entered the hospital with extreme cyanosis, and with orthopnea, ascites, extensive anasarca, and slight albuminuria, as well as an unresolved pneumonia of the right base, to which the empyema was secondary, had entirely recovered, even to the restoration of clear percussion and vesicular breathing over the whole right side, on April 10th. It is needless to enlarge on such a result. A few years ago, however, we may remark in passing, it would have been considered miraculous. Now, thanks to the antiseptic method, whose beneficent effects are making themselves felt in every part of the field of surgery, we scarcely wonder at it. We recommend the special mode of its application above described to the attention and imitation of our readers.

ABSENCE OF UTERUS.

MR. EDITOR.—The following case came under my observation at the Kaitakushii Hospital at this place last week:—

Miss Kiku—, seventeen years of age, of medium height, small figure, breasts below the average of Japanese ladies in development, and very dark skin. Her lips and mucous surfaces were comparatively pale. Her gait and movements lacked the elasticity of youth. She came to the hospital to ascertain why she suffered so much when her lover approached her.

Two years since she allowed her lover to lie with her. At the attempted coition she suffered acute pain; the intromittent organ caused the flow of some blood, but the affair gave pleasure to neither party. Soon after she had a sore, which has been followed by constitutional symptoms. A few times the past spring she had been approached, and each attempt was accompanied by acute pain and deep chagrin on her part.

She had never menstruated; has had none of the symptoms which precede and accompany that function. Her mother is a strong, healthy woman. Her father

enjoyed good health. Her sister did not menstruate until seventeen years of age, and since then she has had a healthy child. Miss Kiku — suffers much from frontal headache, at times extending to the vertex (a malady very rare with the Japanese ladies); vague pains in the chest, especially at the apices. Her digestion has been excellent and the movements from the bowels regular. The urinary apparatus has performed its functions so as to attract no attention.

External examination: Abdomen regular in form and of normal contour. Walls thin, and giving no resistant sensations. The external genitals smaller than usual. The labia minora were out of proportion in size to the other external organs, and were more prominent than usual for the females of this country. The meatus urinarum was normal. The entrance to the vagina was limited, admitting only one finger, which finger, carried in less than two inches, was arrested by a wall. The finger could be swept around in this cul-de-sac, with a radius of about one inch. At the fundus no recession or projection could be felt; on the superior surface the line of the urethra could be made out. Pressing on the abdomen above the pubes, the bladder being empty, the finger in the vagina was easily felt, there being no intervening hard body. The fingers in the rectum could be freely moved about in the pelvic cavity and encountered no resisting body. They could be passed below and hooked back of the vaginal finger at the fundus, and the tips of these fingers could feel the silver sound in the bladder. By compound external and internal manipulations no solid bodies could be found in the pelvic cavity or lower portion of the abdomen. A rectal bivalve was introduced into the vagina. The rugæ of the external portion of the tube were normal in appearance. At the fundus, the walls had a yellow-white appearance. There was no projecting body. Near the centre of the fundus was a small dimple, but quite shallow.

The Japanese members of the staff have never seen, nor have they heard of, a similar case in Japan. Trusting the facts of the case may be of interest to some of your readers, I take the liberty of addressing you.

The "starvation and exposure case," the account of which I forwarded to you, has progressed finely. He has two fine stumps at the middle third of the legs, which are now consolidating. He goes about the ward on "all fours, smiling and happy. He has gained nearly twenty pounds in weight since he came to the hospital. Last week I rode through that swamp where he was lost, and the grass and young bamboo were so rank that from my horse I could not see over the tops.

J. C. CUTTER, M. D. Harv.

Consulting Physician to Colonial Department.

SAPPOW, JAPAN, July 26, 1880.

INTERNATIONAL MEDICAL CONGRESS, SEVENTH SESSION.

WE have the honor to inform you that at the close of the sixth session of the International Medical Congress, held last September in Amsterdam, under the presidency of Professor Donders, of Utrecht, a unanimous desire was expressed that the next meeting should take place in Great Britain in 1881.

This desire having been communicated to the presidents of the Royal Colleges of Physicians and Surgeons in London, they conveyed a meeting of delegates from the various universities, colleges, and other public bodies of the United Kingdom, including the principal medical societies, the British Medical Association, and the medical departments of the army, navy, and

India office, in order to obtain a thoroughly national representation of feeling and opinion.

The response to this appeal having been most cordial, it was decided at the meeting of delegates thus convened to comply with the wish expressed at the meeting at Amsterdam, and to hold the congress in London. A general committee of organization was appointed, an executive committee, and a reception committee, to carry out the necessary details.

In past years the International Medical Congress has met in the following cities: The first meeting took place in Paris in 1867; the congress next met in Florence in 1869; then in Vienna in 1873; in Brussels in 1875; in Geneva in 1877; and last year, 1879, the congress, as already stated, met in Amsterdam.

Her Majesty the Queen has most graciously given proof of her good-will towards the cause of medical science, and our efforts in its furtherance, by authorizing us to place the congress under her royal patronage.

His Royal Highness the Prince of Wales has likewise shown the unvarying interest he takes in the progress of medicine by according a similar favor.

The work of the congress will be carried on in fifteen sections. The days of the meeting will extend from Wednesday, the 3d, to Tuesday, the 9th, of August, both days included. A reception of welcome will take place on the evening of August 2d.

The meetings will be chiefly held in the halls of the University of London and in Burlington House, where in a most liberal manner the use of rooms for the general and sectional meetings has been granted to the congress by the authorities of the University of London, the Royal Society, the Society of Antiquaries, the Astronomical Society, the Linnean Society, the Chemical Society, and the Geological Society.

There will be a museum open during the meeting, to which contributions of professional interest will be made. Evening receptions will be held, and excursions arranged to various places of interest.

The attendance of our countrymen from all parts of the United Kingdom, India, and the Colonies will probably be large, and various circumstances make it probable that a large number of distinguished men from many countries will be attracted to England as our guests on the occasion of the seventh session of the congress, and it is our desire to receive them with all cordiality and honor.

It is convenient to inform our colleagues abroad that ladies will be invited to the social and ceremonial meetings of the congress, but will not be admitted to its business meetings.

It will be necessary for all who wish to make communications to the congress to intimate their intentions to the secretaries of the several sections, and to furnish an abstract of their papers before the 30th of April, when the committee hope to complete the arrangements for the meeting, and to issue a programme of the business.

J. HUDSON BENNETT,

Chairman of the Executive Committee.
WILLIAM MAC CORMAC, Secretary-General.

The list of sections and officers, so far as at present arranged, accompanies this circular.

The editors of medical journals and periodicals are requested to assist the committee in making public the character and scope of the International Medical Congress of 1881.

All communications respecting the congress should be addressed to William Mac Cormac, Esq., Honorable Secretary-General, 13 Harley Street, London, W.

Executive Committee: Dr. Risdon Bennett, LL. D., F. R. S., president of the Royal College of Physicians, London, chairman; W. Bowman, Esq., F. R. S., Dr. Alfred Carpenter, Dr. Andrew Clark, Dr. Matthews Duncan, LL. D., F. R. S. E., J. E. Erichsen, Esq., president of the Royal College of Surgeons, England, F. R. S., Sir William Gull, Bart., M. D., D. C. L., F. R. S., Prescott Hewett, Esq., F. R. S., Luther Holden, Esq., Jonathan Hutchinson, Esq., Sir W. Jenner, Bart., K. C. B., M. D., D. C. L., F. R. S., Professor Lister, D. C. L., LL. D., F. R. S., W. Mac Cormac, Esq., A. O. Mackellar, Esq., Sir James Paget, Bart., LL. D., D. C. L., F. R. S., Dr. Pitman, George Pollock, Esq., Dr. Shepherd, Dr. Sieveking, Dr. Pye-Smith, Sir Henry Thompson, Dr. Hermann Weber.

Reception Committee: Prescott Hewett, Esq., F. R. S., chairman; Professor John Marshall, F. R. S., vice-chairman; Dr. Chepmeil, Dr. Andrew Clark, Dr. Farquharson, M. P., J. Cooper-Forster, Esq., Dr. Philip Frank, Dr. Grigg, Ernest Hart, Esq., Mitchell Henry, Esq., F. R. C. S., M. P., Dr. George Johnson, F. R. S., Sir Trevor Lawrence, Bart., M. R. C. S., M. P., Dr. Lyons, M. P., Dr. Munro, Dr. W. O. Priestley, Dr. Owen Rees, F. R. S., Sir Henry Thompson, Dr. A. Vintras, Dr. Sharkey, secretary, Dr. Samuel West, secretary.

LONDON, September, 1880.

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 18, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diarrhoeal Diseases.	Diphtheria and Croup.	Lung Diseases.	Typhoid Fever.
New York.....	1,085,000	533	232	25.89	14.26	6.94	9.57	1.88
Philadelphia.....	901,380	261	91	—	—	3.07	1.15	3.83
Brooklyn.....	564,400	247	116	28.74	10.93	11.34	9.72	1.40
Chicago.....	—	189	100	35.98	11.11	16.40	7.41	2.12
St. Louis.....	—	140	51	27.14	12.14	.71	5.00	6.43
Baltimore.....	393,796	139	48	33.81	12.23	7.20	3.59	5.04
Boston.....	363,938	177	86	39.55	30.00	6.21	3.96	1.70
Cincinnati.....	280,000	85	37	22.35	11.77	3.53	4.71	2.35
New Orleans.....	210,000	127	46	22.83	3.94	.79	5.51	—
District of Columbia.....	170,000	84	38	29.76	5.95	8.33	10.71	1.19
Buffalo.....	—	60	29	41.67	16.67	10.00	5.00	8.33
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,649	61	21	49.18	9.84	16.39	4.92	19.68
Milwaukee.....	127,000	37	22	29.73	18.92	10.81	5.41	—
Providence.....	104,862	27	13	37.04	14.81	7.40	7.40	1.11
New Haven.....	60,000	13	5	15.38	—	15.38	7.69	—
Charleston.....	57,000	30	1	10.00	3.33	—	10.00	3.33
Nashville.....	37,000	12	3	41.67	16.67	—	—	8.33
Lowell.....	59,040	26	16	50.00	34.62	—	—	11.54
Worcester.....	58,040	23	11	47.83	34.78	—	—	8.69
Cambridge.....	52,860	17	7	17.65	17.65	—	5.88	—
Fall River.....	48,626	24	18	12.50	4.17	4.17	8.33	—
Lawrence.....	39,068	15	5	20.00	13.33	—	13.33	6.67
Lynn.....	38,376	11	4	27.27	18.18	9.09	—	—
Springfield.....	33,536	18	7	5.56	5.56	—	1.11	—
Salem.....	27,347	14	5	42.86	14.29	7.15	—	7.15
New Bedford.....	27,268	6	3	33.33	16.67	—	—	—
Somerville.....	24,964	6	3	—	—	—	—	—
Holyoke.....	21,961	10	9	40.00	30.00	—	10.00	—
Chelsea.....	21,780	15	9	60.00	33.33	13.33	—	6.67
Taunton.....	21,145	5	1	—	—	—	—	—
Gloucester.....	19,288	7	5	—	—	—	—	—
Haverhill.....	18,478	6	3	33.33	33.33	—	—	—
Newton.....	16,994	8	3	37.50	12.50	25.00	—	—
Newburyport.....	13,470	1	1	100.00	—	100.00	—	—
Fitchburg.....	12,270	5	3	60.00	40.00	—	—	20.00
Eighteen Massachusetts towns.....	143,481	43	17	27.91	18.60	2.33	4.65	4.65

Deaths reported, 2482; 1079 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 699, consumption 384, diarrhoeal diseases 311, diphtheria and croup 170, lung diseases 155, typhoid fever 80, malarial fevers 69, scarlet fever 29, whooping-cough 18, small-pox seven, measles five, cerebro-spinal meningitis five, erysipelas five. From *malarial fevers*, New Orleans 23, District of Columbia 11, St. Louis ten, Brooklyn eight, New York six, Chicago, Baltimore, Nashville, and Salem two, Buffalo, Charleston, and Fall River one. From *scarlet fever*, Baltimore six, New York and Brooklyn five, Chicago four, Philadelphia three, Cincinnati two, Buffalo, Pittsburgh, Providence, and New Bedford one. From *whooping-cough*, Baltimore four, Chicago three, Brooklyn, Boston, and Cincinnati two, New York, District of Columbia, Buffalo, Lowell, and Chelsea one. From *small-pox*, Philadelphia six, Chicago one. From *measles*, New York three, Chicago and Buffalo one. From *cerebro-spinal meningitis*, Philadelphia, St. Louis, Baltimore, Worcester, and Pittsfield one. From *erysipelas*, Philadelphia, Chicago, Boston, Pittsburgh, and Holyoke one.

Fifty-three cases of diphtheria, 22 of scarlet fever, four of whooping-cough, and four of typhoid fever were reported in Brooklyn; diphtheria 22, scarlet fever seven, in Boston; diphtheria 17, scarlet fever nine, in Milwaukee; scarlet fever 15, diphtheria six, typhoid fever three, measles two, diarrhoeal diseases one, in Providence; scarlet fever five, diphtheria one, in New Bedford.

In 37 cities and towns of Massachusetts, with a population of 1,062,230 (population of the State 1,783,812), the total death-rate for the week was 21.51 against 22.05 and 25.09 for the previous two weeks.

Total deaths, deaths under five years, and deaths from diarrhoeal diseases slightly diminished.

For the week ending August 28th, in 148 German cities and towns, with an estimated population of 7,707,212, the death-rate was 29.7. Deaths reported, 5406; 2785 under five: pulmonary consumption 434, acute diseases of the respiratory organs 182, diphtheria and croup 88, scarlet fever 95, whooping-cough 62, typhoid fever 50, measles and röteln 32, puerperal fever 11, small-pox (Königsberg three, Görtz one) four, typhus fever (Dortmund) one. The death-rates ranged from 16.1 in Wiesbaden to 44.7 in Frankfurt-on-the-Oder; Königsberg 32.8; Breslau 36.6; Munich 26.4; Dresden 30.2; Berlin 31.3; Leipzig 32.4; Hamburg 27.6; Hanover 27.4; Bremen 21; Cologne 40; Frankfurt 21.6; Strasburg 25.1.

For the week ending September 4th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 24.6. Deaths reported, 3534; diarrhoea 853, acute diseases of the respiratory organs 152, scarlet fever 94, whooping-cough 70, fever 51, measles 28, diphtheria 20, small-pox (London) five. The death-rates ranged from 19 in Plymouth and Oldham to 38 in Sunderland and Leicester; London 20.8; Liverpool 34; Birmingham 23; Manchester 27; Bristol 22. In Edinburgh 20; Glasgow 20; Dublin 36.

In the 20 chief towns in Switzerland for the week ending September 4th, population 522,856, there were 43 deaths from diarrhoeal diseases, acute diseases of the respiratory organs 13, typhoid fever 11, diphtheria and croup six.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
1880.																			
Sept. 12	30.137	63	77	54	76	60	68	68	0	E	SW	0	9	11	H	C	C	—	—
" 13	29.915	65	77	56	82	51	72	68	SW	S	NW	8	9	11	F	F	R	—	.08
" 14	29.801	57	58	54	94	88	81	88	NW	NW	NW	8	9	17	C	R	C	—	.72
" 15	29.771	56	61	52	93	77	87	86	W	E	NE	8	3	3	R	C	C	—	—
" 16	29.840	62	71	51	87	61	77	75	W	W	W	6	11	3	F	F	F	—	—
" 17	29.958	67	81	55	76	36	74	62	W	W	W	4	11	5	C	F	F	—	—
" 18	30.076	63	71	59	72	60	82	71	SW	E	E	3	12	5	C	F	C	—	—
Week.	29.928	62	81	51				74		W								13.54	.80

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM SEPTEMBER 18, 1880, TO SEPTEMBER 24, 1880.

WINNE, C. K., captain and assistant surgeon. Relieved from duty at Fort Brady, Michigan, and assigned to duty as post surgeon at Fort Schnyler, New York harbor. S. O. 167, Department of the East, September 21, 1880.

REED, W., captain and assistant surgeon. Assigned to duty as post surgeon at Fort Ontario, New York. S. O. 167, C. S., Department of the East.

RICHARD, CHARLES, first lieutenant and assistant surgeon. Relieved from duty at Fort Snelling, Minn., and assigned to duty as post surgeon at Fort Maginnis, Montana Territory. S. O. 110, Department of Dakota, September 15, 1880.

GYNÆCOLOGICAL SOCIETY OF BOSTON. — The next regular meeting of the society will be held in the Medical Library rooms, 19 Boylston Place, on the first Thursday of October, at 10.30 A. M. Paper by H. O. Marcy, M. D., on the Evil Results which sometimes follow the Operation for Laceration of the Cervix. The profession are invited.

HENRY M. FIELD, M. D., *Secretary*.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting will be held on Monday evening next, at eight o'clock, in the hall of the Medical Library Association. Reader, Dr. Dunn.

A. T. CABOT, *Secretary*.

BOOKS AND PAMPHLETS RECEIVED. — Hygienic and Sanative Measures for Chronic Catarrhal Inflammation of the Nose, Throat, and Ears. Part I. By Thomas F. Rumbold, M. D. St. Louis: George O. Rumbold & Co. 1880.

Subjects for Master's Degree in Harvard College 1653-1791. Translated and arranged, with an Introduction and Notes, by Edward J. Young. Cambridge: John Wilson and Son. 1880.

A Treatise on the Practice of Medicine for the Use of Students and Practitioners. By Roberts Bartholow, M. D. New York: D. Appleton & Co. 1880.

The Official Gazette of the United States Patent Office, containing the Patents, Trademarks, Designs, and Labels. 1880.

Twenty-Fifth Annual Report upon the Births, Marriages, and Deaths in the City of Providence for the Year 1879. By Edwin M. Snow, M. D.

Archiv für pathologische Anatomie und Physiologie und für klinische Medicin. Herausgegeben von Rudolf Virchow. Achtzigsten Bandes drittes Heft; Einundachtzigsten Bandes erstes Heft. (From the Smithsonian Institution.)

A Directory of the Charitable and Beneficent Organizations of Boston, together with Legal Suggestions, Health Hints, Suggestion to Visitors. Prepared by the Associated Charities. Boston: A. Williams & Co. 1880.

On the Bile, Jaundice, and Bilious Diseases. By J. Wickham Legg, F. R. C. P. New York: D. Appleton & Co. 1880.

Iritis: Diagnosis and Treatment. By Charles A. Oliver, M. D. (Reprint.)

Bilag till Utredning af Fragan om den kroupösa Pneumonien verkliga orsaker och profylax. Af Med. Dr. Fredrik Eklund. Stockholm. 1880.

Den miasmatiskt-kontagiosa Lungotens och den kroniska Lunginflammationens verkliga orsaker och medlen att förebygga dem, i största korthet framställda. Af Med. Dr. Fredrik Eklund.

Myopia in its Various Phases. By Julian J. Chisolm, M. D. (Reprint.)

Sanitary Tract No. 3. On the Evils of the present Privy System. Issued by the Sanitary Association of Lynn.

A Case of Fracture of the Nasal Bones treated by an Improved Method. By Lewis D. Mason, M. D. (Reprint.)

An Improved Method of treating Depressed Fractures of the Nasal Bones. Lewis D. Mason, M. D. (Reprint.)

The Foramina of Monro: Some Questions of Anatomical History. By Burt G. Wilder, M. D. (Reprint.)

First Decennial Report of the Manhattan Eye and Ear Hospital, New York.

Pilocarpin in Intermittent Fever. By Gaspar Griswold, M. D. (Reprint.)

Lectures.

CLINICAL LECTURE ON SOME OF THE RESULTS OF EXTENSIVE LACERATION OF THE CERVIX UTERI.¹

DELIVERED AT THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

BY PROFESSOR T. GAILLARD THOMAS, M. D.

CASE I. CHRONIC OVARITIS, DUE, APPARENTLY, TO LACERATION OF THE CERVIX, BUT UNRELIEVED BY AN OPERATION FOR THE CURE OF THE LATER.

GENTLEMEN, — The first patient whom I bring before you to-day is Margaret A., a native of the United States, and thirty-two years of age. She has been married ten years, and has had three children and one miscarriage. Her last pregnancy was four years ago, at which time her youngest child was born, the miscarriage having occurred before that. Let us now get at the history of the case.

How long have you been sick?

"Four years."

Then you have never been well since the birth of your last child?

"No."

Had you any special trouble in your labor when this child was born?

"No."

In what way have you suffered?

"With pain all through my body."

Where do you feel the pain most severely?

"In the lower part of the bowels and down the limbs."

What else troubles you?

"My head."

In what way?

"I have such severe pain in it that my eyesight is often affected."

What else do you suffer from?

"That is all."

Are you regular in your monthly sickness?

"The flow is too profuse."

How long does it usually last?

"Five or six days, and I lose a great deal every time."

Do you have much pain also at this time?

"Yes, I suffer a great deal."

At what time in the period does the pain come on?

"Before the flow."

How long before?

"About a week."

Do you suffer more before the flow makes its appearance or after it commences to come?

"Before the flow comes."

Do you have much backache?

"Yes."

And is it increased at this time?

"Yes, very much."

Do you have the whites?

"Yes."

Does your bladder give you any trouble?

"Not often."

Do you have any trouble with your bowels?

"Constipation."

This is a very straightforward history. The patient was quite well up to four years ago, when she gave birth to her last child, and as she has never been well since it would seem evident that something must have occurred at that time which has seriously interfered with her health. She appears to be very weak, her countenance indicates that she is a constant sufferer, and she herself has told us that she has pains all over her. Her general condition is undoubtedly very much depreciated, and it is therefore incumbent on us to find out what it is that has so impaired her health. Among the special symptoms here you will remember the headache, so severe that it often interferes with vision, and an ante-menstrual pain (coming on a week before the catamenia), which is much more severe than that during the actual flow. There is also one point about the case to which the patient has not alluded in the account that she has given of herself, but which is one of considerable importance. Some time ago she applied at one of the hospitals of this city for relief from the very same symptoms of which she complains to-day. On making an examination, the surgeon in charge discovered a very bad laceration of the cervix, with marked eversion of the lips. Believing that this was the primary cause of all her trouble, he very properly performed an operation for the repair of the cervix, and it was such a complete success that to-day it is scarcely possible to see that anything has ever been the matter with it, unless a very critical examination is made of the part.

The fact unfortunately remains, however, that, notwithstanding this successful operation, the patient is certainly no better than she was before it, and she even thinks that she is not so well. Yet the gentleman who had charge of the case did perfectly right, and acted precisely as I would have done, and, indeed, have often actually done, under the circumstances. But suppose now that this patient had been a lady of wealth and influence in the community, and had applied to any one of you for treatment. You would probably have told her that you could offer her an excellent prospect of recovery if she would have the laceration of the cervix operated upon. Yet when the operation had been performed she would have been just as bad off as before, and it is altogether possible that some unpleasant reflections might have been made upon your skill as a practitioner. The point that I wish to impress upon you here is that in cases such as this you must never promise too much to your patient. It is always safest to say to her that while the operation upon the cervix offers her the best chance of relief, and it is quite probable that it will result in her complete recovery, it is not impossible that it may do no good whatever, so far as the relief of her symptoms is concerned. You will thus have protected yourself, and prevented misunderstanding on the part of your patient, in case relief is not afforded, as sometimes happens. In the present instance, as has been mentioned, the patient thinks she is even worse than she was before the operation, but it is altogether probable that this is not really the case. I will now show you why it was a perfectly justifiable operation, and, indeed, one that was apparently strongly demanded.

When a vaginal examination is made in this case, a distinct mass is felt behind the cervix, and hence it has been supposed by some that have seen the patient that she was suffering from retroflexion. When conjoined manipulation is resorted to, however, it is found that

¹ Reported by P. Brynberg Porter, M. D.

the *fundus* is in its normal position, and hence the idea of retroflexion must be excluded. But to make the matter doubly sure, I had the patient placed in Sims's position and introduced the uterine probe, when it passed up for three inches in the natural curve of the organ. Then, while the probe was still in the uterus, I passed my finger back of the cervix and ascertained that the same mass could still be felt there. When investigated more carefully, it was found to consist of two distinct parts, one on either side, and there was extreme sensitiveness not only of the masses themselves, but also of the tissues around them. In order to discover whether they were movable and distinct from the uterus, I placed two fingers between them and the cervix, and, pushing them up with one finger, I found that they were distinct. The diagnosis is, then, chronic ovaritis, with prolapse of the ovaries into Douglas's cul-de-sac. As I have before remarked, the term *chronic ovaritis* is a very unsatisfactory one, but with our present knowledge it is the best that we have to indicate chronic engorgement and hyperplasia of the ovaries, with not infrequently the presence in them of a large number of small cysts. Here the ovaries are about the size of an English walnut.

Possibly some of you may doubt the correctness of this diagnosis; and so, although no diagnosis is perhaps absolutely certain unless we can actually see the part that is affected, I will endeavor to prove it to you. In the first place, we have the presence of these two abnormal masses behind the uterus. Secondly, they are exquisitely sensitive, and the neighboring parts in the pelvis are also sensitive. Thirdly, there is a sinking sensation on the part of the patient when pressure is made upon them. She almost fainted away when the examination was made. Fourthly, the absence of signs of fibroid. These are the physical signs. Let us now glance at the rational ones.

In the first place, why does she suffer so acutely a week before menstruation begins? Because she is the subject of painful ovulation, rather than of painful menstruation. In the second place, she suffers from very marked nervous derangement, as indicated by the severe headache, the chills, and other neurotic troubles to which she is subject; and which she would not have if these masses behind the uterus were accumulations of inflammatory lymph, for instance.

But what, you may ask, has the laceration of the cervix had to do with all this? You will almost constantly find that where the cervix is lacerated badly the reflex irritation due to it results in disordered circulation, innervation, and nutrition in the pelvic tissues, and that, consequently, the ovaries become more or less involved. It is also a fact that where this is the case these organs very frequently become restored to their natural condition after the laceration of the cervix has been remedied by operative procedure. But although this is the rule, there are, unfortunately, many exceptions to it; and hence, as I have previously suggested, we should never be too confident of a successful result in such cases, and always qualify whatever prospect of relief we hold out to the patient with the possibility of failure. Again, therefore, I would warn you against promising too much in the condition known as chronic ovaritis, even when it is apparently dependent upon a laceration of the cervix. In such cases it is always well to take the position of the dentist when he is called upon to treat a facial or supra-orbital neuralgia, which has, indeed, had its origin in a carious tooth,

but which may perhaps have existed for ten years. He may treat the tooth itself successfully; but the nerve beyond may have at length become permanently affected, and hence the patient will continue to suffer as before.

I need not say much about the course of treatment that is now to be adopted in the patient before us, as I have so frequently and so recently spoken upon the subject. I will only suggest, in dismissing the case, that she should have a very full diet and appropriate tonics, and, indeed, that her system should be built up by every possible means. She should have complete freedom from all burdensome occupation, and should seek a change of scene and air, if it is in her power. In the winter season I not infrequently get very excellent results by sending patients suffering from chronic ovaritis to the milder climate of South Carolina, Florida, or Bermuda; where they should ordinarily remain for the months of February, March, and April. In addition, counter-irritation should be kept up by means of the use of tincture of iodine, and a prolonged course of electricity should be tried. Will such a plan of treatment cure this patient? I should certainly not be willing to promise that it will; but, at all events, it is the best with which I am acquainted that offers her a chance of recovery or relief.

To-day a wealthy lady came to my office whom I had not seen for two years. At that time I found that there was antelexion of the uterus, and at the same time chronic ovaritis. I frankly told her that I could at once restore the uterus to its normal position, but that I would not promise to give her relief from her sufferings, on account of the poor prospect of treating the diseased ovaries successfully.

So when I made an examination in her case again to-day, I found, indeed, that the uterus was perfectly in position, but that the ovaries were in the same condition as before; that is, inflamed, enlarged, and down in Douglas's cul-de-sac, just as those of the present patient are. During all this time, she told me, she had continued to suffer in the same way as before she had consulted me. But she did not think for a moment of casting any reflections upon my skill as a gynecologist, for the reason that I had frankly warned her that I feared that little could be done for the relief of her suffering. This, I assure you, is the only way to retain the confidence of this class of patients, whose cases, unfortunately, are at best very unsatisfactory ones to treat.

HABITUAL MISCARRIAGE DUE TO LACERATION AND EVERSION OF THE CERVIX UTERI.

CASE II. The next patient is Catharine P., born in Ireland, and thirty-five years old. She has been married twelve years, and has had five children and five miscarriages. Three of these miscarriages have occurred within the past year, and yet she looks like a perfectly healthy woman. She comes to us not because she is suffering very much, but in order to find out why it is that she should have these repeated miscarriages. Let us question her a little more particularly in regard to her condition and history.

You do not feel sick at all, do you, Mrs. P.?

"No, except that I am rather weak."

How long is it since you had your last miscarriage?

"Two months."

Is there anything else the matter with you besides this weakness of which you speak?

"I have a discharge."

A bloody one?

"It is blood mixed with mucus."

Is there anything else that you complain of?

"I am subject to diarrhoea."

How long have you had it?

"For four or five years."

What else?

"I have a pain sometimes in my right side, around the hip."

Anything else?

"No."

With regard to the tendency to diarrhoea mentioned we need not now concern ourselves; but we desire to pay special attention to the repeated miscarriages, on account of which the patient has come here to consult us. In the first place, I would remark, then, that the only possible way to put a stop to habitual miscarrying like this is to discover the *cause* of the trouble, and treat that. What, we next ask, are the most prominent causes of this? Some of them are entirely local, while others are general. Some, I may mention, do not concern the mother, nor yet the fetus itself, but the secundines alone. Of all the causes of habitual miscarriages, however, syphilis (either in the mother or father, or both, and either in the secondary or tertiary form) is perhaps the most frequent. In every case where a patient has aborted a number of times in succession you must make a very careful examination to see whether this disease may be present. When this is the cause of the miscarriages the fetus dies early. -

Among the other more common causes of abortion are affections of the chorion, like hydatids, and dropsy of the amnion. When the latter exists, the serous cavities of the child, as well as the placenta, are apt to be affected in the same manner. Not infrequently the cause is associated with the uterus itself. Thus, the organ may remain in its normal position until the third or fourth month, and then retroflexion, for instance, may take place. When this is the case it will usually be found that the displacement existed before the pregnancy commenced. None of the above causes are found in the present case, but an examination per vaginam reveals the existence of quite a prominent cause of habitual miscarriages, which has not as yet been mentioned. This is extensive laceration of the cervix uteri, with eversion of its lips. It is not difficult to see why this should be so when we remember that in this condition the nerves of the part are completely exposed to every sort of irritation. It is an undoubted fact, however, that many women go to full term, notwithstanding an aggravated laceration and eversion of the cervix.

Having found this condition of affairs present here, and there being apparently no other cause for the miscarriages that have been noted, I would advise that an operation for the repair of the cervix should be undertaken as soon as possible. If this should not put a stop to the constantly recurring miscarriages, we would be forced to look for some other cause of the trouble; but, at all events, such an operation would undoubtedly relieve the bloody leucorrhoea, as well as others of the symptoms of which the patient complains. It is never safe to promise too much in cases of this kind, as disappointment is so common; and all that you can tell your patient is that you will give her the best possible chance that you can of giving birth to children at full term.

Original Articles.

ON SUBSTITUTES FOR ADHESIVE PLASTER.¹

BY ADDINELL HEWSON, A. M., M. D.

I HAVE the authority of one of the most zealous and truthful recorders of facts in his day and generation for the assertion, which he had heard made at the beginning of this century by the greatest American authority on surgery at that time, which assertion was that "one might as well attempt to improve on the Bible as to attempt to improve on the machine-spread adhesive plaster then made." This plaster was the *emp. resina* (of the London and United States Pharmacopœias), the *empl. lethargynæ resina* (of the Dublin), and the *empl. resinosum* (of the Edinburgh), either of which was well spread on linen cloth ready for use, requiring mere cutting into strips of the desired length and width and heating by the contact of its free surface with that of a heated body, — a bottle or tin can fill'd with boiling water. The basis of all these plaster compounds was that of the officinal lead plaster of all the pharmacopœias, with the addition in each of resin in varying proportions: thus, of one to five (Edinburgh), of one to six (United States and London), and of one to seven (Dublin). The resin used is the residuum after the distillation of the volatile oil of turpentine from various species of *pinus* and *abies*, and the purpose of its addition is to make the *emp. plumbi* more adhesive. It at the same time makes a more brittle plaster, which, in cold weather, is not desirable; hence another addition of the *emp. saponis compos.* in the Dublin Pharmacopœia was made, consisting of equal parts of soap plaster, lethargic plaster, and resin. The frequent occurrence of erythema and erysipelas as well as suppurative inflammation with the use of any one of these plasters led many to recognize long since the presence of the resin as a source of such mischiefs. Thus Boynton, who has immortalized himself by his method of treating varicose and other forms of ulceration of the limbs by strapping, early abandoned the use of any one of these plasters, and had one made containing six drachms of resin to the pound of lead, the smallest amount of resin which he found could be used to make a sufficiently adhesive plaster. Yet with such a composition unfavorable cases did occur even in Boynton's hands, and it would seem that even he was compelled to accede to Physic's dictum, at least as to the essential ingredients of the sticking-plaster. Indeed, it would seem that the ingredients considered essential for such a plaster were always the same, not only in Physic's day, but as long a time before as since, for I find them in the formulae of all the old thesauri of the last century as well as in those of the modern pharmacopœia. The defect was nevertheless recognized, and some attempts were made, unsuccessfully, to remedy it; and yet at the present time it is not recognized by the majority, by such even as Professor Lister himself, for he uses seven parts of resin to five of paraffine and one of carbolic acid for impregnating the cotton cloth with which he envelops a wound in his antiseptic dressing.

It is hardly necessary for me to cite any facts to sustain the assertion that all forms of products from turpentine are capable of exciting erythema and erysipelas in the skins of some individuals. I do not sup-

¹ Read before the Academy of Surgery, Philadelphia.

pose there is a gentleman here who is not familiar with such. Yet all are probably likely to accept the fact that no good sticking-plaster has been made without the resin, and to accept of Physic's dictum that there is no use in trying to improve on what we have so long been using. Nevertheless, if the attempts and experiences of so long a period should forbid any more efforts to improve our adhesive plaster, they do not forbid our searching for *substitutes* for the article. You may all be willing to admit that any improvement in the article is impossible, and yet be glad to get another article which will do better in being free from its defects.

Those of us here to-night who were in the profession or engaged in its study at the time can readily recall the excitement with which the announcement came from Boston that Dr. J. Parkers Maynard had then (in 1848) discovered a most admirable substitute for adhesive plaster. It was a solution of gun-cotton in sulphuric ether, to which he gave the name of collodion. The announcement of the discovery was no sooner made, however, than we had the declaration of its complete failure for its original purpose, and of its application to a branch of science which could never have been developed to its present state of perfection without its existence, namely, photography.

About that time the late Dr. Paul B. Goddard called me, one day, into his office, which adjoined my father's, on Walnut Street, above Ninth, and said, with great zest, "I have got the way of using collodion for sticking-plaster." This, as he then showed me, consisted of strips of Donna Maria gauze, a silk texture, cut lengthwise of the cloth, of the desired width, and of a length some two or more inches in excess of what would be needed to cover the part; this latter expedient was to facilitate traction in making the applications. The application was made by painting some collodion on a part of the skin surface near to the wound, and in the remote-st direction from which the traction was to be made; the gauze was then laid on this layer of collodion, and held gently in that position until the collodion had dried; then such traction could be made with the free portion of the gauze across the wound, the edges of which were held well adjusted by an assistant; in this position the collodion was painted through the meshes of the gauze, at the near end, beginning where the surgeon's fingers pressed it on the surface, and carrying the painting as near as was desirable to the wound; this expedient not only effected neat coaptation of the lips of the wound, but also allowed such to be visible, and at the same time secured the inner surfaces of the wound in thorough contact with each other. Nothing, it seemed to me, could be more desirable than this application, then made in the neat and dexterous manner of its inventor, and I confess boldly that I have never since then been without a bottle of collodion and some gauze to use as emergency might arise, never varying Goddard's dressing other than to substitute tarlatan for the more expensive silk gauze. With it I have been able to make most thorough coaptations of extensive scalp wounds and of stumps of major amputations, and that, too, without sutures.

I was not fully satisfied by the collodion employed by Goddard's dressing when I first saw it. What gave me very great satisfaction was his mode of using the collodion. I was conscious of the brittleness of the collodion when dry, and that it contracted too

much, and so readily peeled off. To meet these objections to collodion as an adhesive agent, we had soon, however, the first thing proposed, namely, the addition of a few drops of volatile or terebinthinate oils. Then we had cases of erysipelas occurring from its use, and found our last state no better than our first. On learning that this addition was being made to the collodion of our market I took the precaution ever afterwards to get an article entirely free from such an ingredient, and so have had my collodion clean, and have used it without fear. My enthusiasm for Goddard's method was, however, such as not to let me be satisfied here. I have, indeed, for the last thirty years been in search of something that could be applied by the gauze, and be free from all the defects of adhesive plaster, varnishes, and collodion.¹ During part of that time I had the assistance of the practical skill of our famous pharmacist, Mr. O. S. Hubbell, but I never got anything better than collodion as the adhesive agent until quite recently, when the frames on the sidewalks of our chief thoroughfares, suspending a piece of mended china, with heavy weights attached, arrested my attention: first, by the frame resembling somewhat that used in surgery for making traction and extension with, and then, secondly, to learn what such an agent might be, and whether such might not suit all our wants for a sticking-plaster. I was then not long in learning that the chief ingredients of such compound were probably acetic acid or nitric acid and common glue. Experiments with these, as well as some with mixtures of aldehyde, dilute acetic acid, and isinglass or fish glue, soon satisfied me that we had in these the long-sought-for material. Of all of them I have found the simple mixture of common glue one part and official (twenty-five per cent.) acetic acid four parts to be the best in every respect.² It dries with quickness, not requiring more than three minutes, and has a tenacity equal to two pounds to every square inch, so that in illustration of its value I may refer to an application of it to maintain the long strips of the extension dressing for fracture of the thigh. This can be made by securing only seven inches on each side of the knee of the material (linen or cotton, cut two inches wide). This will, when dry, resist the weight of over fifty pounds attached to the extending cord, and such weight can be applied as soon as the dressing is completely adjusted. (A demonstration of this was then made by Dr. Hewson.) I have also had ample proof of the persistency with which the article can hold its place in other instances; thus, I have applied strips of gauze and of cotton cloth with it to my fore-arm, and they have been retained for four or more days in their places. The glue not being soluble under a temperature of hot water, and softening and swelling only after exposure to cold water for some length of time, my daily plunge bath in cold water did not disturb them in the least. This and demonstrating their tenacity by strong traction, frequently made before friends

¹ Various preparations were then exhibited by Dr. Hewson, namely, solutions of silicate of soda and of sulphate of alumina, twenty years old, showing a remarkable state of preservation, solution of sandrac in ether and of rubber in benzine. Then there were preparations of more recent date, those of salicylic acid in collodion of various strengths, and of shellac and nitric acid.

² Numbers of these preparations were here shown, and Dr. Hewson demonstrated the reasons for his preference, and amongst the latter for the strength (full) of the acid and its proportion (four to one) of the glue, the full strength allowing of most rapid drying, and the proportion, to six to one, of glue making the most fluid solution which would dry the quickest. There were eight of these which he had been using since August.

in the course of these days, have tested it as severely as any fair questioner might require. The facility and quickness of this drying is easily to be demonstrated as being dependent on the thinness of its application, as I have frequently tried; hence I apply it by a thin strip of light wood or a feather to the part; or on other occasions, by saturating the bandage by drawing it through a cup of the liquid, and then straining off all excess, we have it in readiness to be laid on the part. Where there would be no necessity for the injured part to be exposed, as we would have by the gauze, and in others where there would be no traction needed, I have merely used tissue paper on the glued parts.

In applying this glue preparation for constructing permanent dressings I have used a good feather from a chicken wing, and spread a thin layer by it over each layer of the bandage, and had it very complete and firm by the time I had three layers of bandage applied.

After some discussion of my communication to the American Medical Association meeting in 1876 on Pirogoff's amputation, there was a renewal of the subject of discussion of several days previous, namely, that of applying fixed dressing for fractures and deformities. Dr. R. L. Levis then exhibited some dressings made with the ordinary carpenter's glue mixed with oxide of zinc and smeared over well applied-bandages. He stated the facts that "there is no plastic material that can be used as strong as ordinary glue," and in connection with that he had taken advantage of the fact, with which he had become familiar, that it can be made to harden with very great rapidity by the simple addition of oxide of zinc.¹ It must form a particularly nice means of coaptation after operations for hernia or the abdominal section, in neither of which, however, should it be relied on without wire stitches, for the latter are always necessary to effect the deep coaptation of the sections of the abdominal walls. [A case of fracture of the fore-arm was here presented on which the application had been made three days previous. It was then ununited, and had had the plaster of Paris without success for seven weeks.]

As to the making of this preparation, all that is required is to make the glue perfectly liquid by melting it in a pot-set in boiling water, care being taken not to let any water get into it. When the glue is thus made liquid four parts of official acetic acid (twenty-five per cent.) is to be slowly mixed in one part of it. This done, the preparation is complete, saving the addition of a few drops of otto of roses to destroy the smell of the acid as also of the glue.

It should be put into a wide mouthed bottle and well stoppered by a long cork, which can always be removed by heating the neck of the bottle. Care should be taken to keep the mouth of the bottle clean by wiping it well with a cloth dipped in hot water; this is for the purpose of preventing the adhesion of any particles of dust there. It is the cleanest method always, when using any liquid preparation, to pour some into a glass, so as not to unfit all of it for use by impregnating it with blood, or the like, with which the instrument of application may be contaminated.

Some have raised an objection that the acetic acid must be a source of irritation; but this is far from being the case, for acetic acid is a preservative, and prevents any animal matter from decaying. The mixtures made with it, which I have here to-night, have been in use in my office over two months, and are now as good as

the first day I began to use them there. This acid mixture, if not applied after Goddard's method, but on the contrary painted in a wound, will excite a burning sensation, which is not diminished by dilution of the acid or the substitution for it of aldehyde (vinegar of alcohol), which is slower in drying. Where the precaution is taken to keep the liquid from the lips of the wound there is no sensation whatever from its drying on the skin. Its contact is soothing when applied to some eruptions of the skin and a means of retaining applications (as of zinc) to the parts. It is, I have found, particularly serviceable in the latter cases.

My preferences for acetic over nitric acid were that it was less irritating, dried quicker, and preserved the glue most effectually from the slightest indications of decay for a long time after its application.

The mixture of one part of glue to four of acetic acid, which I have said I have found the best for surgical purposes, has these advantages: it dries far quicker than the same in different proportions, or than different proportions of shellac, isinglass, or white glue with different proportions of acetic or nitric acid; in fact, those with nitric acid were caustic, whereas, those with acetic were not.

The thinness of the film by which the cohesion of broken parts is to be effected having long since been demonstrated to be essential for such perfection of the result, I have not only sought for the best means of application, as I stated, by using a feather or thin strip of wood, but have tried to determine what was the best quantity and how long such required to dry. As to the quantity, I have found all that was necessary was to saturate the material — varying, therefore, as to the bulk of the latter. Here I got some interesting and indeed curious results: thus, some pieces of paper four inches square, which weighed on an average, before being wet through, two and a half grains, and after a full coating, which required three minutes to dry, had gained on an average half a grain, that is, only an eighth to each square inch. Testing these points with pieces of muslin I got a gain of two and a half grains in a piece which weighed originally 5.3 grains. This gain was determined after the acid was all evaporated and the glue all dry; this we may therefore infer was the actual addition of glue. Another piece of bandage cloth four inches square, which in its natural state weighed 4.8 grains, increased in weight immediately after being saturated with the liquid by means of the feather to 12.2 grains. Here was an increase of it to three times its weight; it took ten minutes to loose the addition due to the acetic acid, when it was again dry, and was found to have only what the glue gave it; that is, about one half of its original weight, as shown by the previous experiment.

This preparation has the advantages of being easily prepared and at very short notice. If not on hand it can be made in a few minutes, simply by having water in a tin cup on the fire so that it boils, and putting a bottle containing one part of glue to four, by measure, of the acid, and letting the bottle remain in this bath until the glue is fully dissolved and mixed with the acid. All that is then wanted is the addition of a few drops of the otto of roses to make its odor acceptable to all.

— The *Union médicale* gives the history of one Guil-Lume Granik, who died in prison in Toulouse after fasting sixty-three days.

¹ Transactions Medical Association, page 324.

ANTISEPTICS IN GYNÆCOLOGY.¹

BY J. W. ELLIOT, M. D., OF BOSTON.

MR. PRESIDENT AND GENTLEMEN, — Much of what I have to say this evening may not be new to many of you, but I venture upon this subject because it seems to have attracted less attention in this country than it deserves, and because it involves a principle and possibly some details that may interest the general practitioner.

The best antiseptic surgeons can open a knee-joint or the peritoneal cavity with almost absolute certainty that no trouble will follow, and yet it is not uncommon for practitioners of to-day to lose patients from septicæmia or pyæmia following the simple operation to close a ruptured perineum or a lacerated cervix uteri, ordinary dilatation of the uterus with sponge tents, and even normal confinement. This striking contrast of results points out to us a path which seems worthy of investigation. At least, many gynecologists believe that with the faithful and intelligent application of antiseptics their special operations can also be performed with almost absolute certainty of favorable results. The Germans have within a very few years done much to confirm this opinion.

In inquiring what is the basis for the rational use of antiseptics, it does not concern us here whether bacteria are only the carriers of a poison or are in themselves a poison, nor is it yet known in what manner this poison acts in the economy to produce disease; but we do know, from the experiments of Pasteur, Lister, and others, that various forms of bacteria always exist in putrid fluids, also that the absorption of putrid material may produce pyæmia or septicæmia; and we learn from the investigations of Kock² and others that this putrid poison is not a single one, but that several poisons are developed, one after another, during the process of putrefaction. Kock found that the injections of putrefying substances (blood, etc.) into animals gave results differing according to the state and quantity of the fluid used. He succeeded, by varying the quantity injected, in producing two distinct kinds of septicæmia in mice. The first kind was very rapidly fatal, being due to the poison of sepsis, an alkaloid which has been isolated from putrid matter by Bergmann and others; this disease was in no way infectious. The second kind, which closely resembles septicæmia in man, caused death after a somewhat longer time. In this disease he followed the bacilli from the point of inoculation through the walls of the vessels, also for long distances in the subcutaneous cellular tissue. They entered the white blood corpuscles, increased there, and finally the corpuscles disappeared, only a clump of bacilli remaining. This disease is highly infectious, one tenth of a drop of blood causing death in a mouse. He noticed at the point of inoculation that a "progressive gangrene occurred, accompanied by a rapidly growing micrococcus form, which was not to be found in the blood."³ This disease was shown to be independent of the septicæmia. He failed to produce septicæmia in rabbits, but progressive abscesses often developed at the point where the putrid material was injected; here he found no

bacteria in the blood, but a narrow zone of small micrococci lying on the periphery of the abscess next the sound tissue. He caused pyæmia in rabbits, in which disease he observed micrococci grouping on the walls of the vessels, finally occluding them, and causing thrombosis.

It is evident that our knowledge on this point is very imperfect, but these few facts will help us to understand the subject at hand. From the mass of evidence before us we feel justified in stating that bacteria act both locally and in the blood to produce disease; that there are probably several kinds of septicæmia; that the microscopist knows no difference between the so called puerperal fever and other diseases caused by the absorption of putrid materials.

In antiseptics we possess a means of killing the various forms of bacteria. Of all the applications of antiseptics their use in obstetrics has been most striking.

It is impossible in the time allotted to go through the history of the revolution that has taken place in the minds of obstetricians since the introduction of antiseptics; suffice it to say that it has long been the general opinion in Germany that the gravest forms of puerperal disease are caused by the absorption of septic material. Schroeder defines puerperal fever as "nothing else but poisoning with septic material from the genital organs." That absorption may take place a fresh wound is required by which the septic poison can enter, and "fresh wounds exist in every puerperal woman." The great argument in favor of this theory is that none of the puerperal diseases have anything peculiar to the puerperal state alone, or occur only during pregnancy, confinement, and puerperium; in fact, one may occasionally observe all the phases of the so-called puerperal fever after dilating the uterus with a sponge tent. Fordyce Barker denies most emphatically the truth of this statement. He would have us believe that women in child-bed are the victims of both septicæmia and puerperal fever, which he considers are two distinct diseases. One of his strongest arguments is that epidemics of puerperal fever not unfrequently occur in the country, while septicæmia is usually limited to hospitals; that puerperal fever is often confined to the practice of individuals, which he asserts is not the case with septicæmia. These arguments seem to us misleading, for we are just learning that there is more than one kind of septicæmia, and, moreover, with the growing of a pregnant uterus the great enlargement of veins and lymphatics offers enormous facilities for transferring whatever poison may be present, and the contraction of the uterus may often retain the secretions; while, on the other hand, experience teaches us not to expect septicæmia or pyæmia from a superficial wound, however unfavorable the surroundings. Few surgical operations have to deal with so unfavorable an anatomical condition. Ovariectomy is certainly one of the few, and here it is well known that septicæmia is the particular thing to be feared. Still more, we have seen that septicæmia is highly infectious in animals; also, we have reason to believe that it does occur more frequently in the practice of certain individuals; it certainly has occasionally been noticed in hospitals that the cases of pyæmia and septicæmia were confined to the patients of one of the two visiting surgeons, although both surgeons visited the same ward.

It seems to us that Barker's position is untenable;

¹ Read at a meeting of the Suffolk District Medical Society.

² Die Wundinfektionskrankheiten.

³ Bacteria and Their Relations to Disease, Whitney, Boston Medical and Surgical Journal, vol. ciii., No. 7.

at all events, he stands almost alone among the authorities.

We hold, then, that the starting-point of all these diseases is the genitals; that the local disease in the genitals becomes a constitutional disease, that the process is spread in the cellular tissue, or the poisoned fluids are carried to all the organs of the body through the lymph and blood vessels, or single foreign bodies taken up by the circulation are lodged in different organs, and these cause disease. Combinations of these different ways of spreading the original process frequently occur. This, then, is the manner in which the system is infected. Infection takes place most frequently in the following classes of cases:¹—

(1.) In cases where there is wounding and crushing of the genitals, especially where the parts become gangrenous from continued pressure.

(2.) In cases where part of the placenta or pieces of the membranes are retained, or where a macerated fœtus has been borne.

(3.) In cases where there exists a metritis or a leucorrhœa of the genitals.

(4.) There is no doubt that the infection of an abrasion of the genitals of a lying-in woman with stinking pus from a wound or cadaver will cause all the severest puerperal diseases.

These classes have been again divided into two great classes, according as the source of the infecting matter is the patient herself, self-infection (auto-infection), or as the infecting material comes from without (hetero-infection). This division has been adopted by all the recent writers on the subject, but it seems to us to have no scientific signification, because in all cases the bacteria come from without. To the first class belong cases of infection from retained membranes, leucorrhœa, etc.; to the second, infection by the use of unclean instruments, etc.

The first class (self-infection) is interesting to us here because, knowing the danger, we are often able to prevent trouble by antiseptic treatment.

Still more interesting to us in this connection is the second class (infection from without), on account of an idea insisted on by Winckel in Dresden. For he believes that by far the greater number of cases of infection arise in this way, and he says "epidemics very often occur from the direct carrying of infectious material from one to another; these epidemics begin from a sporadic case; the *finger of the examiner*, the instruments, bed-pan, sponges, etc., are the carriers; the time of the infection is usually at the delivery or soon after." His idea certainly explains many facts much better than any other known theory. Let me call your attention to a few of these facts:—

(1.) Epidemics² and sporadic cases occur everywhere, in hospitals and in private practice, among the rich and poor, in different ages and constitutions, on high and low land, on the sea-coast and inland, in moist and dry climates.

(2.) In large cities there are often fearful epidemics in the hospitals or in one hospital, or, as often happens in Vienna, in one clinic of the hospital, while there are no cases in the other clinics of the same hospital,³ or in the rest of the city.

(3.) It is evident from statistics and experience that every factor that complicates labor, making it more diffi-

cult or rendering instrumental interference necessary, also increases the mortality.⁴

(4.) Hugenberger and Späth⁵ found that the women brought into the hospital, having been confined on the street or on their way to the hospital, made a relatively more favorable recovery than those confined in the hospital, although they were often put beside patients already suffering from puerperal disease.

(5.) Certain statistics collected by Braun, Späth, Hecker, and Viet show without a doubt that the time of greatest danger to women in a lying-in hospital is while they are in the delivery-room (*Kreisszimmer*), there being in all German hospitals a room set apart for the women in labor. Students are admitted to this room, and here all the examinations are made and operations performed; so it often happens that the genitals are manipulated only in this room.

(6.) "It has often occurred that one physician is tracked by puerperal fever, following a series of labors, while in the same neighborhood, village, or city the disease is not met with in the practice of any other physician."⁶

"A midwife delivered a woman on the 4th of December, 1830, who died soon after with the symptoms of puerperal fever. In one month from this date the same woman delivered thirty women, residing in different parts of an extensive suburb, of which sixteen" were infected "and died."⁷ The other midwives from the same institution were twenty five in number, and delivered, on an average, ninety a week. None of these women had a case of puerperal fever. Yet all this time this woman who had had these unfortunate cases was crossing the other midwives in every direction. This point is so well established that I need not repeat the abundant testimony.

(7.) No one can doubt that a woman delivered of a macerated fœtus would come in great danger of being inoculated with putrid material. That this really occurs is rendered more probable by the statistics of Hugenberger, who found the mortality of these cases to be twenty-nine per cent.

Winckel's hospital in Dresden is at present one grand experiment to perfect this theory. There no one is allowed to examine a patient without first scrubbing his hands with soap and a nail-brush, and then disinfecting with carbolic acid (five per cent.), and this procedure must be repeated before and after each examination. No nurse can take charge of a case until her hands and finger nails have been inspected and approved by the assistant in charge. All who examine must register their names. The instant any patient shows symptoms of infection all who have examined that patient are "excluded;" that is, they cannot examine any case for two weeks. This rule serves to make the students more careful, and the vacation gives them time to rid themselves of any lingering infectious material which they may have about them. If an epidemic begins no one is allowed to examine except in case of extreme necessity. This is what they call the "radical cure," and it certainly checks an epidemic with great promptness. No one who has seen Winckel's experiments can for a moment believe that the disease is carried in the air, for he places sound and puerperal-fever patients in the same ward, side by side, taking the precaution that each shall have a separate

¹ Pathologie des Wochenbettes.

² Hirsch.

³ Clarke, Ingleby, etc.

⁴ Bush, Braun, and others.

⁵ Wiener med. Jahrb., 1863, Heft 1, pages 10-27 (Späth).

⁶ Puerperal Diseases (Barker).

⁷ London Med. Gazette, Jan. 1840 (Robertson).

bed-pan, injecting tube, eating utensils, thermometer, etc., each patient washing her own genitals. Of course cases of infection do appear in spite of the most rigid antiseptic precautions, but no severe epidemic has yet occurred, and each beginning epidemic has been cut short, not by isolating the cases, but by excluding the examiners and nurses. Almost the whole control of the patients is given over to students (*Folantär-ärzte*), and nearly all the operations are done by their untrained hands, and yet the mortality is only 2.5 per cent.

This much has been said, not in the belief that at last the great problem has been fully solved, but as men have so long quieted their consciences with the idea that the trouble "is in the air," that there "must be something in the atmosphere," we believe that a more self-condemning theory may lead to improvements in treatment. For whatever one's theoretical opinion may be, in treatment he is bound to cover all chances of mistakes where it is possible.

As a prophylactic¹ measure, then, at the beginning of labor, the patient should have a hip bath, the hair should be cut from the genitals, the vagina and vulva should be washed with soap and disinfected with carbolic acid. All the linen, etc., should be perfectly clean. Next the hands of the doctor and nurse should be absolutely clean. As many of the instruments as possible should be new, at least clean beyond a doubt. No one can be perfectly sure that some particles of dirt are not still lodged about the finger nail or in the folds of the skin. I therefore propose for students or doctors who have been at work on putrid material, or if you like for ordinary use, that they use white examining a thin rubber or gold-beater's-skin glove, which having a smooth surface can be made perfectly clean. During labor every examination should be preceded by a vaginal injection of three per cent. carbolic acid to prevent the examining finger from carrying germs lodged at the vulva, or in the vagina, up to the uterus, which is about to be more or less lacerated. Examinations should be made as seldom as possible, and manipulation with the os uteri or forcible attempts to reach a fontanelle are unpardonable. After a normal delivery the vagina should immediately be washed out with three per cent. carbolic acid, and these injections should be continued twice or three times a day, according to the foulness of the lochia, for nine or ten days, in order to wash away the lochia which stagnate just behind the fourchette, if the patient is in the horizontal position.

The spray has been and is somewhat used just as the head appears. After delivery the uterus and genitals should be considered as a deep and important wound, which may heal by first intention, or in which the secretions may stagnate, become putrid, and be absorbed. If the temperature rises to 103° F., and no trouble with the nipples or other abnormal condition be present, then it is to be supposed that the patient has been infected, and the whole generative tract to the fundus uteri should be washed out with five per cent. carbolic acid. An irrigator or fountain syringe will be found more convenient and much safer than any other kind of syringe.

An English elastic catheter is convenient to pass into the uterus, and should always be held between two fingers spread apart, to secure a free outlet for the

fluids injected. A new catheter should be used for each case.

During the delivery of a macerated fœtus, and when meconium or stinking water has come away, carbolic vaginal injections should be repeated every half hour, and after delivery the whole genital tract should be washed out with five per cent. carbolic.

When part of the membranes are retained and there is no hemorrhage, some authorities hold that they should immediately be removed to prevent the danger of infection, while others maintain that there is more danger of infection from introducing the hand or curette than from leaving the membranes and constantly washing out with carbolic acid.

Even after the temperature has been high for some days and the abdomen is already tympanitic a thorough washing out of the uterus with a disinfectant is often followed by an unexpected change for the better. Although this treatment will not save a patient after septicæmia is fairly established, yet the results are often astonishingly good in cases apparently far advanced. It is certain that by the local treatment we can in many cases stop the process, and in others its course is at least rendered milder. When the secretions are inclined to be retained a drainage tube may be left permanently in the uterus, and washed out every two hours or oftener. In severe cases constant irrigation of the uterus is of value. To accomplish this the patient is placed on a rubber bed-pan with a tube in the bottom to empty it; a double-current catheter or simply a drainage tube is passed to the fundus uteri, and held in place by packing the vagina with carbolic gauze. The fluid is in an irrigator, and the flow can be regulated accordingly to circumstances. If the fluid be kept cold by ice we get the additional benefit of the cold to reduce temperature. The uterus lies so deep in the middle of the body that this is very efficacious.

Among the gynaecological operations done antiseptically ovariotomy stands forth as a beacon light to encourage all our efforts in this direction.

In this operation the technical points are the same as in any antiseptic operation. The things usually overlooked by the casual operator are the shaving the pubes, the scrubbing the abdomen with soap and carbolic acid. Mr. Thornton (Spencer Wells's assistant) thinks this a very important point, and has the abdomen thoroughly scrubbed with soap and nail brush some hours before the operation; the skin is then soaked with carbolic acid, bits of carbolized cotton being placed in the navel and covered with mackintosh which remains on the abdomen until the operation. By this procedure time is given for the carbolic to soak into the cracks of the skin and sebaceous glands. He also attributes great importance to tapping antiseptically, that is, with a carbolized trocar under carbolic spray. The operator himself should inspect the hands of his assistants, or require them to wear rubber gloves.

All operations about the vagina should be preceded by cutting the hair, a hip bath, a thorough washing of vagina and vulva with soap and carbolic. Closing a ruptured perineum is often done under carbolic spray. Schroeder and Martin, of Berlin, and others, do all the operations about the vagina under a constant stream of carbolized water. An irrigator being filled with a two per cent. solution of carbolic acid, one of the assistants directs the tube so that the wound is kept protected from the air; a rubber sheet under the patient is gathered at the bottom near the floor, and conducts the

¹ Ueber das Puerperalfieber und dessen locale Behandlung (Eritsch).

refuse fluid into a vessel below. This stream serves at the same time to wash away the blood and to check the bleeding, thus enabling the operator to do without sponges, which is a most important point. These wounds can be dressed antiseptically by applying antiseptic cotton and mackintosh to suit the case at hand, the urine being drawn with a catheter and the bowels kept closed.

Sims,¹ in his article on the treatment of epithelioma of the cervix uteri, in which he reports several cases as cured by repeating the operations several times, complains that one of the greatest dangers is death from pyæmia and septicæmia, on account of the necessity of leaving the tampons in place for some days. This operation can certainly be done antiseptically. The scraping and cutting away of the diseased tissue should be done under a constant stream of carbolic. The styptic tampons should be wrung out in five per cent. carbolic before they are saturated by the styptic (all tampons for wounds should be made in this way); the next layer of tampons should be carbolized glycerine, and mackintosh should be placed about the urethra to prevent the urine on the catheter from tainting the dressing.

It is often necessary to dilate the uterus both for diagnosis and treatment. The ordinary method of dilating with sponge tents is by no means unattended with danger. To avoid this, Schroeder has been led to advocate dividing the cervix right and left as high as the insertion of vagina, then forcing the fundus down over the finger; this of course being done antiseptically. Heroic as this procedure may seem, his results do not compare unfavorably with the results from dilating with sponge tents. The operation of incising the cervix is occasionally attended with great chance of infection from the flow of a secretion which has been retained in the uterus. There is still greater danger in putting in a tent to keep a divided cervix from uniting, because a tent always becomes more or less putrid, and here it is in contact with a fresh wound. It is much better, therefore, to dilate first, and then after disinfecting the interior of the uterus incise the cervix. If a tumor is removed from the internal wall, a rigid drainage tube should be left in the uterus to prevent stagnation of the secretions and to facilitate washing out.

All² forcible dilatation is dangerous, because it tears and wounds the mucous membrane, and this should be avoided if possible before the cavity has been washed out with an antiseptic. After the uterus has been dilated enough to allow this washing out, then incisions can be made and forcible dilatation can be attempted with safety, if the after-treatment be antiseptic.

Professor Schultze, of Jena, has done good work on this subject, and insists on the following precautions in dilating the uterus: The patient should be in Sims's or the knee-and-elbow position. A catheter being passed into the vagina, it should be washed with five per cent. solution of carbolic. The dilating material should be disinfected before introduction. Tupelo or laminaaria is the best material. Sponge tents should not be used, because in spite of every precaution the secretion becomes putrid, and its meshes penetrate and wound the mucous membrane, thus giving rise to two favorable conditions for infection. If sponge tents be used they should be made of disinfected sponges and

saturated with carbolic wax. Schultze prefers the laminaaria, because by dipping one into boiling water he disinfects it, and at the same time makes it capable of being bent to suit the angle of the uterus; it is then greased with carbolic oil and introduced. A carbolized glycerine tampon holds the laminaaria in place; after six to eight hours the tent is removed; the uterine cavity is disinfected; then several laminaaria or tupelo are introduced, as before. The finger and every instrument which is passed into the uterus must be clean and well carbolized. The results of infection can be from the smallest parametritis to peritonitis, or death from septicæmia or pyæmia. The prevention of the presence of putrid matter and the avoidance of injury to the mucous membrane, either by introducing the laminaaria or shortly before, are the only ways we have to reduce the danger to a minimum. If we wound the mucous membrane with the sound or laminaaria as shown by a slight flow of blood, it is better to wait twenty-four hours before we dilate. Should infection take place, the treatment is the same as in puerperium. Schultze has dilated for diagnosis and operation one thousand cases with the above precautions; has no death and but five cases of parametritis, none of which were severe.

We will conclude with a word about antiseptics. Carbolic acid is certainly the best antiseptic in use to-day, and fortunately the genital tract shows a peculiar tolerance of it; for a five per cent. solution can be introduced into the uterus in considerable quantities without ill effects (care being taken to oil the vulva, which otherwise becomes irritated). There have been cases of sudden collapse after injecting carbolic acid into a puerperal uterus, but this has also happened after injecting water. I was fortunate enough to see this accident occur in Schroeder's wards, where I know that the cervix uteri was held well open, and no air could have entered through the irrigator. There is a theory among medical men that this collapse is due to air entering a vein, but as yet there is very little positive evidence to support such a theory. When we wash out a uterus, then, it is well to be prepared for this accident.

Carbolic-acid poisoning may occur, and is a matter of considerable importance in child-bearing women, for they often suffer from nephritis, and we have had an opportunity of observing an old nephritis exaggerated and even an acute nephritis set up by the use of carbolic dressings. If, then, the urine is colored dark we can employ some other antiseptic. Chlorinated soda is one of the best.

Summing up, then: The weight of microscopic and clinical testimony goes to show that puerperal fever and the diseases caused by the absorption of putrid poisons are one and the same. The finger of the examiner, the instruments, etc., are the carriers of the disease in the great majority of cases. In cleanliness and antiseptics we possess both prophylactic and curative means.

Looking at ovariectomy as an example, we believe that much improvement in the results of gynecological operations may be hoped for by doing them antiseptically. A beginning has already been made in operating about the vagina and cervix uteri under a constant stream of carbolized water, and applying antiseptic dressings. The mortality from dilating the uterus has been greatly reduced by using antiseptic precautions.

¹ Journal of Obstetrics, 1879, vol. xii.

² Wien. med. Blätter, No. 42-45, 1879 (Schultze).

RECENT PROGRESS IN DERMATOLOGY.

BY E. WIGGLESWORTH, M. D.

TUBERCULOSIS OF THE SKIN.

JARISCH and Chiari contribute¹ the case of a man aged forty-two, who presented himself for the treatment of a crust reaching over the left ear like a bow. Some slight pain. The crust was removed. A reddish-yellow, granulating ulceration, shaped like a five-leaved clover, then appeared, its pitted floor covered with pus, movable on its base, and with irregularly notched, swollen, red, precipitous edges. Cervical glands somewhat swollen. Slight pharyngitis. Moderate dullness over right upper lung behind. Syphilis was excluded by absence of infiltration, of lardy base, and of pain; epithelioma by the character of the margin and the short duration of the diseased process. Nor did the ulcer resemble that from lupus or from scrofula. After the lapse of three weeks the patient complained of a sore throat, and an inspection of the pharynx showed miliary tubercles, and small ulcerations due to the breaking down of these. Tuberculosis of the skin was now diagnosed. The ulcer steadily enlarged, and the patient died six weeks later.

Autopsy. Ulcers in trachea, pharynx, and intestine. Cheesy nodules and caverns in the lungs. Caseous degeneration of the submaxillary and cervical lymph glands. The ulcer so deep as to expose the temporal muscle and branches of the facial nerve and superficial temporal artery. The borders of the ulcers of the skin and of the pharynx were full of miliary tubercles. Chiari has seen only six cases of tuberculosis of the skin. These occurred upon the under lip, and never extended over more than ten square centimetres.

XANTHOMA.

Chambord describes² a case of xanthoma of both eyebrows, upper eyelids, and external canthi, more marked on the right side. The necropsy showed echinococcus cysts of the lungs and liver, tuberculosis of the omentum, and xanthoma of the larynx, trachea, and bronchi. Histologically, Chambord regards this disease as an irritative process seated in the connective tissue, and causing hypertrophy of this tissue around vessels, sweat glands, and primitive nerve bundles, the new-formed elements then fatily degenerating. In the flat form of xanthoma cell formation and degeneration keep pace with each other; in the tubercular form the latter is less rapid than the former.

HEREDITARY SYPHILIS.

Professor Zeissl contributes³ the results of a thirty years' experience to the at present much-agitated question of the hereditary transmission of syphilis. It is not so much pathological appearances as the ways and means of transmission which are of importance. It is now generally accepted that at the moment of conception syphilis *may* be communicated to the fetus by the semen of a syphilitic father or the ovum of a syphilitic mother. There is no *must* to this rule, and Zeissl has observed nine cases of healthy children born of parents one of whom had secondary syphilis. As the disease fades in the parents so fades the probability of transmission to the fetus, though the possibility remains as

long as the disease exists, though latent, in either parent, much more so if in both. The fever and fainter the symptoms in the parent the less grave are they in the child. Where the disease is latent in the parent the child may appear healthy at birth, and only after three, six, or more months evince the symptoms of hereditary syphilis. Active syphilis in the parents causes abortion, still-births, or early death of child. Zeissl believes also (1) that the previously healthy mother is infected by her child of a syphilitic father, though she be not directly infected by him, that is, the man; and (2) that the child of healthy parents may be infected in the womb of, and by, its mother, should she acquire syphilis during her pregnancy. This last, the "infection in utero" of Kassowitz, is proved by a case reported by Zeissl's son, and is accepted by Guibout, Després, Jullien, Basseraux, etc. Not so easy is it to prove that a healthy mother can be infected by her syphilitic fetus. Still there is one case on record⁴ of a mother being infected by nursing her own hereditarily syphilitic child; and Caspari has inoculated syphilitic virus upon various parts of the body of an apparently healthy mother of a syphilitic child without effect. Zeissl does not accept Kassowitz's theory, that without going through a disease one can yet be so penetrated and permeated by it as to possess immunity from contracting it; for he almost daily examined for two years the previously healthy wife of a syphilitic husband, and found no primary lesion, yet she during this time bore two hereditarily syphilitic children, who died soon after birth, herself failing in health and losing her hair soon after the first conception, and showing during the second pregnancy a squamous syphiloderm of the palms. In another case he treated a man in 1865 who married in 1867. He examined the wife almost daily. She bore a syphilitic child in 1868, and another in 1869. After the first delivery the wife had general syphilis, but never an initial sclerosis. He has seen also many analogous cases. The fetus, then, being syphilitic, the mother is almost invariably so also. A woman can also, according to Zeissl, become infected by the semen of a man with recent but latent syphilis without being impregnated, and he states that he has seen numerous such cases. Here the woman shows late forms like painful periostitides. More frequently, however, the mother is infected by the fetus through the placental circulation, and may show symptoms belonging to the condylomatous period of the disease, or, as in galloping syphilis, those of the gummatous stage. Such women may subsequently bear healthy children to a healthy man, or even to the same man if he has become healthy.

TREATMENT OF PRURIGO BY PILOCARPIN.

Simon, of Breslau,⁵ in view of the physiological properties of pilocarpin, has experimented with it in the treatment of such diseases of the skin as are especially characterized by absence of any secretion from the sweat glands, and particularly of prurigo. This disease is practically unknown in America, only three or four cases having ever been recorded. Into adults he injected daily, subcutaneously, one gramme of a two per cent. solution of muriate of pilocarpin. Also, at times, a syrup of jaborandi was employed internally when the injections were contra-indicated. This syrup is prepared by pouring fifteen parts of boiling water

¹ Vierteljsch. f. Dermatol. u. Syphilis, vi., 2 and 3, page 265, 1879.

² Ann. de Dermat., etc., t. x., No. 4, page 241, 1879.

³ Wien. med. Wochenschr., No. 4, 1880.

⁴ Guibout. Nouvelles Leçons cliniques sur les Maladies de la Peau, 1879, page 154.

⁵ Berliner klin. Wochenschr., No. 49, 1879.

over three parts of jaborandi leaves, and dissolving in the filtrate eighteen parts of sugar. For adults the dose is two to three teaspoons, for children in proportion. After the application of the remedy the patient was put to bed for three hours, between blankets. Patients with psoriasis could not be made to perspire; those with prurigo sweated profusely. The syrup of jaborandi in moderate doses (as above) was well borne. The pilocarpin injections and larger doses of jaborandi syrup caused, while producing the effects desired, salivation, in some cases nausea, and in a few vomiting, requiring cessation from the use of the drug. The good effects of the treatment in most cases were very apparent. The itching ceased after one or more applications, the exanthem diminished, the relapses became fewer, and the scratching ceasing, the skin soon became smoother, softer, and less wrinkled. The swelling of the inguinal glands disappeared, and the patients rarely needed more than a month of treatment. Combined with tar externally, even more rapid progress was achieved, the patient sweating for twelve hours and being tarred the other twelve.

PATHOLOGY AND THERAPEUTICS OF FURUNCLE AND ANTHRAX.

Hofmoke, in a lecture¹ upon carbuncles, states that during the last six years he has treated forty-three cases, and many more of furuncles. Four anthracases were treated by cold or warm cataplasms, operation, and compress wet with lime water, sulphate of copper, or chlorate of potassium. One of these required a second, and one even a third, operation. Thirty-nine anthracases were treated otherwise, and the patients were rapidly and pleasantly restored to health. The plan adopted was as follows: The skin and environs were thoroughly cleansed with a five per cent. solution of carbolic-acid water. Longitudinal and cross cuts were made, splitting the carbuncle and reaching into the sound tissue at each end, and penetrating downwards to the fascia limiting the necrosed tissues. The quadrants were then also incised freely, parallel with the base of the carbuncle, thus cutting the blood-vessels leading from the fascia to the skin, and by relieving the stasis, limiting further necrosis and causing a more easy sloughing of tissues already necrosed. Gentle pressure was then applied to remove purulently degenerated material, and the wound thoroughly cleaned with a five per cent. solution of carbolic-acid water, and stopped with tampons of lint soaked in the same. A similarly treated mass of lint was laid over everything, then dry charpie, and finally plaster, or a bandage. After twenty-four hours of slight or no pain, the tampons of lint are to be soaked off with a two per cent. solution of carbolic-acid water, dead matter removed, the wound washed carefully with a five per cent. solution, and dressed as at first, but now with merely a three per cent. solution of carbolic acid in olive oil, once or at the most twice daily, to avoid carbolic-acid poisoning. Lister's gauze under the tampons prevents adhesions. When wound is clean and healthy, use only simple dressings till recovery.

NON-VENEREAL SYPHILIS.

In rather more than a third of all cases of syphilis we find intentional or unintentional ignorance of whence or how the disease was acquired, with non-rec-

ognition of the nature of the initial sclerosis until later symptoms appear. The laity still look upon syphilis as necessarily coming from a lesion upon the genitals of one person and necessarily received by the genitals of another,—two errors. The lesion serving as origin of the virus may be situated anywhere upon the person infecting; the exoriated spot receiving the contamination may be upon any part of the body of the person infected. V. Sigmund cited² one hundred and sixty-six cases of extra-genital primary sclerosis. His assistant, Dr. Mraček, now adds³ eighty additional cases to this list. Of these, more than half (forty-four) were due to direct contact of syphilitic patients with non-syphilitic persons, such as physicians, wet-nurses, ward tenders, midwives, pursuing their professional duties; innocent women and children from a kiss; both sexes from scratching, sucking or biting, fingering, or "mistaken identity" (Juvenal), in war or love, when intoxicated or not. Mediate infection from sugar-teats, spoons, nursing-bottles, surgical instruments, pipes, clerical water-closets, tools (glass blowers'), and possibly toilet utensils, goblets, or dishes, was less common, and, though not always susceptible of proof, in many of these cases immediate contagion could justly be suspected. The reports of Jullien, Lancereaux, Aimé Martin, and Fourmier⁴ swell this list to four hundred and seventy-seven cases. More recently five cases have been reported by Zeissl,⁵ two by Weinberg,⁶ nineteen by Hulot,⁷ Spillman,⁸ Bulkeley,⁹ and Plumet.¹⁰

INFLAMMATION OF THE SKIN CAUSED BY A HITHERTO UNCLASSIFIED MITE.

Geber denies, in a clinical lecture,¹¹ the right to the term parasite of the various species of insects and fungi which merely irritate the skin, and would even recognize the itch insect or the "ringworm" fungus as mere causes of disease, classifying the resulting morbid processes under their appropriate histological or clinical headings. He describes the results of contact with the skin on the part of a microscopic harvest mite, recently detected from Lower Hungary. Barley sent thence to Klausenberg was carried in sacks upon the backs of laborers from the railroad station. Within a few minutes these men were attacked by intense itching and burning, occurring at places which had been touched by a yellowish-brown powder falling from the sacks. This powder, sent to Professor Geber for examination, proved, under the microscope, to be composed of little animals, living or dead, and their rudiments. Examination of the laborers, ten days having now elapsed, showed inflammation of the skin still present. Geber persuaded a man who had not carried the barley before to carry a sack for a few minutes, thus obtaining the appearances of recent irritation. An urticaria appeared, and lasted for more than a day. Patients in the hospital were then sprinkled or rubbed with the powder, the succeeding inflammation being shown to be of three grades of intensity. The simplest was a severe urticaria, specially localized about the openings of the follicles, confluent, lasting some thirty-six hours, the mite

² Wiener med. Wochenschr., 1865.

³ Wien. med. Presse, Nos. 1, 2, 3, 4, 5, 1880.

⁴ Union med., October 25, 1865.

⁵ Allg. Wien. med. Zeitung, 1878, Nos. 2 and 3.

⁶ Sitzungsber. der k. k. Ges. d. Aerzte, 1878.

⁷ Ann. de Dermatol. et de Syphiligr., 1878.

⁸ T. B. Curtis.

⁹ Archives of Dermatology, Philadelphia, 1879.

¹⁰ Wien. All. med. Zeitung, 1879, Nos. 19 to 51.

¹¹ Wien. med. Presse, October 26, 1879, et seq.

¹ Wiener Klinik, October, 1879.

adhering to the epidermis, and dying in a few hours. The next grade was an eczema, lasting a week, with slight fever and loss of appetite. The third form was a dermatitis, with marked fever, followed by desquamation and pigmentation.

ETIOLOGY OF ERYTHEMA NODOSUM.

Neumann regards¹ erythema nodosum as an idiopathic disease, for erythema papulatum, annulare, iris, and gyratum occur epidemically, and represent merely different stages of development of an erythema multiforme, whereas the change of either of these forms into E. nodosum, or *vice versa*, has never come within his experience. Hebra's original view of E. nodosum as a disease *sui generis* is maintained by Trousseau and Revillout.² The diametrically opposed conception of E. nodosum as a mere symptom of the morbid condition of some internal organ is upheld by Wilson, H. Köbner,³ and Lewin.⁴ Lewin, in fact, regards this disease as an E. multiforme, believing that the size of the nodules upon the lower legs is due merely to the histological conditions there present, such as loose, distensible connective tissue and impeded circulation. Neumann denies this, and attributes the size of the nodules to the character and intensity of the disease process. Moreover, the disease has no annual relapses, no special tendency to occur in very young persons, and may accompany severe and even dangerous general conditions, being unlike, in these respects, E. multiforme. As the rule it is an acute disease, appearing with slight fever and rheumatic pains, especially attacking anæmic persons, and disappearing spontaneously in three to four weeks, not to return; or the nodules appear as symptoms of disease of other organs (endocarditis, pleuritis), or with rheumatism or pyæmia, in which cases the disease is of greater importance.

MASTITIS AND PAROTITIS SYPHILITICA.⁵

Syphilis of the pancreas has been described by Huber, Birch-Hirschfeld, Rokitsansky, Lancereaux, Chvostek, Rostan; by the first in congenital syphilis, and by Klebs in a six months' fetus. But other acinous glands are also, though rarely, affected. Of this sort are the "cancers" of quacks, where the disease yields to internal treatment, namely, potassic iodide. *Per contra*, syphilitic breasts have been excised as cancerous. Lancereaux⁶ justly claims the honor of first calling attention to syphilis of the glands of the breast. Sauvages, Maisonneuve, Icard, and others report cases of hard, knobby tumors of the breast in syphilitic patients disappearing entirely under the use of potassic iodide. Boeck reports⁷ the case of an old lady, from whose upper maxilla a tumor had been extirpated a year before, with syphilitic mastitis and gummata, both yielding speedily to iodide of potassium. He has seen also two other cases. Where no other symptoms of syphilis are present the diagnosis may be difficult, the tumor presenting all the characteristics of scirrhus, even to the lancinating pains. Richey gives a case where a tumor like that in the breast was found in one calf of the leg by accident, just as the former was about to be excised, both dis-

appearing simultaneously under treatment by potassic iodide. No other symptom was present. Verneuil has demonstrated⁸ pathological preparations from a man with multiple gummata, one of them affecting the breast. Hennig⁹ found gummata of both breasts in making an autopsy of a woman, aged fifty-five years, and who had been for four years confined to her bed on account of syphilitic ulcerations of the knee. Syphilis of the breast, therefore, may appear now as a gumma and now as interstitial induration, as is the case with syphilitic disease of the liver, testicle, pancreas, etc. Lancereaux distinguishes between "syphilitic mastitis" (interstitial) and "gummatous mastitis." Of the former he has seen one case, and he, as well as Hennig, reports three such cases as given by Ambrosoli. Lang also has seen one such case, and here the parotid gland was also affected, other signs of syphilis being present as well. Lancereaux¹⁰ reports the case of a woman, aged forty-five years, with general syphilis and disease of the left submaxillary gland, seen afterwards also at the necropsy. Volkmann, under the title Cheilitis Glandularis Apostematosa, gives¹¹ an account of five cases of catarrhal inflammation of the labial glands, either with or without abscess formation. Three of these cases were syphilitic. The condition may have arisen by direct propagation *in continuo* from a catarrh of the mouth and jaws.

FAVUS FROM THE CAT.

Dr. W. G. Smith gives¹² the case of a boy, aged two years, with an oval patch upon his back, the size of a dime, dry, and of the color of sublimed sulphur, the margin being lighter, and showing several characteristic favus cups. No eruption elsewhere. No other person in the family affected. A kitten in the house showed, on inspection, two dry, white, irregular patches. She was killed with chloroform, and crusts from the affected portions of the skin proved by microscopic examination to be composed of the mycelium and conidia of the Achorian fungus. Favus may be seen upon dogs, rabbits, canaries, and poultry, but it is least uncommon upon cats, who acquire it from rats and mice, upon whom it is by no means exceedingly rare. Dr. Smith gives another case, a girl, aged nine years, with some thirty spots upon the back. She had visited at the house of a friend, married, but childless, who allowed a cat to sleep with her, though the animal was covered with "sores." This animal died before it could be obtained, but a healthy kitten, obtained later from a neighbor, sickened soon after being brought to the house, showed upon its breast three round, scurfy patches, the size of a quarter dollar, and soon afterward died. This kitten also slept with the woman, who, with her husband, showed round, scurfy patches at about the same time. Later, favus cups appeared upon the child.

A SINGULAR DISEASE OF THE SKIN.

Under this exasperatingly worthless title, Dr. Landon reports¹³ the following case: A healthy but anæmic woman, aged twenty-eight years, mother of two children, worked twelve hours, without resting, in

¹ Wien. med. Wochenschr., No. 44, November 1, 1879.

² Gaz. des Hôpitaux, 1874.

³ Arch. fur Dermat. und Syph., 1869.

⁴ Charité-Annalen, 1878.

⁵ Wien. med. Wochenschr., No. 9, 1880.

⁶ Traité historique et pratique de la Syphilis, Paris, 1874, page

186.

⁷ Erfahrungen über Syphilis, page 165.

⁸ Traité historique et pratique de la Syphilis, Paris, 1874, page 186.

⁹ Arch. fur Gynaec., 1871, page 350.

¹⁰ Loc. cit., page 253.

¹¹ Virch. Arch., vol. 1, p. 142.

¹² Dublin Journal of Medical Science, December, 1879.

¹³ Berl. klin. Wochenschr., January 12, 1880.

cooking and bringing water on a stormy day. She then noticed (Friday, August 21, 1878) an erysipelatous swelling of the left hand, the back of it being puffed out like a cushion, bright red, not oedematous, and itching slightly; the palms less so; the fingers free. By the evening of Saturday the hand appeared normal. On Sunday morning the right hand swelled in the same way, and remained so until evening. After an intermission of eight days the left foot, and inside of leg as high as the knee, swelled, and caused pain as well as itching. As this condition disappeared, the right foot and leg took on the same appearances, which disappeared in two days. After a pause of four weeks a pulling up of the upper lip occurred, beginning at the angle of the mouth, on the left side, and extending around the whole mouth, healing as it advanced, so that a third only of one lip was at any one time affected. Before this had quite disappeared the right cheek and eyelids became affected (October 10th), so that the eye was closed. This state of things had disappeared in twenty-four hours, by which time the left foot was again enlarged. The skin of the left shoulder swelled, and grew painful a day later, and remained thus for two days, by which time the right foot had taken its turn again. By the next day all these parts were normal, but the right buttock had become enlarged, painful, red, and plainly marked with an erythema nodosum. This disappeared within three days. A month later, the patient being healthy in the interim, the left foot repeated the process, which lasted, however, but two days, and has not since appeared. There was no fever at any time, but tolerably profuse perspiration, especially at night, which was not the case when the patient was in good health. Urine normal in quantity and quality. Joints unaffected. Dr. Landon appends his own case, which was similar, though less marked. Quinine, cold douches, the constant stream, and faradization had no effect. He regards the disease as due to a spinal irritation, from exposure and hard work, causing paralysis of the sympathetic nerve, especially of those branches going to the smaller arteries, the relaxation of which would account for the swelling. He does not, however, attempt to explain the typical intermittent, nor, in the case of the lips, gradually progressive swelling.

(To be continued.)

Reports of Societies.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

JOHN B. SWIFT, SECRETARY PRO TEM.

The meeting was called to order by Dr. HODGES at 7.40. Thirty-four members present.

Dr. E. H. BRADFORD reported a case of Genu Valgum, and showed the patient, where osteotomy had been performed. He said that the pathology and treatment of knock-knee had undergone a change during the past few years. It was formerly supposed to be due to a contraction of the outer hamstring or the external lateral ligament, and to remedy the deformity these parts had been divided. It really is due to an abnormal difference in the planes of the two condyles; and therefore it is impossible for the leg to become straight by simply dividing the external lateral ligament. In order to cure a case it is necessary that the

two condyles be brought into the same plane. This is accomplished by the growth of the condyles, and may be effected in certain cases by the constant use of an apparatus. He mentioned a case of this kind. The child was four years old, and hardly able to walk on account of extreme knock-knee of both limbs. The apparatus was worn for two and one half years, and the deformity almost entirely corrected without an operation. For the last six months no apparatus has been worn, and there has been no relapse.

In cases where the limb cannot become straight under the use of apparatus, that is, where the bone will not grow, various operations have been devised. Meyer made a section of the fibia. Schede removed a wedge-shaped piece from the tibia. Annandale opened the joint and sawed off the condyle. This case recovered with a stiff knee. Osgood divided the condyle with a subcutaneous saw. This has been done over two hundred times, and has been quite successful. There have been some deaths. In order to avoid opening the joint Chiene and Macewen cut a wedge-shaped piece from the bone above the condyles on the inner side. M. Delore has operated three hundred times by breaking the leg. Supposed to be a separation of the epiphysis and rupture of the external lateral ligament.

Dr. Bradford's method was suggested by McCormick. In order to preserve the length of the limb the section is made on the outside of the bone. A chisel is entered as near the line of the epiphysis as possible; then straightening the leg separates the epiphysis and leaves a wedge-shaped gap, which is allowed to fill up by granulation, and the two condyles are thus brought upon the same plane. The joint is not opened and the operation is done with antiseptic precautions.

CASE. The patient was eleven years old, and suffered with deformity of both limbs. The right leg was operated on July 20th, and a plaster-of-Paris bandage was immediately put on over a Lister dressing. A fenestrum was cut in the bandage and the dressing turned back over the edges of the fenestrum. A second antiseptic dressing was then applied over the wound. The plaster bandage was removed in four weeks, and the deformity was found to be corrected. The patient suffered no pain whatever. The left leg was operated on four weeks ago, in the same manner. The right leg can now bear the weight of the body, and motion at the knee-joint is perfect. The left leg is still on a splint, and is not allowed to be used.

Dr. A. T. CABOT opened the discussion. He said that he had seen Billroth break the tibia and fibula with the osteoclast in two adults for this deformity. Although one arm of the osteoclast was adjusted to the thigh, the bones broke where the crutch was applied. In children this procedure might separate the epiphysis. He thought it unwise to operate on a child under four years, for below that age there was a tendency for the deformity to correct itself. If, however, the deformity interferes with standing or locomotion, it should be done before this age. Osteoclasis can be done within two or three inches of the joint without danger. The last case in which he operated was broken in-side of three inches of the joint. Thinks that in children osteotomy is the operation, but in adults where the epiphysis has united osteoclasis should be done. Osteotomy in adults does not do as well as in children. Unless antiseptic precautions are taken thinks osteoclasis to be preferred.

Dr. BRADFORD thought that osteoclasis did not dif-

fer from Delore's method; instead of using an apparatus, he used the edge of the table as a crutch.

DR. CABOT said that with the osteoclast you could obtain a firmer hold, and were sure of having the bone break where the crutch was applied.

DR. HODGES said that all the operations involved procedures which fractured the bones near the epiphysis, and inquired if the interference with the epiphysis modified the growth of the bone afterwards. In excision of the knee the growth of the limb is interfered with.

DR. BRADFORD knew of no statistics on the subject, but thought that as the operation had been done only for a few years, it was a point that would have to be determined in the future.

DR. CORNELL asked the same question in regard to osteoclasis.

DR. CABOT answered that the operation was too young to say definitely what the effect on the growth would be.

DR. CUTLER thought that the use of antiseptics would obviate this trouble by preventing the inflammation which took place in excision.

DR. ELLIOT read a paper on Antiseptics in Gynecology.¹

DR. FOSTER inquired if he recommended the use of antiseptics in all cases.

DR. ELLIOT replied that each physician must decide for himself how far anti-septics should be employed. When the use of antiseptics was first considered the whole tract was carbolyzed; but it was found that when the genitals were manipulated so much a rise in temperature followed, so that now only the vagina is washed with carbolic acid, unless there are symptoms of septicæmia.

DR. CORNELL inquired if Dr. Elliot thought that puerperal fever was communicated only by contact.

DR. ELLIOT replied that he did, and cited cases that he had seen in Winckler's wards, where recently delivered women were placed side by side with those affected with puerperal fever.

DR. C. H. WILLIAMS inquired if boracic acid had been used in this connection.

DR. ELLIOT said that it had, but that it was placed low in the list as a bactericide. He said that Dr. Chadwick had used permanganate of potash, and claims as an advantage that when all the putrid material has been washed away the solution does not change its color. But this stains all the linen that it comes in contact with, and is also a poor bactericide.

DR. W. S. BIGELOW said that the sulphite of soda had been used in Strasburg, but that at the same time great regard to cleanliness was also used.

DR. HARLOW spoke of a weak solution of cyanide of potash. A physician told him that he went from erysipelas to a case of labor in twenty-four hours after washing his hands in this. He inquired as to the use of washes in cases of ruptured perineum, saying that he never took any precautions in these cases, and had never had any trouble so long as the parts were in good apposition.

DR. ELLIOT said that in these cases he would sew up tight, and disinfect every two hours.

DR. AYER said that his practice in lacerated perineum was to wash the parts, place them in apposition, and enjoin rest. In deep lacerations he employed sutures. He used injections of carbolic acid very often, and had seen great benefit follow their use.

DR. HODGES said that surgery had undergone a revolution in the past few years, and that it would be very difficult now to find a surgeon who did not use antiseptics in some way. He thought it was a wonder that antiseptics had not been used sooner in obstetrics. At first sight they seemed uncalled for, as labor had gone on in so many cases and for so long a time without any special trouble; but as Dr. Elliot has said, until physicians can say that no untoward symptoms arise in their cases, we ought not to leave anything undone that may prevent these symptoms.

Parturition makes a wound accompanied by a putrefying discharge, and it seems only reasonable that this should be controlled or destroyed. He therefore thought that antiseptics should be used in confinement more often than in general surgery.

A communication from Dr. Goss in regard to the expulsion of Otis Fernald, M. D., of Haverhill, was read.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

A. T. CABOT, M. D., SECRETARY.

JUNE 7, 1880. DR. SUMNER read a paper upon Two Cases of Abdominal Abscess.

CASE I. A young woman of twenty-four had indefinite stomach and abdominal symptoms, culminating in an attack of typhoid fever. She did not recover well from this, but continued to have pain and great tenderness in the right iliac region. This condition of things continued, with short periods of slight improvement, for a year. She then developed a cough with an occasional small hæmoptysis. At this time a tumor of small size was discovered just above the pubes, to the left of the median line. The pain now became worse, and soon micturition began to be very frequent. The urine at times contained bubbles of gas and had a fecal odor.

Upon examining per anum a smooth opening was to be felt in the wall of the rectum as high as the finger could reach. In the vagina an oedematous prominence to the left of the os now appeared. This was aspirated, and pus and blood were drawn. The patient, however, steadily failed and died.

An examination of the abdominal cavity revealed a large abscess communicating with the jejunum, cæcum, sigmoid flexure, rectum, and bladder.

CASE II. A young woman of thirty, recently pregnant, took "tansy and gin" to procure an abortion. This was followed by great pain in the lower part of the abdomen, with high fever. In this condition she entered the hospital.

The lower portion of the abdomen was resistant, dull on percussion, and exquisitely tender. By aspiration thirteen and a half fluid ounces of fetid pus were withdrawn. The patient failed rapidly and died. A universal purulent peritonitis was found, with an abscess to the right of the rectum. There was also a recto-vaginal fistula and a rectal stricture.

DR. TARBELL gave a brief résumé of seven cases of abdominal abscess which had occurred in his practice.

Of these two were in connection with malignant disease at the ileo-cæcal valve and opened through the abdominal wall. Two originated in pelvic inflammation, extended high into the abdomen, and discharged finally through its walls. Both of these cases recovered.

¹ See page 342 of this number.

The fifth case was of a boy who had an abscess starting from a caries of the last cervical and first dorsal vertebra, which finally pointed close to the ensiform cartilage. In reaching this point the pus probably followed down the upper surface of the diaphragm. The boy recovered.

Sixth Case. Abscess in the abdomen of a woman of twenty-five. It started from a caries of the last dorsal and first two lumbar vertebrae. While examining it, the tumor suddenly disappeared, and a copious discharge of pus per rectum soon followed.

Seventh Case. Abscess of the spleen. This occurring in a man of forty-five was probably the result of embolism, as the patient had heart murmurs.

DR. G. W. GAY mentioned two cases of perityphlitis, in both of which cathartics were used with fatal result. He thought death in these and in many similar cases due to the cathartic treatment, as he never saw a case die in which the opiate treatment was adopted. **DR. GAY** also reported a case of abscess of the gall-bladder, in which gall-stones were discharged both through the bronchi and through the abdominal wall. In abscess of the peritoneal cavity he would recommend establishing an opening and free drainage either through the vagina or abdominal wall. When practicable he would treat such cases antiseptically.

DR. H. I. BOWDITCH and **DR. BEACH** also expressed themselves in favor of early incision and adequate drainage in such cases, with antiseptic precautions.

DR. ARNOLD mentioned a fatal case of perityphlitis treated by cathartics, and also a case of abscess in a child, to the left of the umbilicus, which he opened, letting out twelve fluid ounces of pus, and recovery followed.

In illustration of the advantages of a free opening **DR. BRADFORD** mentioned the case of a woman who entered the Carney Hospital in what appeared to be a hopeless condition, with an abscess of the abdomen and pelvis following confinement. Free openings led to her partial recovery, though she finally left the hospital with the suspicion of commencing spinal caries.

DR. WADSWORTH reported a case of rupture of the choroid. It was caused by a blow upon the eye with a book. The rupture, crescentic in shape, was just inside of the disc. A few weeks after the injury vision was one fourth; at the end of four months it was normal, but with slight astigmatism; later this defect also disappeared. **DR. Wadsworth** spoke of Becker's theory that these ruptures are produced by driving the eye back upon the resistant optic nerve, which, bulging the posterior wall forwards, causes the rupture.

JUNE 21st. **DR. GARLAND** reported the following case of perforating gastric ulcer:—

A young woman who had previously appeared perfectly well was suddenly seized with severe pain in the cardiac region, extending up into the left shoulder. When seen, soon after the seizure, she was in a state of collapse, with feeble pulse and cold extremities. Full opiates were given and large doses of hot water, which restored the heat of the body somewhat. One hour and a half later she was again extremely cold, and in spite of vigorous treatment this collapsed condition continued until death, which occurred fifty hours from the onset of the disease. **DR. J. G. Blake** saw the patient in consultation with **DR. Garland** on the second day, and

suggested perforating ulcer of the stomach with consequent peritonitis as a probable cause of her condition. The autopsy established the correctness of this opinion.

The stomach was shown to the society. The ulcer was seated upon its anterior wall, and the opening was large enough to admit the tip of the little finger.

The reporter called attention to the sudden appearance of the symptoms without previous gastric disturbance, and to the puzzling character of the pain which was referred to the chest and shoulder.

DR. BLAKE recalled a case in which a woman, while quarreling with her husband, was seized with symptoms very similar to those in **DR. Garland's** case. The autopsy revealed a perforating gastric ulcer.

DR. CUTLER said that the seat of the ulcer in the present case was abnormal; the posterior wall of the stomach being the more common seat of these lesions. The edges of the ulcer he found infiltrated, which would indicate that it was of rather long standing. He called attention also to an old cicatrix upon the opposite wall of the stomach.

DR. GARLAND thought that the reason for a false localization of the pain in many internal disorders might be found in the fact that the nerves carrying impressions from these parts to the sensorium are but seldom called upon to carry painful sensations, so that the brain has but little practice in discriminating between impressions from the various localities, and when such opportunities arise it is frequently at fault and makes mistakes in referring the pain to its point of origin.

DR. LANGMAD said that he found pain in the left shoulder and chest a frequent and persistent symptom of gastric disturbance.

DR. C. F. FOLSON read a paper upon The Pathology of Insanity, which was reserved for publication.

DR. FISHER said that although great advance had recently been made in the physiology of the brain, and thereby in the pathology of insanity, the subject was still very obscure. The cortex cerebri was almost invariably affected in insanity, and there were numerous lesions of the nerve cells, the neuroglia, and the minute blood-vessels present, but these were seldom found to be exclusively characteristic of any particular form of insanity, many even existing in persons not insane. Insanity, perhaps, most frequently began in a derangement of the blood supply of the nerve cells. Both anæmia and hyperæmia interfered with the healthy action of these cells, and might produce similar mental symptoms. In speaking of various forms of mental disease, he said that insanity was often a reflex symptom. In certain cases of tumor of the brain he had observed symptoms almost precisely corresponding to the usual effects of uterine irritation. He believed insanity to be always organic in the sense of chemical or nutritive change in the nerve cells.

DR. CHANNING spoke as follows: I am glad that **DR. Folsom** has given the society a paper upon this subject, as it is one about which very little is known in America. We find almost no original pathological work done in American insane hospitals, and in but about a half a dozen of them is any attention at all paid to pathology.

With recent advances in medical teaching I hope we shall be unable much longer to speak in reproachful terms of the pathological work of our asylums; they offer material that can be found nowhere else, and it is

certainly a serious duty that we owe to the profession to make proper use of it. How much better it would be if we could speak from the standpoint of personal observation rather than from very indefinite book knowledge! It must not be forgotten that our system of hospital management is somewhat responsible for the state of affairs.

Hospital medical men are overworked and hampered with various routine duties which very seriously interfere with medical investigation. They have only limited time for study or use of the microscope, and soon lose interest in purely professional work.

In regard to the uncertainty of our knowledge of the pathological appearances in general paralysis, we had supposed there were certain definite post-mortem appearances, but we find precisely the same conditions in some cases of chronic insanity. A larger proportion of cases are of syphilitic origin than had been supposed. The same general train of symptoms is seen during life, but syphilitic lesions are found after death. Fourrier in his recent work speaks of cases of "syphilitic pseudo-general paralysis." These differ only in very slight particulars from true general paralysis, and undoubtedly are often confused with it. Even yet we are apt to attach too little importance to the part played by the circulation in attacks of acute insanity. It must be remembered that there is no compensatory arrangement for removing the blood from the brain. We find in it but few of the general anastomoses common in other organs. The capillaries supplying the brain are given off directly from the large vessels, and hence any unusual strain acts with greater force than in other parts of the body. As a consequence we have very frequent hemorrhages, aneurisms, etc. The reparative power of the brain is also greater than in other organs. Absorption of inflammatory or other products takes place with great rapidity. After going somewhat further into details, Dr. Channing added that it was apparent from these facts that there might be cases of acute insanity where no changes other than cerebral hyperemia in its various stages would be apparent after death, and in which, consequently, no post-mortem diagnosis of insanity could be made. In cases of chronic insanity, however, changes would be more marked and definite, and undoubtedly the skilled microscopist would be able to give in many cases an accurate diagnosis of the form of insanity that had existed during life.

The precise types and forms of insanity could as yet be satisfactorily determined from post-mortem appearances, probably from want of experience, and not because characteristic changes do not exist.

Dr. DENNY said that the study of the pathology of insanity, or rather the pathology of the brain, was primarily concerned with the minute anatomy and histology of that organ, with the results of physiological experiment, and in special forms of insanity with the clinical history and progress of the disease.

Insanity being markedly hereditary, not as an intangible entailment of qualities, but as the inheritance of peculiar modifications of physical structure, its pathological evidence must be sought, and is not infrequently found in traces of fetal hyperemias, inflammations, effusions, or malformations. Sometimes, for example, such evidence is seen in slight adhesions of the cornua of the lateral ventricles, or in their unequal prolongation and size, indicating in whatever form, whether congenital or early acquired, a predisposition to instabil-

ity of cerebral action, rendering that delicate organ of thought less strong to withstand great crises in its vascular and nutritive processes, inevitably occurring in the anxious struggle for existence in mature life.

Experimental physiology indicates that the frontal lobes are specially connected with thought proper, and with the vaso-motor system. When they are extirpated, memory, the power of associating impressions and their inhibitory functions are gravely impaired. A kitten with this portion of the brain removed will repeatedly lap a bitter fluid, although expressing disgust each time, thus showing the loss of memory and of the power of association.

Again, if a part of the cortex, which when irritated produces movement in a paw of the opposite side, is cut out, an increase of temperature in that paw follows, showing paralysis of its vaso-motor centre.

Morbid conditions of vascular tension within the brain are most concerned in mania, melancholia, etc. And while the net-work of vessels is so diffused as to render gross localized changes less apparent, yet oftentimes differences of weight between the separated lobes of each hemisphere will point to changes in nutrition.

Careful microscopic study is required to detect minute cell and tissue changes, and these, when found, require for their proper understanding an accurate knowledge of the relations between the different parts of the cortex and central ganglia, as kept up by fibres of association. To promote such fundamental anatomico-pathological knowledge complete series of transparent sections of the whole brain preserved in order of continuity are indispensable in all asylums and medical colleges; for in this direction lies, I believe, the pathway of advance in the pathology of insanity.

The reader said, in answer to a question by Dr. Inghalls, that in cases of doubtful insanity the presence of club-foot or other deformity would tend to confirm its existence.

Dr. J. G. BLAKE spoke of the frequency of tumor of the brain without insanity, and asked how frequently tumors caused insane symptoms. The reader said that late in these cases dementia was not uncommon.

—According to *Bouchardat's Ann.*, writes the *Medical Press and Circular*, we find that, from observations made in the service of M. Siredey, by M. Pomel, upon the treatment of chorea, the following deductions are made:—

(1.) Of all the remedies employed in chorea those which are the most rapid and sure are the arsenical preparations, particularly arsenious acid, which at once produces rapid amelioration of the symptoms and brings about a speedy cure.

(2.) Grave cases of chorea that have resisted other treatment yield, frequently with promptness, to arsenic.

(3.) To obtain the full benefit of the arsenical treatment it is necessary to administer the medicine in such doses as to produce, as speedily as possible, the constitutional effects or signs of arsenical saturation.

(4.) Even in children affected with chorea, no hesitation should be felt in giving strong doses of arsenic, in order to reach the point of saturation quickly.

(5.) Without denying the possibility of danger in the use of arsenic in the treatment of chorea, yet no case has thus far been recorded to establish the fact.

Medical and Surgical Journal.

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REGISTRATION UNDER THE NEW MEDICAL LAW OF NEW YORK.

THE time fixed for registration under the new medical law, passed last April in the State of New York, expired October 1st. It is said that the properly qualified practitioners of medicine all over the State have been registering very generally. There are probably some who may have neglected to do so, but it is very evident that there are a large number of irregulars who have not complied with the law. The requirements of the law are simple and moderate, and it is thought that they both can and will be enforced. According to the provisions of the law none shall practice medicine or surgery in the State of New York without a diploma or indorsement from a legally qualified medical college of the State, or from a board of examiners of the state university, of the possession of which satisfactory evidence must be given at the time of registering.

We understand that up to October 1st only 1980 out of about 4000 "physicians" in the city of New York had registered their names, residences, and the institutions from which they hold licenses to practice medicine in the office of the county clerk as required. Those who are now derelict are liable to a fine of from fifty dollars to two hundred dollars upon being reported once for practicing without being registered, and to a fine of from one hundred dollars to five hundred dollars, and to imprisonment for from thirty to ninety days, upon subsequent information being given against them. Of these fines one half goes to the informer, so that the way of the transgressor is likely to be hard. The manner of enforcing the law and its effect upon quackery and bogus diplomas will be carefully watched by States which have not yet found the courage to meddle with the old order of things. No means are provided for the registration hereafter of physicians hitherto practicing under proper certificates who have failed to register; but such persons as have been practicing medicine for ten years without certificates, and shall obtain diplomas within two years, may register. All newly graduated physicians must in the future register before beginning to practice

Universitas Scientiæ et Artium," which purported to confer the degree of doctor in medicine upon one Francis Erwein, accompanied by a letter requesting information in regard to the character and powers of this "university." The diploma and letter were referred by the secretary of the society to the JOURNAL. An application to the commissioner of corporations and to the secretary of the commonwealth showed positively that no such institution had been chartered or incorporated in the State of Massachusetts. There was therefore no difficulty in assuring the German consul, and through the consul the German government, that the diploma which had been sent out for investigation was a "hogus" one, as the university was stated to be in Boston. It seemed hardly courteous to a foreign government or creditable to our own commonwealth that the matter should end at this point, especially as other communities were actively bestirring themselves to be rid of such discreditable developments of free trade. The name of the chief offender was readily suspected, but it was difficult to see precisely in what way the laws of the State or of the United States could take cognizance of the offense. Legal advice was taken, and very little encouragement offered for bringing the prosecution of the "faculty" to a successful conclusion before the courts.

The proceedings in Philadelphia against Buchanan, an associate of whom the manager of the New England University was subsequently shown to be, gave reason to hope that something more might be done than merely exposing this swindle, and leaving the perpetrators free to recommence their operations at some future time or in some other locality. The whole question was finally referred to the law officers of the county and of the general government. Meantime inquiries in regard to the "university" and complaints against it were received from the sanitary authorities in St. Louis and Chicago, and the State Board of Health of Illinois showed, through its secretary, Dr. Rauch, that it already had had occasion to find out a good deal of the history of this humbug, which was first started in Manchester, N. H., where a charter, subsequently revoked, was originally procured from the New Hampshire legislature. The detective to whom the working up of the case was intrusted by the law officers of the county soon unearthed very positive evidence tending to show that one especial individual was practically the university.

A full history of the New England University of Arts and Sciences and of those connected with it from its cradle to the present time, which we wish we felt quite sure could be called its grave, as collected by the zeal of the city detective and a reporter, may be found by the curious, who have not yet had enough of these particularly senuous and sordid transactions, in the *Boston Herald* for October 4th.

If the genius of our institutions makes it necessary that the Yankee should be free to do as he pleases unto himself and others, it is to be deplored that so unfettered a being does not find virtue enough in freedom to restrain him from so contemptible and dirty an exercise of his ingenuity. Although Boston is a great

A BOSTON DIPLOMA MILL.

At the end of last June the secretary of the Massachusetts Medical Society received from the German consul in Boston a diploma of the "Nova Anglica

manufacturing centre, the diploma industry, fortunately, seems to have been carried on hitherto on a very humble scale; it being supposed that only about one hundred of these precious parchments have been marketed, and those chiefly in unoffending Germany. Why not send them dynamite or nitro-glycerine from this free country? As the matter stands at present these dealers in parchment must be very agreeably impressed with the peculiarly favorable conditions which Massachusetts offers for the pursuit of their especial branch of industry, and with the powerlessness of the laws to touch them. We do not fancy they object very much to a good gratuitous advertisement in the daily papers. They are probably pachyderms of too old and thoroughly elaborated a species. Will these medical freebooters, as well as their victims, all die before our legislators learn that the pursuit of one man's life, liberty, and happiness at the expense of others should have its limits, and that we owe some duties to neighboring States and foreign countries, if not to ourselves! Fines and imprisonment, not a newspaper *exposé*, should be the penalty for such a pestilential traffic as that in "bogus" diplomas.

MEDICAL NOTES.

—The *British Medical Journal* says: "The funeral of the distinguished dermatologist Von Hebra, whose death occurred recently, was, by his wish, quiet and unostentatious; but a great crowd of mourning friends, colleagues, and pupils paid their last tribute of respect. The students added to the wreaths and crosses which were piled on his tomb one of great size, bearing the inscription:—

'Wer im Gedächtniss seiner Lieben lebt,
Der ist nicht todt, er lebt nur fern,
Todt ist der, der vergessen wird!'"

—The Russian medical newspaper *Trateh* gives the following statistics respecting the attendance of women upon the medical courses opened in 1872 at the Medico-Chirurgical Academy, and afterward at the Nikolaief Military Hospital: During eight sessions the number of admissions has been 796, or an annual average of 99. During the first years the number of admissions was about equal, but it gradually increased, until, in 1876, it reached the maximum of 130. Since then the number has fallen away, in 1879 being only 77. As regards age, the greater number, 569, or seventy-two per cent., were from seventeen to twenty-two years; 193, or twenty-four per cent., from twenty-two to thirty; and 23, or about three per cent., upwards of thirty. St. Petersburg, Moscow, and the southern new Russia government furnished the majority of the students.

NEW YORK.

—Dr. J. B. Taylor, chief of the Vaccinating Bureau, has prepared a report on the recent appearance of small-pox in a tenement house in Harlem, the cases there being almost the first that have been reported in the city during the present year. They were all

among the children of three families, and there were two deaths, both in the same family, one before and one after their removal to the Riverside Hospital on Blackwell's Island. The attending physician suspected small-pox, but other medical men with whom he conferred pronounced the disease hemorrhagic measles. When Dr. Taylor was summoned he soon became satisfied as to the true nature of the trouble, and at once took the most active measures to prevent the spread of the infection. On investigation he found that the disease had been contracted from a girl, eight years old, living in the same house, who was taken ill in August. The physician who treated her (not the same one as in the subsequent cases) told the parents that there was no danger from the affection, which he said was not small-pox, and consequently the child was not isolated, but was allowed to see children who were brought to her bedside. The attack was a mild one, and when she was convalescent, the crusts of the eruption still remaining on her person, she went into the street to play with other children. On the 16th of September she was examined in a public school by Dr. Taylor, who found pittings from small-pox on the palms of her hands. The children of one of the families affected were attended by a homœopathic physician, who believed the disease to be measles. Scarcely any of the children in the house had ever been vaccinated. In the summer of 1879 sixty-five persons were taken with the disease, and twenty-two lives were sacrificed on account of the ignorance or criminal negligence of a German practitioner, who treated a patient sick with small-pox, in a house in Third Street, crowded with Polish Jews, and who failed to report the outbreak to the sanitary authorities.

—The sanitary engineer of the Board of Health, who was detailed to investigate the cause of an epidemic of diphtheria in East Twenty-Third Street, reported that the sewerage was defective, and that tide-water entered the cellars of the row of houses in which it occurred. There were no less than twenty cases of diphtheria in one of the tenements.

—On the evening of September 25th one man, two women, and two children came very near being fatally poisoned by arsenic in a house in the lower part of the city. One of the women, while preparing some gruel for tea, mistook a box in which she kept arsenic for the destruction of rats for the salt-box, and emptied its contents into the sauce-pan of gruel. As soon as the mistake was discovered medical assistance was called in, and all the lives were saved.

—Recently, about midnight, a gentleman was found lying unconscious in the street, and as the only thing, in the opinion of the average policeman, that can produce such a state of affairs is liquor, after having been sufficiently punched and mauled, he was carried to a neighboring station-house on a stretcher. Finding, after two hours, however, that the prisoner still remained unconscious, the sergeant on duty became alarmed, and telegraphed for an ambulance from the New York Hospital; and when this arrived the surgeon in charge found that instead of being intoxicated

with alcohol he was suffering from opium poisoning. After several hours' vigorous treatment at the hospital he was restored, but if there had been much longer delay in calling in medical advice it would have been too late. The narcotism had arisen from opium smoking, but it was stated that the drug had not been used with suicidal intent.

— Dr. T. M. Franklin, who has had charge of the insane asylum on Blackwell's Island since Dr. A. E. MacDonald's removal from its temporary superintendency, in connection with that of the asylum on Ward's Island, where he is permanently located, has been appointed the regular superintendent by the commissioners of charities and correction, at a salary of two thousand dollars per annum. He was recommended by the board of consulting physicians and surgeons, and had previously been the medical superintendent of the branch asylum on Hart's Island, where many chronic cases are sent.

— A curious accident lately befell a sailor on a ship that was lying off Brooklyn. The man chanced to step into a coil of rope, one end of which was attached to the ship and the other to a tug-boat, which was about to tow her, and when the boat started the rope was drawn so tightly around his leg that the limb was instantaneously and completely amputated.

— Dr. Henri Nachtel, the originator of night medical service in this city, sailed with his wife and child by the *Scythia* on the 29th of September, and quite a number of physicians went down to the dock to bid him *bon voyage*.

— The fourth annual commencement of the training-school for nurses at Charity Hospital, Blackwell's Island, was held at that institution on the afternoon of the 30th of September. A large number of flowers had been sent for the occasion by the ladies of the Fruit and Flower Mission, and the room had been tastefully decorated with flags, evergreens, and floral devices by the nurses in the first year of the course. The ex-mayor, who made a short introductory address, presided, and on the platform with him were the commissioners of charities and correction and most of the physicians and surgeons connected with the hospital service. Ex-Commissioner Bailey presented the prizes of the year, and Commissioner Townsend Cox the diplomas. The latter, in the course of his remarks, said that it pained him to state that among several of the graduating class who were necessarily absent was Miss Mary Andrews, who, within the last three weeks, had completely lost her eyesight. A month ago there was in her ward a case of contagious ophthalmia, from which she had contracted the disease, and it had been of such a virulent nature that total blindness had resulted, and there was now no hope of her recovering her sight. She was thus entirely disabled just as she had completed her preparation to enter a field of usefulness. He regretted that the board of commissioners had no pension fund to draw upon in such instances, but hoped that private assistance, through one channel or another, would reach Miss Andrews' case. There were sixteen in the graduating class.

CHICAGO.

— The experiment of Dr. Lee at the County Hospital of transplanting the flaps of skin of the sheep to the body of a little girl failed by the death of the patient before the flaps were completely cut loose from the body of the sheep. At the autopsy it was found, however, that the flaps were all firmly adherent and were capable of being nourished from the body of the child. The death of the latter was due clearly to exhaustion and to amyloid degeneration of the liver, kidneys, and other organs. Dr. Lee next attempted to cause a sheep flap to adhere to a large ulcerating surface from which an enormous epithelioma had been removed. The patient was a man and in fair general condition, the ulcer being upon the outer aspect of the thigh. The difficulties of maintaining immobility of the patient and the sheep were greater than in the first instance, and although adhesion of a part of the flap took place it was lost in its removal from the animal. A third trial has been made in a case of a large ulcer of the leg, left after the extirpation of an aneurysm, but the soil is unpromising, and no very sanguine hopes of success have been entertained. The trial is still in progress.

— The Chicago Medical College winter course (its twenty-second) opened on the 28th of September with a public evening lecture by Professor Rea, on the Rise, Progress, and History of the Medical Colleges of the Northwest. He dwelt upon the efforts in the West to elevate the standard of medical education, and particularly upon those to make the Chicago Medical a leader in this work.

— The annual course of the Rush College was inaugurated on the evening of September 28th by a lecture by Prof. John E. Owens, on the History of Ancient Medicine. The class is a large one, the matriculation book showing at the close of the first day of the course four hundred and thirty-six students.

MEDICO-LEGAL.

Supreme Court of Massachusetts. Injury on the Common. A city is not liable, either at common law or by statute, for an injury received by a person crossing the public common, from a sled used in coasting down a path on such common, although the city authorities licensed such coasting and prepared the path therefor.

— In the same court. If a person returning from a funeral on the Lord's day take a circuitous route through another town, solely for the purpose of making a social call on a friend, and thus sustains an injury from a defect in the highway, it is not a question for the jury whether he was then traveling "from necessity or charity" within the General Statutes, but as a matter of law he cannot recover of the town liable to keep the highway in repair.

— In the same court. An inmate of a lunatic asylum, committed there by friends, is not liable in an implied contract for board and other charges if he is received on the written promise of others to pay his board and defray his other expenses.

Miscellany.

ANNUAL MEETING OF THE AMERICAN ACADEMY OF MEDICINE.

The fifth annual meeting of the American Academy of Medicine was held in Manning Hall, Brown University, Providence, R. I. on Tuesday and Wednesday, September 28 and 29, 1880. The society consists of one hundred and nineteen members, of whom twenty-four were present during the session.

Tuesday afternoon. The president, Dr. Frederick D. Lente, of New York, occupied the chair, and welcomed the members in a few well-chosen words.

Upon recommendation of the council the following gentlemen were admitted to fellowship: James C. Morris, of Philadelphia; H. Webster Jones, of Chicago; Charles G. Smith, of Chicago; P. S. Connor, of Cincinnati; Cornelius R. Agnew, of New York; Charles O'Leary, of Providence; Robert Amory, of Brookline, Mass.; J. W. C. Ely, of Providence; Theophilus S. Hartley, of Ridgeway, Pa.; Lloyd Morton, of Pawtucket, R. I.; Albert E. Ham, of Providence; George W. Porter, of Providence; George D. Hersey, of Providence; Theodore T. Wing, of Susquehanna, Pa.; Francis M. Perkins, of Philadelphia; Audley Haslett, of Brooklyn; Joseph M. Turner, of Brooklyn; Lemuel J. Deal, of Philadelphia; Nathan Allen of Lowell, Mass.; William Elmer, Jr., of Trenton; Charles C. Lee, of New York; William Elmer, of Bridgeton, N. J.; Lewis D. Harlow, of Philadelphia; Theophilus Parvin, of Indianapolis; Albert H. Smith, of Philadelphia; Samuel J. Jones, of Chicago.

Several amendments to the constitution, which have laid over for one year as required by the by-laws, were read by the secretary and adopted.

Upon motion of Dr. John S. Billings, of Washington, D. C., the council were instructed to collect the laws of all the States in the Union and of the Dominion of Canada which pertain to physicians and to the practice of medicine, with a digest of the same, and to present them to the academy at its next annual meeting.

By vote of the academy, the faculty and students of Brown University were invited to be present at the evening session.

Tuesday evening. The exercises were opened with prayer by Rev. Dr. E. G. Robinson, president of the university.

The president, Dr. F. D. Lente, then delivered the annual address upon The Higher Education of Medical Men and its Influence upon the Profession and the Public. He said:—

This may be looked upon as a wide subject for this occasion. But it has been chosen as a fitting one on account of the false relations which our profession at the present day bears to the public and to the other liberal professions. How do we stand in the eyes of the laity? Do we as a profession command the respect and consideration which were accorded to us a hundred years ago? Are our relations to the law, the press, the clergy, what they should be? These questions must all be answered in the negative. The fault lies not in the profession of medicine itself, which is indeed a great and noble one, but in its votaries; and we met here to-night to protest against the continuance of this state of things. To reform these evils we must appreciate their exact nature, and then boldly face

them. The chief seat of the evil spoken of is in the lack of preliminary education and mental culture in those who adopt the profession of medicine. The standard in this respect has retrograded since the early foundation of our republic. The first efforts in this country to regulate the practice of medicine were made in New York in 1760, when a law was enacted requiring physicians to pass an examination and receive a license before practicing their profession, under penalty of a fine. In 1772, New Jersey passed a similar law. Pennsylvania at that time claimed equality with European countries in the preliminary requirements, in the length of the term of study, and in the thoroughness of instruction. Students were required to show proficiency in Latin, mathematics, and English branches before a medical degree was awarded. And yet the science of medicine was much less extensive then than at the present day. New departments of science have been introduced into the medical curriculum, so that the area of study has more than doubled in thirty years. How is it possible for the student in two terms of lectures of five months each to digest all the immense amount of material now included in a medical course? In the majority of cases it is done by mere cramming. Nor has there been any improvement in the system of teaching except by an imperfect grading and classification of students in a few colleges. Students of all grades attend the same lectures, whether they have been engaged in the study of medicine for three years or three months. Moreover, we have too many medical schools. Since the independence of our country was established, the number of medical schools has risen from sixteen to eighty. This number is far beyond the needs of the country. In Canada there is only one school to every two and a half million of inhabitants, and yet there is no want of doctors. The rivalry between the schools in securing students arises wholly from pecuniary considerations. This explains the unwillingness on their part to raise the requirements for matriculation. This rivalry destroys the independence of the schools, and compels them to adopt methods which their consciences condemn. The consequence of all this is an undue multiplication of physicians. The average proportion of physicians in European countries is one to every thirty-eight hundred people. In this country it is one to every six hundred. The results of this excess are evil, and affect alike the profession and the laity. Even granting that all these physicians were properly educated, what is to become of them? Experience has shown that in this country fifteen hundred people are necessary to the support of one physician. The result is that a part are compelled to adopt some other means to eke out a livelihood. They struggle along, suffering a loss of professional interest, a loss of high purposes and ambitions, and not infrequently degenerate into the most contemptible practices. These facts do not detract from the high standing of medical science in America. We are in all respects equal to Europe in this regard, and upon some points far ahead. Our medical literature commands the respect of the world. But the amount of work done is small in comparison with the whole number of the profession. How are we to limit the number of physicians? We must induce a better class of men to enter the profession. At present the idea prevails that the study of medicine is very easy and simple. For this reason the stupid and indolent frequently enter upon it, while the best men seek other vocations. But a change is slowly taking place. The

growth of a taste for scientific studies among the laity demands on the part of the physician a corresponding knowledge and education. We cannot afford to allow our standard of culture to sink below that of the intelligent portion of the community. The time has come for concentrated simultaneous action. What shall it be? Examinations by disinterested boards of examiners or by censors of state medical societies, state laws for regulating the practice of medicine, the action of the American Medical Association for this purpose, the National Association of American Colleges,—all of these methods have failed to accomplish what was expected of them. The object of the American Academy of Medicine is to reach the same result by different means, by bringing together the most highly educated men in the profession, and thereby encouraging thorough preliminary education. The best preliminary requirement at present available is that the student shall possess the degree of A. B. or A. M. from some respectable literary institution. This will furnish a guaranty that he has spent several years in the higher literary pursuits, that he has formed habits of study, that he is able to comprehend the nomenclature of his profession, and that he is fitted for a professional career. It is claimed by some that the Academy is too exclusive. But at the present day any man by moderate effort can obtain a collegiate education. The labor and expense necessary to secure a degree are comparatively trifling. Any youth who has not enough of ambition and of patience to accomplish this is not fit for the study and practice of medicine. Even if this were not so, still our profession should be no less exclusive. A medical diploma to be of value should show that the holder of it has availed himself of all the advantages which can be had to fit himself for his profession. We are not in a position of antagonism to other medical societies. Every medical man, whether eligible to membership or not, must and will sympathize with and appreciate our work and lend us his cooperation and aid. We do not claim that the possession of a degree is a panacea for all the evils which exist in the profession. But such a requirement will at least give to the practice of medicine the dignity of a learned profession, and raise it to the position of honor and esteem of which it is worthy.

Wednesday forenoon. After the reading of records, the report of the treasurer was presented, showing a balance in the treasury of \$240.15.

A vote of thanks was unanimously awarded to the president for his address of the previous evening, and to the officers of Brown University for their hospitality in allowing the use of the hall in which to hold the meetings.

The annual election of officers for the ensuing year then took place, with the following results:—

President, Dr. Edward T. Caswell, of Providence, R. I.; Vice-presidents, Dr. Henry O. Marcy, of Cambridge, Mass.; Dr. William T. Taylor, of Philadelphia, Pa.; Dr. Howard Pinkney, of New York city; Dr. Horace Lathrop, of Cooperstown, N. Y. Secretary and treasurer, Dr. Richard J. Dunglison, of Philadelphia, Pa. Assistant secretary, Dr. Charles McIntire, Jr., of Easton, Pa.

The Academy then adjourned to meet in New York on the third Tuesday in September, 1881.

—M. Trélat has succeeded to the professorship of clinical surgery, made vacant by the death of Broca.

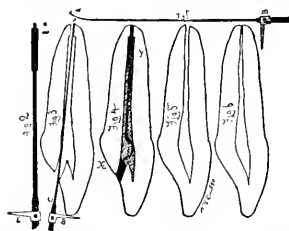
TREATMENT FOR PULPLESS TEETH WITH UNCONTRACTED PULP TRACTS.

BY WILLIAM HERBERT ROLLINS.

THE expression *pulpless* is used instead of the accepted terms *dead* or *devitalized*, because such teeth are alive, for they are in vital connection with the body through their root membranes. Figure 6 shows a tooth with a normal pulp-tract; Figure 5, one with an uncontracted pulp-tract.

The methods in general use fail when applied to a tooth like Figure 5, because the filling material is either forced beyond the end of the root, or does not perfectly fill the pulp-tract.

The following treatment has proved successful:



Pass the gauge, Figure 1, into the pulp-tract, until the end, A, catches outside the root of the apex; then adjust the collar as shown in Figure 3. Remove the gauge. The upper part of pulp-tract is now to be made cylindrical with a drill having a collar like the one shown in Figure 2, and adjusted to the length of the tooth as found by the gauge. Take out this drill and put in the one shown in Figure 2. When the drilling is done and the drill removed, the hole should have the shape shown in Figure 3.

Next make a plug of platinum like the one shown in position in Figure 4. Holding this by its tail in an instrument having a constant source of heat,¹ smear with a mixture made by kneading one part of gutta percha with four parts of light oxide of zinc over a water bath.

The cavity in the tooth having been made perfectly dry and varnished with a solution of copal in ether,² the platinum plug is to be pressed into position, the tail bent into the cavity, and the remaining space filled with the above-named mixture. If the manipulation has been good the pulp-tract must be perfectly filled. The work is finished by filling the external opening with gold.

Boston, September 1, 1880.

RICHMOND COUNTY MEDICAL SOCIETY, NEW YORK.

At the annual meeting of the Medical Society of Richmond County, N. Y., held July 7, 1880, the following resolution was unanimously adopted:—

Whereas, Dr. H. G. Piffard, at the meeting of the American Medical Association on June 4, 1880, offered a resolution impeaching the standing of the Richmond County Medical Society on account of the alleged former irregularity of one of its members; and whereas this society is in possession, after careful inquiry, of

¹ Same instrument used as in my vitrine method.

evidence showing that the member referred to has been recognized as in regular professional repute since his graduation, and that his position in this respect was known to Dr. Piffard at least as long ago as in 1863, therefore, —

Resolved, That the above-mentioned resolution offered by Dr. H. G. Piffard must have been known by him to be utterly invalid as regards the standing of the Richmond County Medical Society, and could only have been prompted by an intent to injure the character of a physician whose record has been before the profession for many years.

That a copy of this resolution be forwarded by the secretary to the principal medical journals.

W. C. WALSER, M. D., *Secretary*.

TREATMENT OF GONORRHEA.

DR. W. WATSON CHEYNE, who recently took the Boylston prize essay, has given his experience on the treatment of this disease in one of the English journals. As it is attracting considerable attention, we give the following abstract taken from one of our exchanges. He expresses the opinion that the extreme contagiousness of gonorrhoea, the existence of a distinct period of incubation, and the steady spread of the inflammation from a given spot, all point strongly to a parasitic origin. Acting on this idea, Dr. Cheyne made a number of cultivation experiments, in which he produced large numbers of organisms in the pus of gonorrhoea. In addition, he believes that the mucous membrane itself in the neighborhood, as well as the pus of the inflamed parts, is the seat of organisms. In the case of gonorrhoea, then, he supposes that at the time of infection a small number of the specific organisms, which in all probability possess a considerable resisting power to the destroying action of the healthy living tissues, are retained in the urethra; that these go on developing; that the products of their growth irritate and weaken the mucous membrane in their vicinity; that the organisms can then penetrate into and live in that weakened tissue; and that the extension of this process over a portion of the mucous membrane of the urethra is the cause of the inflammatory symptoms. Granting the correctness of this theory, what is wanted is a medicinal application which shall destroy the organisms without irritating the inflamed and highly sensitive mucous membrane. Iodoform and oil of eucalyptus appeared to Dr. Cheyne to possess the proper qualities, and he has accordingly experimented with these drugs, mixed with cacao butter, made up into bougies of various lengths. These bougies possess among other advantages over injections this: that, having the diameter of a No. 9 or No. 10 catheter, they expand and smooth out the swollen mucous membrane. Dr. Cheyne has found a combination of the two drugs better than either alone. He employs the following formula: iodoform, five grains, oil of eucalyptus, ten minims, in a bougie of four grains. The specific element of the disease having been eliminated by this means, antiseptic injections are employed in addition, for the purpose of preventing the discharge from becoming septic and irritating. A saturated solution of boracic acid in water, or an emulsion of eucalyptus oil (one ounce of eucalyptus oil, one ounce of gum acacia, water to four or twenty ounces), to be used for two or three days. At the end of that time injections of sulphate of zinc, two grains to the ounce, may be begun. The usual precaution of rest, dilute

drinks, etc., must be employed. In using the bougies, the patient is first told to empty his bladder, partly to clear out his urethra, partly to prevent the necessity of expelling the antiseptic from the canal for several hours. He then lies down on his back, and a bougie from four to six inches long is introduced, and the orifice of the urethra is closed by strapping. The bougie ought to be dipped in eucalyptus oil or in carbolic oil (one to twenty) before insertion. The patient is instructed to refrain from passing water, if possible, for the next four or five hours. If the case be severe and advanced, he takes another bougie home, and is instructed to introduce it in the same manner after he next passes urine. On that evening, or on the following day, he commences the antiseptic injection, which he uses four or five times daily. On the third or fourth day, when the symptoms have entirely subsided, an injection of sulphate of zinc, two grains to the ounce, is begun. Dr. Cheyne has employed this method in about forty cases, and in all the result has been the arrest of the progress of the gonorrhoea. For a day or two the purulent discharge continues, but afterwards it steadily diminishes in amount, becoming in four or five days mucous, and ceasing altogether in a week or ten days. At the same time the scalding and pain and the symptoms of inflammation rapidly diminish, and disappear completely in about thirty-six to forty-eight hours. In fact, the case becomes no longer one of virulent gonorrhoea, but one of simple urethritis, rapidly progressing towards recovery if properly treated.

AMERICAN PUBLIC HEALTH ASSOCIATION.

THE executive committee of the American Public Health Association have announced that the eighth annual meeting of the association will be held in New Orleans, December 7th to 10th. Papers will be presented on abattoirs, epidemics, life insurance in its relation to the public health, the storm-water question in city sewerage, the sanitary engineering problems of the Mississippi River, the hygiene of emigrant ships, the prevention of venereal diseases, voluntary sanitary associations, etc. The special questions suggested for discussion at this meeting, in addition to those connected with the papers above referred to, relate to methods of preventing the spread within a town or city — after they have once been introduced — of such contagious or spreading diseases as diphtheria, scarlet fever, yellow fever, measles, small-pox, etc., and are as follows: What are the best means of securing prompt and reliable information as to the presence and location of cases of such diseases? What are the best means of securing isolation of the first or of single cases of such diseases, and what are the chief difficulties in securing such isolation? Under what circumstances is it proper to declare such diseases epidemic in a place? Under what circumstances is it proper to recommend the closure of schools on account of the prevalence of such diseases? What precautions should be taken at the termination of each case as to the care and disposal of the dead, the disinfection and cleaning of the room and house, and the period of time at which it is safe to allow the convalescent to return to school or society. Brief, practical papers upon any or all of these points are earnestly requested. Notice of intended papers should be sent to the president, Dr. J. S. Billings, Washington, D. C., or to Dr. E. H. Jones, secretary, New York.

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 25, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diarrheal Diseases.	Diphtheria and Croup.	Lung Diseases.	Typhoid Fever.
New York.....	1,085,000	571	267	29.42	14.36	7.71	9.98	1.23
Philadelphia.....	901,280	273	94	17.95	6.23	4.40	4.76	1.47
Brooklyn.....	564,400	239	112	35.57	10.79	16.32	7.53	1.25
Chicago.....	—	200	109	38.00	9.50	17.50	9.50	2.50
St. Louis.....	—	139	46	23.74	7.91	3.60	2.88	4.32
Baltimore.....	393,796	143	47	27.27	6.30	4.90	2.10	2.73
Boston.....	363,938	167	76	34.73	22.16	7.78	3.57	2.40
Cincinnati.....	280,000	81	31	25.93	12.35	3.70	4.94	6.18
New Orleans.....	210,000	104	34	15.38	1.92	.96	5.77	1.92
District of Columbia.....	170,000	78	36	29.49	5.13	7.69	7.69	2.57
Buffalo.....	—	60	26	33.33	13.33	13.33	5.00	5.00
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,649	56	28	46.43	5.36	25.00	7.14	5.36
Milwaukee.....	127,000	47	24	17.02	8.51	—	8.51	2.13
Providence.....	104,862	33	13	21.21	9.09	6.06	3.03	3.03
New Haven.....	60,000	14	3	28.57	—	14.29	—	7.14
Charleston.....	57,000	26	11	11.54	—	—	7.70	3.85
Nashville.....	43,343	15	4	20.00	—	—	—	13.33
Lowell.....	59,340	28	13	32.14	17.86	—	3.57	7.14
Worcester.....	58,040	26	8	26.92	11.54	3.85	15.38	7.69
Cambridge.....	52,860	21	4	23.81	14.29	4.76	9.52	4.76
Fall River.....	48,626	26	16	11.54	3.85	3.85	7.70	3.85
Lawrence.....	39,068	—	—	—	—	—	—	—
Lynn.....	38,376	14	4	35.71	14.29	21.43	—	—
Springfield.....	33,536	12	5	16.67	—	16.67	—	—
Salem.....	27,347	9	4	33.33	22.22	—	—	11.11
New Bedford.....	27,268	10	3	10.00	10.00	—	—	—
Somerville.....	24,964	7	2	—	—	—	—	—
Holyoke.....	21,961	8	4	50.00	12.50	12.50	—	25.00
Chelsea.....	21,780	16	8	43.75	—	37.50	—	—
Taunton.....	21,145	6	2	16.67	—	16.67	—	—
Gloicester.....	19,288	7	4	42.86	—	14.29	—	—
Haverhill.....	18,478	2	0	—	—	—	—	—
Newton.....	16,394	4	2	50.00	—	50.00	25.00	—
Newburyport.....	13,470	3	3	20.00	10.00	—	10.00	—
Fitchburg.....	12,270	3	1	33.33	33.33	—	—	—
Eighteen Massachusetts towns.....	138,734	47	19	25.53	19.15	4.26	6.39	—

Deaths reported, 2492; 1063 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 706, consumption 357, diarrheal diseases 264, diphtheria and croup 212, lung diseases 164, typhoid fever 63, malarial fevers 63, scarlet fever 39, whooping-cough 23, cerebro-spinal meningitis 13, small-pox 11, measles 11, erysipelas seven. From malarial fevers, New York 16, New Orleans and District of Columbia 10, Brooklyn nine, St. Louis eight, Baltimore five, Charleston two, Chicago, Pittsburgh, and New Haven one. From scarlet fever, Chicago nine, Baltimore seven, Philadelphia and Brooklyn five, New York three, Pittsburgh and Milwaukee two, Buffalo, Providence, Nashville, Worcester, Gloucester, and Newburyport one. From whooping-cough, New York six, Baltimore four, Boston three, Brooklyn and Pittsburgh two, Philadelphia, Chicago, St. Louis, Cincinnati, Lowell, and Chelsea one. From cerebro-spinal meningitis, Chicago four, New York and Philadelphia two, St. Louis, Baltimore, Cincinnati, District of Columbia, and Brockton one. From small-pox, Philadelphia seven, New York two, Brooklyn and Chicago one. From measles, New York four, Baltimore, Cincinnati, New Orleans, Pittsburgh, Milwaukee, Lowell, and Gloucester one. From erysipelas, New York two, Philadelphia, Chicago, St. Louis, Baltimore, and Boston one.

Sixty-two cases of diphtheria, 24 of scarlet fever, eight of typhoid fever, two of whooping-cough, one of small-pox, and one of measles were reported in Brooklyn; diphtheria 32, scarlet fever 12, in Boston; scarlet fever 15, diphtheria 14, in Milwaukee; scarlet fever 17, diphtheria six, typhoid fever three, whooping-cough one, in Providence; scarlet fever 12, in New Bedford.

In 36 cities and towns of Massachusetts, with a population of 1,018,415 (population of the State 1,783,812), the total death-

rate for the week was 21.72 against 21.51 and 22.05 for the previous two weeks.

Total deaths and deaths under five years about the same; deaths from diarrheal diseases considerably diminished.

For the week ending September 4th, in 149 German cities and towns, with an estimated population of 7,725,065, the death-rate was 30. Deaths reported, 5512; 2887 under five: pulmonary consumption 395, diphtheria and croup 116, acute diseases of the respiratory organs 96, scarlet fever 93, typhoid fever 68, whooping-cough 64, measles and röteln 34, puerperal fever 23, typhus fever (Pösen, Berlin, Dortmund) three, small-pox (Königsberg) one. The death-rates ranged from 12.9 in Kiel to 54.4 in Chemnitz; Königsberg 35.1; Breslau 31.4; Munich 31.5; Dresden 29.7; Berlin 33.8; Leipzig 30.7; Hamburg 32.5; Hanover 13.2; Bremen 19.6; Cologne 38.2; Frankfurt 16.4; Strassburg 20.6.

For the week ending September 11th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 25.4. Deaths reported, 3643; diarrheal diseases 17, acute diseases of the respiratory organs 124, scarlet fever 111, fever 67, whooping-cough 53, measles 22, diphtheria 15, small-pox (London) five. The death-rates ranged from 20 in London and Bristol to 39 in Liverpool; Birmingham 24; Manchester 40. In Edinburgh 21; Glasgow 17; Dublin 35.

In the 20 chief towns in Switzerland for the same week, population 522,856, there were 43 deaths from diarrheal diseases, acute diseases of the respiratory organs 12, typhoid fever nine, diphtheria and croup seven, whooping-cough six, scarlet fever two, measles two, small-pox one. The death-rates of the principal cities were: Geneva 21.4; Zurich 24.7; Basle 24.5; Bern 24.6.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
1880.																			
Sept. 19	30.184	63	73	58	77	64	77	73	NE	E	SE	1	10	4	O	F	O	—	—
" 20	30.013	69	80	60	88	65	90	81	SE	S	SE	9	7	9	O	F	O	—	—
" 21	29.910	67	79	60	89	25	57	57	W	W	W	10	16	7	F	C	F	—	—
" 22	30.101	58	68	52	63	35	56	61	W	W	NW	12	15	11	C	F	F	—	—
" 23	30.290	55	65	45	71	32	50	51	W	NW	NE	7	12	6	C	F	C	—	—
" 24	30.313	58	72	43	77	39	70	62	O	SW	SE	0	13	10	C	F	C	—	—
" 25	30.208	64	80	52	87	42	77	69	SW	SW	S	8	7	9	C	C	C	—	—
Week.	30.145	62	80	43				65	SW									20'	—

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM SEPTEMBER 25, 1880, TO OCTOBER 1, 1880.

IRWIN, B. J. D., major and surgeon. Relieved from duty in Department of Dakota, and to report in person to the lieutenant-general commanding Military Division of the Missouri for duty as attending surgeon at head-quarters of that division, relieving Surgeon Spencer. S. O. 205, A. G. O., September 24, 1880.

SPENCER, W. C., major and surgeon. When relieved by Surgeon Irwin to report in person to the commanding general, Department of Dakota, for assignment to duty. S. O. 205, C. S., A. G. O.

GODIARD, C. E., major and surgeon. To report in person, at the expiration of his present leave of absence, to the superintendent of the Mounted Recruiting Service for duty as post surgeon at the cavalry depot, Jefferson Barracks, Mo. S. O. 205, C. S., A. G. O.

BROWN, J. M., captain and assistant surgeon. To accompany battalion sixth infantry from cantonment on the Uncompahgre, Col., to Fort Garland, Col., and there remain on duty. S. O. 211, Department of the Missouri, September 22, 1880.

BREWER, J. W., captain and assistant surgeon. To report in person to the commanding general, Department of the South, for assignment to duty. S. O. 205, C. S., A. G. O.

TREMAINE, W. S., captain and assistant surgeon. Relieved from duty in Department of the Missouri, and to report, by letter, at the expiration of his present sick leave of absence, to the surgeon-general. S. O. 205, C. S., A. G. O.

WEISEL, D., captain and assistant surgeon. To report in person, at the expiration of his present leave of absence, to the commanding general, Department of the East, for assignment to duty. S. O. 205, C. S., A. G. O.

HARVEY, P. F., captain and assistant surgeon. Assigned to duty at Fort Snelling, Minn. S. O. 113, Department of Dakota, September 22, 1880.

BENHAM, B. B., first lieutenant and assistant surgeon. Assigned to temporary duty with escort to working parties on extension of Northern Pacific Railroad, at Camp Hoston, Dakota Territory. S. O. 113, C. S., Department of Dakota.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE, JULY 1, 1880, TO SEPTEMBER 30, 1880.

BAILLIACHE, P. H., surgeon. Relieved from temporary duty as medical officer revenue bark S. P. Chase, and ordered to rejoin his station as member of the National Board of Health. August 26, 1880.

Detailed for duty as medical officer, port of Georgetown, D. C., during temporary absence of Passed Assistant Surgeon Fisher. September 17, 1880.

MILLER, T. W., surgeon. Granted leave of absence for seven days from July 17, 1880. July 13, 1880.

GASSAWAY, J. M., passed assistant surgeon. Relieved from duty at Fort Townsend, Wash. Ter., and ordered to report to Surgeon Fessenden, New York. July 7, 1880.

Granted leave of absence for thirty days from September 1, 1880. August 9, 1880.

STONER, G. W., passed assistant surgeon. Detailed as recorder of board for the physical examination of cadets of the revenue marine service. July 6, 1880.

FISHER, J. C., passed assistant surgeon. To proceed to Elizabeth City and Edenton, N. C., as inspector. September 17, 1880.

GOLDSBOROUGH, C. B., assistant surgeon. Granted leave of absence for thirty-one days from August 26, 1880. August 13, 1880.

IRWIN, FAIRFAX, assistant surgeon. Granted leave of absence for twenty-one days from August 14, 1880. August 2, 1880.

MEAD, F. W., assistant surgeon. Relieved from duty at San Francisco, Cal., and ordered to assume charge of the service at Port Townsend, Wash. Ter. July 7, 1880.

COOKE, H. P., assistant surgeon. Granted leave of absence for twenty days from November 23, 1880. September 6, 1880.

GUITERAS, JOHN, assistant surgeon. To report for temporary duty to Surgeon Sawtelle, St. Louis. July 7, 1880.

Relieved from temporary duty at St. Louis, and ordered to report to Surgeon Austin, New Orleans. September 28, 1880.

WHEELER, W. A., assistant surgeon. To report for temporary duty to Surgeon Fessenden, New York. July 7, 1880.

BENSON, J. A., assistant surgeon. To report for temporary duty to Assistant Surgeon Goldsborough, Baltimore. July 7, 1880.

BANKS, C. E., assistant surgeon. To report for duty to Surgeon Hebersmith, San Francisco. July 9, 1880.

PROMOTIONS. GODFREY, JOHN, passed assistant surgeon. Promoted to be passed assistant surgeon from July 1, 1880. July 6, 1880.

BROWN, F. H., passed assistant surgeon. Promoted to be passed assistant surgeon from July 1, 1880. July 6, 1880.

APPOINTMENTS. The following candidates having passed the examination required by the regulations were appointed assistant surgeons July 6, 1880:—

JOHN GUITERAS, of Pennsylvania, WILLIAM A. WHEELER of Indiana, JOHN A. BENSON, of New Jersey, and CHARLES E. BANKS, of Maine.

SUFFOLK DISTRICT MEDICAL SOCIETY.—A regular meeting will be held at the hall, No. 19 Boylston Place, on Saturday evening, October 9th, at seven and a half o'clock. The following papers will be read: Dr. H. W. Broughton, A Case of Enlarged Liver, apparently of Malarial Origin. Dr. C. P. Bancroft, A Case of Urethral Stricture treated by Otis's Method.

All members of the Massachusetts Medical Society are cordially invited to be present, and to take part in the discussion.

H. C. HAVEN, M. D., Secretary.

NEW YORK HOSPITAL.—Dr. Bulkley will give a fourth course of lectures on diseases of the skin in the pathological amphitheatre of the New York Hospital, 7 West Fifth Street, Wednesday afternoons, from 2.30 to 3.30 o'clock, commencing Wednesday, October 6, 1880. The lectures will be didactic and clinical in character, going over the entire subject of Diseases of the Skin (including Syphilis), and will be freely illustrated by colored plates, photographs, life-sized models, the blackboard, and abundant clinical material. The pathology, differential diagnosis, and treatment of diseases of the skin will be especially considered. The course will consist of twenty-four lectures, and will be free to practitioners of medicine and medical students.

Original Articles.

AMERICAN ANATOMY ACTS.

BY EDWARD MUSSEY HARTWELL, M. A.,

Fellow of the Johns Hopkins University, Baltimore, Md.

THE earliest medical schools in America developed from private courses of anatomical lectures. The "first Anatomy in the country" was probably that which Giles Firmin, of Massachusetts, "did make and read upon very well," previously to the year 1647. Dr. William Shippen, Jr., of Philadelphia, and a pupil of John Hunter, gave, in 1762, in that city, the first full and systematic course of anatomical lectures, with dissections, ever given in America. He first held the chair of anatomy and surgery in the first medical college in America, the Medical College of Philadelphia, which was organized in 1765. The early anatomists had to contend with prejudices that at times were shown in mob violence. They were, moreover, wholly unprotected by law. Pennsylvania, New York, Virginia, Massachusetts, and New Hampshire all had medical schools previous to 1800. As late as 1782, when Dr. John Warren's private courses in anatomy had expanded into the organization since known as the Harvard Medical School, no one of the above-mentioned States had a law on its statute-books touching the dissection of the dead, or the desecration of their graves. New Hampshire passed a stringent act against grave-robbery in 1796, the year before the Dartmouth Medical School was organized. As time went on, several of the States, through the institution of medical societies, of which there were at least eight before 1800, and by the passage of laws to regulate medical practice, made ever-increasing demands on the colleges for sound teaching in anatomy. The utmost help given the anatomists was the occasional allowance of the body of a suicide or executed criminal. Massachusetts in 1784, New York in 1789, and New Jersey in 1796 passed acts to allow the courts to add dissection to the death penalty in certain cases. Virginia refused to do even that much, and Pennsylvania seems never to have legislated in the matter.

The legal status of anatomy in America, at the beginning of the century, is well illustrated by the Connecticut acts of 1810. At the May session of that year, it was made punishable, by a fine of at least one hundred dollars and imprisonment in the county jail for at least three months, for any one secretly to disinter the body of any deceased person for the purpose of dissection, or in any way to aid in so doing, or knowingly "to assist in any surgical or anatomical experiments therewith or dissections thereof." At the October session it was enacted that there should be a "medical institution of Yale College," one of whose four professors should teach anatomy, surgery, and midwifery; and that, as speedily as the college funds would allow, a collection of anatomical preparations should be provided.

The Province of Massachusetts Bay, in 1692, made it a felony, punishable with death, "to take up any dead man, woman, or child out of his, her, or their grave, or any other place where the dead body resteth, or the skin, bone, or any other part of any dead person, to be employed or used in any manner of witchcraft, enchantment, charm, or sorcery, whereby any person shall be killed, destroyed, wasted, consumed,

piued, or lamed in his or her body, or any part thereof." This act was merely a transcript of a portion of the English act of James I. against witchcraft, and was repealed by the privy council in 1695, because it failed to secure dowry to the widow and inheritance to the children of the felon. The Massachusetts act of 1784 only authorized dissection of dead duelists as a mark of infamy; therefore, the New York act of 1789 must be considered as the first American anatomy act. This act was passed the year after the famous "Doctors' Mob" in New York city, and is entitled, *An Act to prevent the Odious Practice of Digging up and Removing, for the Purpose of Dissection, Dead Bodies interred in Cemeteries or Burial Places.* It comprises two sections. Section I. provides that any person convicted of removing any dead body from its place of sepulture, for the purpose of dissection or with intent to dissect, or of dissecting or assisting to dissect, such body, "shall be adjudged to stand in the pillory or to suffer other corporal punishment, not extending to life or limb, and shall also pay such fine and suffer such imprisonment as the court shall in their discretion think proper to direct." In Section II. it is further enacted, "In order that science may not in this respect be injured by preventing the dissection of proper subjects, that when any offender shall be convicted of murder, arson, or burglary, for which he shall be sentenced to suffer death, the court may, at their discretion, add to the judgment that the body of such offender shall be delivered to a surgeon for dissection." Massachusetts made the first considerable improvement on this New York act when in 1831, it passed a statute authorizing, under certain restrictions, the delivery to the anatomists of the unclaimed bodies "of deceased persons required to be buried at the public expense." Connecticut passed a liberal act, modeled on that of Massachusetts, 5th June, 1833, and repealed the same 5th June, 1834; not till 1871 did it again seek to promote anatomy. New York, in 1854, passed an anatomy act patterned, to some extent, on the Massachusetts act of 1831 and the English act of 1832. This act of 1854 was materially improved in 1879, in which year Indiana, Ohio, and Iowa also passed important anatomy acts.

Enactments similar to the New York act of 1789, Section I., have since been passed by the following States: Alabama, Arkansas, California, Connecticut, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Hampshire, Ohio, Oregon, Pennsylvania, Rhode Island, Tennessee, Texas, Vermont, Virginia, West Virginia, and Wisconsin. Of the above-mentioned States, Kentucky, Oregon, Rhode Island, Texas, and West Virginia have no anatomy acts; while Rhode Island, Texas, and West Virginia have no medical schools. The laws of nine States, namely, Colorado, Delaware, Florida, Louisiana, Maryland, Nevada, New Jersey, North Carolina, and South Carolina, are, so far as the writer has been able to learn, silent regarding grave-robbery. While the Territories of Dakota, Utah, Washington, and Wyoming have laws for the protection of sepulchres, the District of Columbia has no such law, although one was inserted into the proposed code of 1857, which failed of adoption.

The second section of the New York act of 1789 has developed into the acts of twenty-four States. The following-named States have legalized dissection:

*Alabama, *Arkansas, California, *Colorado, *Connecticut, *Georgia, *Illinois, *Indiana, Iowa, *Kansas, *Maine, *Massachusetts, Michigan, Minnesota, *Missouri, *Nebraska, New Hampshire, *New Jersey, *New York, Ohio, Pennsylvania, *Tennessee, Vermont, and Wisconsin. The States whose names are starred in the above list, make specific provision for the dissection of the bodies of certain deceased criminals, chiefly murderers. It is to be remarked that some of them make no other provision for anatomical science. The acts of the following States may be termed fairly liberal: Arkansas, California, Connecticut, Illinois, Indiana, Iowa, Kansas, Massachusetts, Michigan, Minnesota, New Hampshire, New York, Ohio, Pennsylvania, and Wisconsin.

The acts of Alabama, Colorado, Georgia, Maine, Missouri, Nebraska, New Jersey, Tennessee, and Vermont are illiberal.

In 1869 Maine enacted "that when any person convicted of crime dies or is executed in the state-prison or any jail, the warden or keepers shall, on request, deliver his body to instructors in medical schools established by law." In February, 1876, capital punishment was abolished; so that at present in Maine it is legal to dissect only the body of a person who "requests during his life that his body may be delivered to a regular physician or surgeon for the advancement of anatomical science, after his death, unless some kindred or friend within three days" asks to have it buried; or the body of a convict who has not at any time requested to be buried, and whose friends and kindred fail for three days after his death to ask for his burial.

The statute of Tennessee, unless it has been repealed since 1871, is quite as liberal as that of Maine. It provides that no penalty shall "apply to regular physicians to whom the bodies of criminals are delivered pursuant to law, or to dissection of slaves by consent of their masters, or of other persons by consent of their relatives."

The New York act of June 3, 1879, may be instanced as a type of the liberal class of American acts. It reads: "It shall be lawful in cities whose population exceeds 30,000 inhabitants, and in counties containing said cities, to deliver to the professors and teachers in medical colleges and schools in this State, and for said professors and teachers to receive, the remains or body of any deceased person for the purposes of medical and surgical study: provided that said remains shall not have been regularly interred, and shall not have been desired for interment by any relative or friend of said deceased person within twenty-four hours after death; provided, also, that the remains of no person who may be known to have relatives or friends shall be so delivered or received without the consent of said relatives or friends; and provided that the remains of no one detained for debt, or as a witness, or on suspicion of crime, or of any traveler, nor of any person who shall have expressed a desire in his or her last sickness that his or her body may be interred, shall be delivered or received as aforesaid, but shall be buried in the usual manner; and provided, also, that in case the remains of any person so delivered or received shall be subsequently claimed by any surviving relative or friend they shall be given up to said relative or friend for interment. And it shall be the duty of the said professors and teachers decently to bury in some public cemetery the remains of all

bodies after they shall have answered the purposes of study aforesaid; and for any neglect or violation of this provision of this act the party so neglecting shall forfeit and pay a penalty of not less than \$25 nor more than \$50, to be sued for by the health officers of said cities, or of other places, for the benefit of their department." An earlier law of New York forbids all traffic in subjects, or any use of them, except for anatomical purposes, under penalty of imprisonment in jail for not more than a year.

To summarize the legislation from 1789 to 1879, we may say that twenty-four States allow dissection; fifteen States have liberal anatomy acts, while nine have illiberal ones; the laws of fourteen States are silent regarding anatomy, excepting their laws on malpractice; twenty-eight States forbid the desecration of graves, while the laws of ten States are silent regarding it; the laws of six States are silent touching both dissection and disinterment; Dakota only of the eight Territories allows dissection; four Territories forbid exhumation, and four have no enactment regarding it; twelve States and one Territory require the burial of *cadavera dissecta*.

The District of Columbia occupies a unique position among the capitals of civilized states in that the studies of its anatomists and the graves of its dead are alike unprotected by statutory enactments. The United States government sends Washington resurrectionists to jail when it can; but it has recently utilized in the examinations before the Navy Board, in the city of Washington, as many as twelve subjects, which could be procured by stealth only.

The writer has endeavored to ascertain some facts as to the amount and cost of the dissection done in our American schools. There are no statistics on the matter. The following statement, based on the figures of the forthcoming report for 1878 of General Eaton, United States commissioner of education, and on such data as several of our prominent teachers of anatomy have kindly furnished, is put forth as a provisional one, in the hope that anatomists interested in the matter may cooperate to make it a full and accurate one. The total number of medical students of "all sorts" in the United States in 1878 was 11,837, showing an increase of 4894 since 1870. Of these 8286 were in attendance upon 915 instructors in 64 "regular schools," in 23 different States and the District of Columbia. In 9 States with liberal anatomy laws there were 22 schools, with 440 instructors and 4643 students. In 6 States and 1 district, with 14 schools and 141 instructors, there were 1337 students unprotected by law in the study of practical anatomy. In 8 States with illiberal or insufficient laws there were 27 schools, with 334 instructors and 2306 students. Kentucky, with 4 schools and 509 students, had no law. Ohio, with 7 schools and 877 students, had an illiberal law. The District of Columbia had 158 students in 3 schools, also 1 president of the United States and 1 Congress ditto, but no anatomy law. Maryland, with 2 schools and 349 students, Louisiana, with 1 school of 147 students, and South Carolina, with 1 school and 71 students, had no anatomy act, and no statute forbidding disinterment.

During the winter of 1879-80, in 7 medical schools, in 5 different States, there were 1566 students in attendance, of whom 1124 dissected, and 628 dissected more than one part. On the average the dissection of two parts is required for a degree. The average cost

of "a part" was \$1.79, the extremes being \$3.50 and nothing. The demonstrator's ticket is not reckoned in the cost per part. There were used 392 subjects, at an average cost of \$14.42 to the schools. The extremes of price for subjects were \$3.00 and \$50.00. Usually 5 students dissect on a single subject, but in one school 8, and in another 10, students work on the same subject, alternately reading and dissecting. Of the 392 subjects used, not more than 36 were used by students in making surgical operations on the cadaver. Three of the seven schools claim to prescribe such a course of operations; but, judging from the number of students who took it, it is a medical rather than a legal prescription. Of the 1124 students who dissected, using 133 subjects, 465 were unprotected by law in so doing. On the basis indicated above, it is computed that the 8286 students of the regular schools in 1878 should have had at their disposal 2058 subjects. The official returns show that in France, in 1876, there were 3399 subjects at the disposal of 5030 students.

It is possible within the limits of this article only to glance at the class of legislation under consideration. It is proposed, however, to give in future articles a fuller sketch of the early American anatomists; to consider in a more detailed fashion the history of the anatomy acts of Massachusetts and other States; to notice the peculiarities of the recent acts of Indiana, Iowa, Ohio, and Michigan; and to institute a comparison between the working of our American acts with that of the English, French, and German acts.

It may be stated here, however, that an act which should embody the best features of the best American acts, while it would compare favorably with the laws of Great Britain, would fall far short, in point of comprehensiveness and liberality, of the French laws which were in force nearly seventy years ago, not to speak of the French and German acts of to-day.

REGULATION OF THE PRACTICE OF MEDICINE IN THE UNITED STATES.

LITTLE has been done in this country until within a few years to exercise any control over the practice of medicine. Absolute freedom has been allowed every one who desired to take the responsibility of treating disease, even if he possessed no knowledge whatever. Indeed, it is a matter of record that the law has actually protected an individual from the results of his work on the plea of ignorance, thus showing an absence of evil intent. We give the more prominent of the laws which have been passed in different States. The California law resembles closely that of Illinois, a Board of Examiners being substituted for the Board of Health. The Vermont law resembles that of New Hampshire. Laws exist also in Alabama and Texas, and there is a diploma law in Pennsylvania:—

NEW YORK.

Chapter 513. An act entitled An Act to regulate the Licensure of Physicians and Surgeons. Passed May 29, 1880, three fifths being present.

The people of the State of New York, represented in Senate and Assembly, do enact as follows:—

Section I. A person shall not practice physic or surgery within the State unless he is twenty-one years of age, and either has been heretofore authorized so to do, pursuant to the laws in force at the time of his authorization, or is heretofore authorized so to do as prescribed by chapter seven hundred and forty-six

of the laws of eighteen hundred and seventy-two,¹ or by subsequent sections of this act.

Section II. Every person now lawfully engaged in the practice of physic and surgery within the State shall, on or before the first day of October, eighteen hundred and eighty, and every person hereafter duly authorized to practice physic and surgery, shall, before commencing to practice, register in the clerk's office of the county where he is practicing, or intends to commence the practice of, physic and surgery, in a book to be kept by said clerk, his name, residence, and place of birth, together with his authority for so practicing physic and surgery as prescribed in this act. The person so registering shall subscribe and verify by oath or affirmation, before a person duly qualified to administer oaths under the laws of the State, an affidavit containing such facts, and whether such authority is by diploma or license, and the date of the same, and by whom granted, which, if willfully false, shall subject the affiant to conviction and punishment for perjury. The county clerk to receive a fee of twenty-five cents for such registration, to be paid by the person so registering.

Section III. A person who violates either of the two preceding sections of this act, or who shall practice physic or surgery under cover of a diploma illegally obtained, shall be deemed to be guilty of a misdemeanor, and on conviction shall be punished by a fine of not less than fifty dollars nor more than two hundred dollars for the first offense, and for each subsequent offense by a fine of not less than one hundred dollars nor more than five hundred dollars, or by imprisonment for not less than thirty days nor more than ninety days, or both. The fine when collected shall be paid, the one half to the person or corporation making the complaint, the other half into the county treasury.

Section IV. A person coming to the State from without the State may be licensed to practice physic and surgery, or either, within the State, in the following manner: If he has a diploma conferring upon him the degree of doctor of medicine, issued by an incorporated university, medical college, or medical school without the State, he shall exhibit the same to the faculty of some incorporated medical college or medical school of this State, with satisfactory evidence of his good moral character, and such other evidence, if any, of his qualifications as a physician or surgeon as said faculty may require. If his diploma and qualifications are approved by them, then they shall indorse said diploma, which shall make it for the purpose of his license to practice medicine and surgery within this State the same as if issued by them. The applicant shall pay to the dean of said faculty the sum of twenty dollars for such examination and indorsement. This indorsed diploma shall authorize him to practice physic and surgery within the State upon his complying with the provisions of Section II. of this act.

Section V. The degree of doctor of medicine lawfully conferred by any incorporated medical college or university in this State shall be a license to practice physic and surgery within the State after the person to whom it is granted shall have complied with Section II. of this act.

Section VI. Nothing in this act shall apply to commissioned medical officers of the United States army or navy, or of the United States marine hospital service. Nor shall it apply to any person who has practiced medicine and surgery for ten years last past, and who is now pursuing the study of medicine and surgery in any legally incorporated medical college within this State, and who shall graduate from and receive a diploma within two years from the passage of this act.

Section VII. All acts or parts of acts inconsistent with the provisions of this act are hereby repealed.

STATE OF NEW YORK, }
Office of the Secretary of State, } ss.:

I have compared the preceding with the original law on file in this office, and do hereby certify that the same is a correct transcript therefrom and of the whole of said original law.

JOSEPH B. CARR,

Secretary of State.

Chapter 746. An act relating to the examination of candidates for the degree of doctor of medicine. Passed May 16, 1872.

The people of the State of New York, represented in Senate and Assembly, do enact as follows:—

Section I. The regents of the University of the State of New York shall appoint one or more Boards of Examiners in medicine, each board to consist of not less than seven members, who shall have been licensed to practice physic and surgery in this State.

Section II. Such examiners shall faithfully examine all candidates referred to them for that purpose by the chancellor of said university, and furnish him a detailed report in writing of all

¹ This chapter follows the act.

the questions and answers of each examination, together with a separate written opinion of each examiner as to the acquirements and merits of the candidates in each case.

Sec. III. Such examinations shall be in anatomy, physiology, materia medica, pathology, histology, clinical medicine, chemistry, surgery, midwifery, and in therapeutics, according to each of the systems of practice represented by the several medical societies of the State.

Sec. IV. The said reports of examinations and the annexed opinions of the examiners shall forever be a part of the public records of the said university, and the orders of the chancellor addressed to the examiners, together with the action of the regents, in each case, shall accompany the same.

Sec. V. Any person over twenty-one years of age, of good moral character, and paying not less than thirty-five dollars into the treasury of the university, and on applying to the chancellor for the aforesaid examination, shall receive an order to that effect, addressed to one of the Boards of Examiners, provided he shall adduce proofs satisfactory to the chancellor that he or she has a competent knowledge of all the branches of learning taught in the common schools of this State, and of the Latin language, and that he has diligently studied medicine not less than three years, under the direction of one or more physicians duly qualified to practice medicine, or has himself been licensed, on examination, by some medical society or college legally empowered to issue licenses or degrees in medicine.

Sec. VI. The regents of the university, on receiving the aforesaid reports of the examiners, and on finding that not less than five members of a board have voted in favor of a candidate, shall issue to him or her a diploma conferring the degree of doctor of medicine of the University of the State of New York, which degree shall be a license to practice physic and surgery.

Sec. VII. The candidate on receiving said diploma, shall pay to the university the further sum of not less than ten dollars.

Sec. VIII. The moneys paid to the university, as aforesaid, shall be appropriated by the regents for the expenses of executing the provisions of this act.

Sec. IX. The regents may establish such rules and regulations, from time to time, as they may deem necessary to insure the faithful execution of the provisions of this act.

Sec. X. This act shall take effect immediately.

ILLINOIS.

The following is a full copy of An Act to regulate the Practice of Medicine in the State of Illinois. Approved May 29, 1877. In force July 1, 1877:—

Be it enacted by the people of the State of Illinois, represented in the General Assembly: Section I. That every person practicing medicine, in any of its departments, shall possess the qualifications required by this act. If a graduate in medicine, he shall present his diploma to the State Board of Health, if such Board of Health shall be established by law, or Board of Examiners herein named, for verification as to its genuineness. If the diploma is found genuine, and if the person named therein be the person claiming and presenting the same, the State Board of Health, if such Board of Health shall be established by law, or the Board of Examiners, shall issue its certificate to that effect, signed by all of the members thereof, and such diploma and certificate shall be conclusive as to the right of the lawful holder of the same to practice medicine in this State. If not a graduate, the person practicing medicine in this State shall present himself before said board, and submit himself to such examinations as the said board shall require; and, if the examination be satisfactory to the examiners, the said board shall issue its certificate in accordance with the facts, and the lawful holder of such certificate shall be entitled to all the rights and privileges herein mentioned.

Sec. II. In case a State Board of Health shall not be established by law, then each State Medical Society incorporated and in active existence on the first day of July, eighteen hundred and seven-seventy, whose members are required to possess diplomas or licenses from some legally chartered medical institution in good standing, shall appoint, annually, a Board of Examiners consisting of seven members, who shall hold their offices for one year, and until their successors shall be chosen. The examiners so appointed shall go before a county judge and make oath that they are regular graduates, or licentiates, and that they will faithfully perform the duties of their office. Vacancies occurring in a Board of Examiners shall be filled by the society appointing it by the selection of alternates, or otherwise.

Sec. III. The State Board of Health, if such Board of Health shall be established by law, or Board of Examiners, shall

organize within three months after the passage of this act; they shall procure a seal, and shall receive through their secretary applications for certificates and examinations; the president of each board shall have authority to administer oaths, and the board take testimony in all matters relating to their duties; they shall issue certificates to all who furnish satisfactory proof of having received diplomas or licenses from legally chartered medical institutions in good standing; they shall prepare two forms of certificates, one for persons in possession of diplomas or licenses, the other for candidates examined by the board; they shall furnish to the county clerks of the several counties a list of all persons receiving certificates. In selecting places to hold their meetings, they shall, as far as is reasonable, accommodate applicants residing in different sections of the State, and due notice shall be published of all their meetings. Certificates shall be signed by all the members of the board granting them, and shall indicate the medical society to which the examining board is attached.

Sec. IV. Said State Board of Health, if such Board of Health shall be established by law, or Board of Examiners, shall examine diplomas as to their genuineness, and if the diploma shall be found genuine as represented, the secretary of the State Board of Health, if such Board of Health shall be established by law, or Board of Examiners, shall receive a fee of one dollar from each graduate or licentiate, and no further charge shall be made to the applicants; but if it be found to be fraudulent, or not lawfully owned by the possessor, the board shall be entitled to charge and collect twenty dollars of the applicant presenting such diploma. The verification of the diploma shall consist in the affidavit of the holder and applicant that he is the lawful possessor of the same, and that he is the person therein named. Such affidavit may be taken before any person authorized to administer oaths, and the same shall be attested under the hand and official seal of such officer, if he have a seal. Graduates may present their diplomas and affidavits as provided in this act, by letter or by proxy, and the State Board of Health, if such Board of Health shall be established by law, or Board of Examiners, shall issue its certificate the same as though the owner of the diploma was present.

Sec. V. All examinations of persons not graduates or licentiates shall be made directly by the board, and the certificates given by the boards shall authorize the possessor to practice medicine and surgery in the State of Illinois.

Sec. VI. Every person holding a certificate from the State Board of Health, if such Board of Health shall be established by law, or Board of Examiners, shall have it recorded in the office of the clerk of the county in which he resides, and the record shall be indorsed thereon. Any person removing to another county to practice shall procure an indorsement to that effect on the certificate from the county clerk, and shall record the certificate, in like manner, in the county to which he removes, and the holder of the certificate shall pay to the county clerk the usual fees for making the record.

Sec. VII. The county clerk shall keep, in a book provided for the purpose, a complete list of the certificates recorded by him, with the date of the issue and the name of the medical society represented by the State Board of Health, if such Board of Health shall be established by law, or Board of Examiners, issuing the same. If the certificate be based on a diploma or license, he shall record the name of the medical institution conferring it, and the date when conferred. The register of the county clerk shall be open to public inspection during business hours.

Sec. VIII. Candidates for examination shall pay a fee of five dollars, in advance, which shall be returned to them if a certificate be refused. The fees received by the board shall be paid into the treasury of the medical society by which the board shall have been appointed, and the expenses and compensation of the board shall be subject to arrangement with the society.

Sec. IX. Examinations may be made in whole or in part in writing, and shall be of an elementary and practical character, but sufficiently strict to test the qualifications of the candidate as a practitioner.

Sec. X. The State Board of Health, if such Board of Health shall be established by law, or Board of Examiners, may refuse certificates to individuals guilty of unprofessional or dishonorable conduct, and they may revoke certificates for like causes. In all cases of refusal or revocation the applicant may appeal to the body appointing the board.

Sec. XI. Any person shall be regarded as practicing medicine, within the meaning of this act, who shall profess publicly to be a physician and to prescribe for the sick, or who shall append to his name the letters of "M. D." But nothing in this act shall be construed to prohibit students from prescribing under the supervision of preceptors, or to prohibit gratuitous services in cases of emergency. And this act shall not apply to commissioned surgeons of the United States army and navy.

SECT. XII. Any itinerant vender of any drug, nostrum, ointment, or appliance of any kind, intended for the treatment of disease or injury, or who shall, by writing or printing, or any other method, publicly profess to cure or treat diseases, injury, or deformity by any drug, nostrum, manipulation, or other expedient, shall pay a license of one hundred dollars a month, to be collected in the usual way.

SECT. XIII. Any person practicing medicine or surgery in this State without complying with the provisions of this act shall be punished by a fine of not less than fifty dollars, nor more than five hundred dollars, or by imprisonment in the county jail for a period of not less than thirty days, nor more than three hundred and sixty-five days, or by both such fine and imprisonment, for each and every offense; and any person filling or attempting to file as his own the diploma or certificate of another, or a forged affidavit of identification, shall be guilty of a felony, and upon conviction shall be subject to such fine and imprisonment as are made and provided by the statutes of this State for the crime of forgery; but the penalties shall not be enforced till on and after the thirty-first day of December, eighteen hundred and seventy-seven: *Provided*, That the provisions of this act shall not apply to those that have been practicing medicine ten years within this State.

[The Board of Health was established by law approved May 25, 1877, which took effect July 1, 1877.]

NEW HAMPSHIRE.

General Laws relating to the Practice of Medicine, Surgery, Dentistry, and Pharmacy.

Chapter I. Practice of medicine, surgery, and dentistry.

Section I. Physicians and surgeons not to practice without license from medical society. SECT. II. Medical societies to examine and license. SECT. III. Dentists not to practice without dental degree or license of New Hampshire Dental Society. SECT. IV. Society shall examine and license. SECT. V. License recorded, where. SECT. VI. Fees for licenses. SECT. VII. Penalty for practicing without lawful authority. SECT. VIII. Law not applicable, when.

Section I. It shall not be lawful for any person to practice medicine, surgery, or midwifery, unless such person shall have obtained a license from some medical society organized under the laws of this State, stating that he is qualified in the branches of the medical profession named in said license.

SECT. II. Every medical society, organized under the laws of this State, shall, at such time and in such manner as may be prescribed in its charter or by-laws, elect a board of censors, consisting of three members, who shall be elected for such term as may be prescribed in said charter or by-laws, which board shall have authority to examine and license persons to practice medicine, surgery, or midwifery.

The board shall issue licenses without examination to all persons who furnish evidence by diploma from some medical school authorized to confer degrees in medicine and surgery, when said board is satisfied that the person presenting such diploma has obtained it after pursuing some prescribed course of study and upon due examination.

Said board shall also have power, upon due notice and hearing, to revoke any license granted by said board, when improperly obtained, or when the holder has, by conviction for crime, or any other cause, ceased to be worthy of public confidence.

Such license or revocation shall be recorded by the clerk of said medical society.

SECT. III. It shall not be lawful for any person who is not duly authorized to practice medicine or surgery to practice dentistry, unless such person has received a dental degree from some college, university, or medical school authorized to confer the same, or shall have obtained a license from the New Hampshire Dental Society.

SECT. IV. Said dental society shall, at such time and in such manner as may be prescribed in its charter or by-laws, elect a board of censors, consisting of three members, who shall be elected for such term as may be prescribed by the society, which board shall have authority to examine and license persons to practice dentistry. The license shall be recorded by the clerk of said society.

SECT. V. No person receiving a license as herein provided shall be authorized to practice until he shall have procured the same to be recorded by the clerk of the court in the county where he resides, if a resident of this State; if not a resident of this State, in the county where he intends to practice.

Such licenses shall be recorded in a book provided for that purpose, and which shall bear the title and inscription of the medical and dental register of — county, and the fee for recording the same shall be fifty cents.

SECT. VI. Each person receiving a license upon examination shall pay for the use of the society granting the same the sum of five dollars; upon diploma, one dollar.

SECT. VII. If any person shall practice medicine, surgery, midwifery, or dentistry, without being duly authorized as provided in this chapter, or after his license is revoked, he shall be punished by a fine of not more than three hundred dollars for each offense.

SECT. VIII. The provisions of the preceding sections shall not apply to persons who have resided and practiced their profession in the town and city of their present residence during all the time since January first, eighteen hundred and seventy-five, nor to physicians residing out of the State, when called into the State for consultation with duly licensed physicians, or to attend upon patients in the regular course of business.

Chapter 2. Sale of drugs and medicine.

Chapter 3. Advancement of anatomical and surgical science.

PENNSYLVANIA.

No. 55. An Act to regulate the Practice of Medicine, Surgery, and Obstetrics in the Commonwealth of Pennsylvania.

Section I. *Be it enacted, etc.*: That the standard qualifications of a practitioner of medicine, surgery, or obstetrics, or of any one who may attempt to practice, singly or jointly, medicine, surgery, or obstetrics, shall be and consist of the following, namely:—

A comprehensive and practical knowledge of human anatomy, human physiology, pathology, chemistry, materia medica, obstetrics, practice of medicine and surgery, and public hygiene, and a good moral character.

SECT. II. The possession of a diploma, regularly issued by a medical school acting under a charter from this or other State or country, shall constitute the sufficient license for the person to whom such diploma is granted to practice, singly or jointly, medicine, surgery, or obstetrics, as set forth and empowered in said diploma: *Provided, however*, that a diploma that has been or that may hereafter be granted for a money consideration, or other article of value alone, or that has been or may hereafter be granted to any one who has not pursued the usual course of studies required by a legally chartered medical school, shall not be considered as a sufficient qualification under this act.

SECT. III. Any practitioner who may not have a diploma, as provided for in section two of this act, and who may not be qualified, as hereinafter provided, shall have the privilege of applying to the prothonotary of the court of common pleas of the judicial district in which such applicant resides for an examination in the branches of medical science and art, set forth in section one of this act; whereupon it shall be the duty of such court to appoint a committee or committees, consisting each of three respectable practitioners of medicine of the school of practice recognized in this commonwealth, to which such applicant or applicants may profess to belong, and shall fix the time and place of holding such examinations.

Each of said applicants, before being admitted to examination, shall deposit with such committee the sum of fifteen dollars (\$15), which money shall be equally divided among them, for which they shall give a receipt; it shall be the duty of such committee or committees to convene at any time upon the call of an applicant or applicants for examination; it shall be the duty of such committee, when the said applicant is found to be qualified, as set forth in section one of this act, to grant to such applicant a certificate, and said certificate shall be the sufficient license for the person to whom it is granted to open an office in this commonwealth for the practice of medicine, surgery, or obstetrics; it shall further be the duty of such committee to appear before the clerk of such court and take an oath or affirmation that they have not taken and will not receive, directly or indirectly, any other compensation for instituting such examination than that which is herein provided.

SECT. IV. Any person who has attended one full course of lectures in any respectable school of medicine recognized by law, and has been a resident practitioner of medicine, surgery, or obstetrics in this commonwealth five years previous to the passage of this act, is hereby authorized to pursue the same. Any person who has been in the continuous practice of medicine, surgery, or obstetrics for ten years in this commonwealth shall be and is hereby authorized to pursue the same.

SECT. V. Any person who shall attempt to practice medicine or surgery, by opening a transient office within this commonwealth, or who shall, by handbill or other form of written or printed advertisements, assign such transient office or other place to persons seeking medical or surgical advice or prescription, shall, before being allowed to practice as aforesaid, appear

before the clerk of the court of quarter sessions of the county wherein said practitioner shall attempt to practice, and shall furnish satisfactory evidence to such clerk that the provisions of this act have been complied with, and shall, in addition, take out a license for one year, and pay into the county treasury, for the use of such county, the sum of two hundred dollars therefor, whereupon it shall be the duty of such clerk to issue to such applicant a proper certificate of license, on payment of the fee of two dollars for his services: *Provided, however,* that the announcement of name, title, and place of business by card, or announcement of name, title, and place of business in newspaper or other periodical, shall be sanctioned as legitimate, and is so approved by this act.

SECT. VI. Any person violating the provisions of this act shall be deemed guilty of a misdemeanor, and on conviction shall be sentenced to pay a fine not exceeding five hundred dollars, for the use of the county wherein such misdemeanor is committed, or imprisonment not exceeding one year, or both, at the discretion of the court; any person so convicted shall not be entitled to any fee for services rendered, and if a fee shall have been paid, the patient, or his or her heirs, may recover the same as debts of like amount are now recoverable by law.

Approved, the 12th day of April, A. D. 1875.

TEXAS.

Extract from Civil Code of the State of Texas, adopted by the legislature, to take effect from September 1, 1879.

TITLE LXXIII. Physicians. Article 3625. The presiding judges of the district courts of the several judicial districts of this State shall, as soon as practicable, severally appoint a board of medical examiners for their respective districts, which appointment shall be in writing and signed by the judge making the same, and delivered to the person appointed.

Art. 3626. Said board of medical examiners shall be composed of not less than three practicing physicians of known ability, who are graduates of some medical college recognized by the American Medical Association, and who are residents of the district for which they are appointed.

Art. 3627. The appointment of a member of a board of medical examiners shall continue for two years from the date of such appointment.

Art. 3628. The board shall, immediately after appointment, select one of their number president and one secretary, and adopt all necessary rules for the guidance and control of their meetings.

Art. 3629. Said boards shall meet regularly, semi-annually, at some central point in their respective districts, to conduct examinations and grant certificates as hereinbefore provided, and they shall give at least one month's public notice of the time and place of their meeting, by publication in at least one newspaper published in the district in which such meeting is to be held.

Art. 3630. Each and every one of such boards shall procure a seal as soon as practicable after their organization, which seal shall be impressed upon every certificate granted.

Art. 3631. Whenever a vacancy occurs in any of said boards, the same shall be filled by appointment by the judge of the district in which such vacancy occurs.

Art. 3632. It shall be the duty of said board to examine thoroughly all applicants for certificates of qualification to practice medicine in any of its branches or departments in this State, whether such applicants are furnished with medical diplomas or not, upon the following named subjects, to wit: anatomy, physiology, pathological anatomy and pathology, surgery, obstetrics, and chemistry; but no preference shall be given to any school of medicine.

Art. 3633. When the board shall be satisfied as to the qualifications of an applicant, they shall grant him a certificate to that effect, which certificate shall entitle the person to whom granted to practice medicine in any county in this State, when the same has been recorded as required by Article 3635.

Art. 3634. Any two of the members of such board of medical examiners may grant a certificate of qualification to an applicant, and any member of said board shall have authority to grant a temporary certificate to an applicant upon examination until the next regular meeting of the board, at which time the temporary certificate shall cease to be of force.

Art. 3635. The certificate provided for in the two preceding articles shall, before the person to whom it is granted is entitled to practice by virtue thereof, be recorded in the office of the clerk of the county court of the county in which such practitioner may reside or sojourn, in a well-bound book to be kept by the clerk for that purpose; and when so recorded the clerk shall certify thereon under his official seal the fact and date of such re-

cord, and shall return such certificate to the person to whom the same was granted, and shall be entitled to demand and receive for such service, from the holder of such certificate, the sum of one dollar.

Art. 3636. The board shall be entitled to demand and receive from each applicant examined the sum of fifteen dollars, whether a certificate be granted to such applicant or not.

Art. 3637. The provisions of this title shall not apply to the following persons: (1.) To those who may have been already qualified for the practice of medicine under an act entitled An Act to regulate the Practice of Medicine, passed May 16, 1873. (2.) To those who have been regularly engaged in the general practice of medicine in this State or in any of its branches or departments for a period of five consecutive years prior to the first day of January, 1875. (3.) To females who follow the practice of midwifery strictly as such.

Art. 3638. No person, except those named in the preceding article, shall be permitted to practice medicine in any of its branches or departments in this State without having first obtained and recorded a certificate of qualification from some authorized board of medical examiners, as hereinbefore provided; and any person so offending shall be punished as provided in the Penal Code.

Extract from the Penal Code of the State of Texas:—

TITLE XII. Chapter three. Unlawful Practice of Medicine.

Article 396. If any person shall practice medicine in this State in any of its branches or departments, or offer or attempt to practice, without first having obtained a certificate of professional qualification from some authorized board of medical examiners, he shall be punished by a fine of not less than fifty nor more than five hundred dollars.

Art. 397. Each patient visited or prescribed for, or each day's offer to practice, shall constitute a separate offense under the preceding article.

Art. 398. If any person shall hereafter engage in the practice of medicine in any of its branches or departments, without having first filed for record with the clerk of the district court of the county in which such person may reside or sojourn a certificate of professional qualification from some authorized board of medical examiners, he shall be punished as prescribed in Article 396.

Art. 399. The provisions of this chapter shall not apply to any person who has been regularly engaged in the general practice of medicine, or in any of its branches or departments in this State, for five consecutive years prior to January 1, 1875; nor to any person who may have legally qualified himself to practice medicine under the provisions of an act entitled, Act to regulate the Practice of Medicine, passed May 16, 1873; nor to any female who may follow the practice of midwifery strictly as such.

Adopted and went into effect on September 1, 1879.

THE NEW YORK AND BROOKLYN MEDICAL SCHOOLS.

COLLEGE OF PHYSICIANS AND SURGEONS. MEDICAL DEPARTMENT OF COLUMBIA COLLEGE.

SOME important changes are announced at this college. The spring session has been discontinued, and all the exercises of the school henceforth are to take place during one continuous session; so that, instead of a spring session and a succeeding winter session of five months' length, which have hitherto made up the collegiate year, this will now consist of a single session of somewhat over seven months in length, which, beginning with the collegiate year of 1880-81, will commence upon the first of October and end during the first part of May. The only intermissions in the lectures will be for three days at Thanksgiving and one week at Christmas. Thus, for a "required" session of five months and an "optional" session of two and a half months, there will be substituted a "required" session of seven months. This session is not merely an extension of the winter session, with the same amount of stated exercises per week; but the number of didactic and other stated exercises each week has been diminished, at the same time that the course has been lengthened, for the purpose of allowing more time for

laboratory and hospital work, recitations, and private study. This the faculty regards as a very valuable change, since heretofore, owing to the shortness of the session, the student's day has been too crowded for his good with stated exercises.

The omission from the scheme of exercises of several didactic lectures a week will render it possible for the recitations conducted by the corps of examiners to be held almost entirely during the day-time instead of in the evening, as previously. This corps for the ensuing year is as follows: surgery, Dr. John G. Curtis; anatomy, Dr. William T. Bull; physiology, Dr. George B. Fowler; obstetrics and diseases of women and children, Dr. Frank E. Beckwith; chemistry, Dr. Edward G. Love; materia medica and therapeutics, Dr. Charles S. Ward; practice of medicine, Dr. George L. Peabody.

After the first of May, beginning immediately at the close of the course of lectures, the examinations will occur, and the commencement exercises will henceforth be held about the middle of May, instead of at the end of February. As has been the case for some time at this school, all the examinations for the degree of M. D. will be conducted entirely in writing, and no candidate will be allowed to graduate until he shall have passed a satisfactory examination in each and all of the seven branches. The candidate is "conditioned" when the average merit of his thesis and examinations has been satisfactory, while in one or more branches he has been found deficient; in which case he can proceed to his degree only on the condition that he first pass a re-examination in the deficient branch or branches, not sooner than at the next regular semi-annual examination. The candidate is "rejected" when the average merit of his thesis and examination has been unsatisfactory, and in this case he must be re-examined in all the seven branches, although the writing of a new thesis is rarely required.

The college authorities state that the prospects of the institution were never better than at present. The usual prizes are announced, and the first award of the Cartwright Prize of the Alumni Association, which consists of five hundred dollars, and is offered for competition in alternate years with the Alumni Association Prize, will be made at the commencement, 1881. The next award of the Stevens Triennial Prize, which is open for universal competition, but which is given to no essay which does not include the results of original research, will be made in 1882, and the subjects of which either may be chosen are as follows:—

(1.) Lesions of the Brain in Connection with the two Forms of Diabetes.

(2.) Diphtheria in its Relations to Membranous Croup.

Among the changes in the faculty are the following: Dr. William H. Draper has been appointed professor of clinical medicine instead of dermatology, and Dr. George H. Fox has been appointed clinical lecturer on diseases of the skin.

BELLEVUE HOSPITAL MEDICAL COLLEGE.

The changes announced in the curriculum at this school consist mainly of an *obligatory* course of three full sessions at the college, instead of the optional three years' course, of certain requirements for matriculation, of obligatory practical work in chemistry and histology, as well as in dissections, and of more thorough practical training in practice of medicine, surgery,

and gynecology during the last year. When the student has attended two full courses of lectures upon all the subjects taught in the college, and has passed his examinations in materia medica, physiology, anatomy, and chemistry, he is to be brought more closely into contact with cases during his third course, and will be required to begin then to exercise for himself his judgment in the diagnosis and treatment of disease as a final preparation for his professional life. In these clinical exercises the class, which will be divided into sections of convenient size, will be brought directly in contact with patients, and will be required, under the direction of the professors, to diagnose diseases and indicate treatment; while the instruction in surgery will be supplemented with operations on the cadaver performed by members of the class.

The faculty state that for several years they have endeavored to induce students to attend three courses of lectures (passing their examinations in the elementary departments at the close of the second session), and that those who have followed this course have shown in their examinations a grade of qualification so much higher than the standard usually attained by students under the old system that it has been thought advisable to make the three years' course obligatory.

The ordinary matriculation examination will consist of English composition, grammar, arithmetic (including vulgar and decimal fractions), algebra (including simple equations), and geometry (first two books of Euclid); but this examination will be waived in the case of those who have received the degree of A. B., those who have passed the freshman examination for entrance into any incorporated literary college, those who present certificates of proficiency in the subjects of the matriculation examination from the principal or teachers of any reputable high school, and those who have passed a matriculation examination at any recognized medical college, or at any scientific school or academy in which an examination is required for admission.

Among the requirements for graduation are the following: attendance upon three full courses of lectures, the last being at the Bellevue College, certificates of at least one course each of practical anatomy, practical medical chemistry, and practical physiological and pathological histology, and a satisfactory examination in each of the seven regular departments of instruction; the examinations upon practice of medicine and surgery to include diseases of the nervous system, pathological anatomy, ophthalmology, and diseases of the skin. The examinations for students who take the full course of three years are as follows: *First year.* Physics and inorganic chemistry, descriptive anatomy, materia medica. *Second year.* Organic and physiological chemistry, general and surgical anatomy, physiology, therapeutics. *Third year.* Practice of medicine, surgery, obstetrics, and diseases of women and children. The fee for each yearly examination is ten dollars, and before the final examination for the third year candidates must present certificates from recognized teachers of one course of instruction in each of the practical studies mentioned above. Candidates who fail in one only of the branches for examination for the first or second year will be permitted to pass on to the studies of the succeeding year, and to make up the branch upon which they failed in their previous examinations. Candidates who fail in more than one branch in the examinations for the first or second year

will be put back one year, but they will not be required to pay more than the regular fees for the three years.

Graduates of other recognized medical colleges and students who have attended two full courses of lectures or two full years at other recognized medical colleges that have a compulsory graded course, who are candidates for graduation, will be required to pass a full examination at the close of the session upon all branches examined upon for the three years, and all, including graduates of other medical colleges, irrespective of the date of their graduation, will be required to pay the fee for the third year, which is one hundred dollars. Students who have attended one full course or the first year of a compulsory graded course at any other recognized medical college will be admitted as second-year students; but all such will be required to submit to the conditions of the matriculation examination, and to pass, at the end of the session, an examination upon the branches examined upon for the first and second years.

Students are expected to attend all the lectures, including clinics, for the first two years. During the third year they are expected to attend all the clinics, but they may confine their attendance upon the didactic lectures to the branches upon which they are to pass their final examinations; by which means time can be obtained for practical work in the dissecting-room and the chemical and pathological laboratories, and for practical clinical exercises in medicine, surgery, and gynecology. Students are expected to attend regular weekly recitations, held by members of the faculty during each session, in the branches upon which they are to be examined at the close of the session, and for those who attend the full course of instruction at the college for three years the regular examinations at the close of each of the three sessions are obligatory.

Clinical instruction, in connection with the regular didactic courses, will remain as the distinguishing feature of the curriculum, beginning with the first course and continuing without interruption during the entire three years; and great advantages are claimed in this respect on account of the large amount of material at the command of the lecturers. The faculty remains substantially unchanged this year, and there will be the regular winter and spring sessions as heretofore. The present indications are that the incoming class will be but little if at all affected in numbers by the new requirements, although it is probable that there will not be quite so many graduates of other colleges of more than three years' standing in attendance during the session as usual, since these will now be required to pay one hundred dollars for the course of lectures, instead of merely the five dollars matriculation fee, as formerly.

MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE CITY OF NEW YORK.

The University school continues its policy of endeavoring to keep its various departments as fully as possible up to the most modern ideas and methods of teaching and practice. Its building, which was erected at a cost of \$140,000, is the newest of any of the medical colleges, and is fitted up with the most approved appliances for instruction and practical study; while it has the same advantage as the Bellevue School of proximity to the great Bellevue and Charity hospitals. The comfort and health of the students are also a mat-

ter of solicitude on the part of the faculty, who do all that they can to secure to them "sound minds in sound bodies." The system of weekly examinations by the various professors, which was established three years ago, has produced such good results in improving the preparation of the students for their work that they will be continued during this winter; while the method of written examinations for the degree of M. D., which was followed in some of the departments at the close of the last session, was found to be so satisfactory both to the students and the professors that it will be adopted in all the departments hereafter. It is believed that this gives the student a much better opportunity to do justice to his knowledge than the plan of oral examinations. With a view to the establishment of a systematic, graduated scheme of tuition, students who have attended two full courses of lectures, and who have completed two years of study, may be admitted to examination in chemistry, anatomy, and physiology, and, if successful, will be examined in practice, materia medica and therapeutics, surgery and obstetrics, at the expiration of their full course of study; but those who prefer it may have all their examinations at the close of their full term.

In order to stimulate the efforts of the students, three prizes, in addition to the Mott medals, are to be given by the faculty at the close of the present session, namely:—

I. A prize of five hundred dollars to the candidate whose general scholastic standing is the highest, as shown by the record of his final examination for the degree of M. D.

II. A prize of five hundred dollars to be awarded to the candidate who shall pass the best competitive examination in the seven general departments, the conditions being as follows:—

(1.) Each competitor must have attended two or more full courses of lectures in the University.

(2.) The faculty will select from the graduating class ten candidates, whose marks for the degree are the highest, and only these will be permitted to enter into the competition.

(3.) These examinations shall be conducted in public, and they may be oral or written, at the discretion of the faculty.

(4.) The candidate who receives the first-named prize for general scholastic standing shall not be allowed to compete for this prize or the following.

III. A prize of two hundred dollars will be awarded to the candidate who shall pass the second-best examination in the above competition.

The prospects of the college appear to be very encouraging, and the dean of the faculty expresses the opinion that the class of last session, which consisted of over six hundred students, and was the largest medical class in the United States, bids fair to be even outnumbered by that of the present session. Dr. James L. Little, heretofore connected with the College of Physicians and Surgeons, now assumes the position of clinical professor of surgery in the faculty of the post-graduate course at the University. The collegiate year is divided, as before, into three sessions,—the spring session, the preliminary winter session, and the regular winter session,—the whole embracing a period of about eight and a half months. The spring session is devoted to clinical teaching, lectures on various "specialties," and recitations, and it extends for nearly three months after the close of the winter session; while the

preliminary winter session occupies the two weeks preceding the opening of the regular session. The lectures in this term, both clinical and didactic, are the same in number and order as during the winter session, and are given by the professors of the regular and post-graduate faculties; the subjects of the lectures being introductory to those of the regular course. The post-graduate course consists of clinical lectures delivered during the winter and spring sessions by the several professors of the post-graduate faculty, in Bellevue and Charity hospitals and in the college.

LONG ISLAND COLLEGE HOSPITAL, BROOKLYN.

The faculty of this institution have carried out many changes during the last few years, and it is claimed that great progress has been made, so that the course of study is believed to be as complete as any in the country. "In the Long Island College Hospital," says Prof. Jarvis S. Wight, in the last introductory lecture delivered at the school, "we divide our class of advanced students into as many sections as we have practical departments. One section is drilled one week in one department, and another week in another department, and so on through all the departments again and again. In the mean time every other section is going through the same process of rotation. The stethoscope and the tape-line are put into the hands of the student. He listens and measures; he studies the clinical facts of medicine and surgery on the living subject; and day after day he works the substance of these facts into his mental constitution. He observes, he thinks, he educates himself,—and this is the way doctors are made in these halls. In this place there is no royal road to the profession, any more than there is a royal road in the profession. And when men who have been well drilled in this kind of clinical medicine come up for their final examination we find that they have their professional house built on a rock, and that their work after they leave this place is honorable, salutary, and safe. . . . We have established a three years' course of recitations and lectures. During one half of the collegiate year the student is drilled in the elements of medicine by competent teachers. During the other half of the collegiate year the student hears lectures and is daily examined on what he learns. And when the student has mastered the elements of medicine he is taught clinical medicine in the way already described. This simple and efficient plan of instruction has been in operation in this school for a number of years. The success has been very encouraging. We began this system with only about five students. The number has increased from year to year, until we have now about fifty students pursuing a systematic three years' course of study."

The Long Island College Hospital was organized for the purpose of practically uniting a hospital and a medical school, and the founders have matured the plan and practically carried it out to an extent which they believe unequalled by any other school in this country. The success of this plan, it is thought, depends mainly on two important factors:—

(1.) The hospital is under the immediate control of the regents and council of the college, and is therefore available at all times for practical instruction.

(2.) The courses of instruction are given in the hospital building, so that the student, without loss of time, is brought in direct contact with the patients.

The faculty claim that they are "thus able to make

clinical teaching a *reality* in the only possible way in which it can be of practical value to the student, namely, by cultivating his faculties of observation *at the bedside*. Mere amphitheatre teaching must, from the very nature of clinical study, fail to accomplish work that can only be done in the wards of a hospital."

The collegiate year embraces a reading and recitation term (which begins this year October 4th), and a regular session (which begins February 2, 1881) and continues five months; but only the regular session is obligatory upon candidates for graduation. The students of the reading term are classified in three grades, each grade corresponding to one year's study.

Grade 1. Students who have studied one year, and attended the full reading and regular sessions, may be admitted to the regular examinations on elementary chemistry, osteology, normal histology, and materia medica.

Grade 2. Students who have attended both courses for two full years may be admitted to such of the above examinations as they have not already passed, and also to examination on descriptive anatomy, physiology, therapeutics, analytical chemistry, and general pathology.

Grade 3. Students who have passed successfully the examinations of grades one and two shall belong to the third grade. About one half the students now attend this full three years' graded course; but it is the intention of the council and faculty to make this course (which is at present voluntary and elective for the student) at an early period a *requirement* for graduation.

For the purpose of carrying out more fully the objects of clinical instruction, and thereby perfecting the system of *demonstrative* teaching, the faculty have adopted the plan of dividing the senior class into sections of ten or more, who accompany the clinical teacher in his daily hospital service; and by this plan of constant rotation of classes from the medical to the surgical wards of the hospital they believe that the student receives the largest possible amount of instruction daily in all the practical branches. This mode of teaching, it is claimed, is peculiar to the Long Island College Hospital. The faculty also adhere to daily class examinations, having found by experience that the plan of constant class-room drill encourages exact knowledge and habits of close attention; while in its practical results it is superior to the system of lectures alone.

The registrar of the college writes, "The outlook for our school is better to-day than ever before. We mean real reform in medical education, and time will vindicate us."

MEDICAL SCHOOLS OF PHILADELPHIA.

AMONG the world's great medical centres of modern times Philadelphia has for many years occupied an important and influential position. Nearly twenty thousand physicians have graduated in that city. To Philadelphia belongs the honor of having established the first medical school upon this continent. In 1765 the Medical Department of the University of Pennsylvania was organized by Drs. John Morgan and William Shippen, under the authority of the board of trustees of the university and the recommendation of the proprietary of the State. It was closely modeled upon the methods pursued at the University of Edinburgh, the trustees declaring that "their scheme of

medical education was to have as extensive and liberal a plan as in the most respectable European seminaries, and that the utmost provision was made for rendering a degree a real mark of honor, the reward only of distinguished learning and abilities." In order to show how sincere were these strivings for higher medical education we quote the requirements that were then thought essential in order to obtain the degree of doctor in medicine. It was enacted "that all such students as have not taken a degree in any college shall, before admission to any degree in physic, satisfy the trustees and professors of the college concerning their knowledge of the Latin tongue, and in such branches of mathematics, natural and experimental philosophy, as shall be judged requisite to a medical education." Two grades of degrees in medicine were established. For the lower of these, that of bachelor of medicine, the student was required to serve a sufficient apprenticeship with some reputable physician; to have a general knowledge in pharmacy; to attend at least one complete course of lectures, and to follow the practice of a general hospital for one year. After having shown his fitness at a private examination, he was then admitted to a public examination for the bachelor's degree. To obtain the degree of doctor of medicine it was necessary that the applicant should have been a bachelor of medicine for at least three years, should have attained the age of twenty-four years, and should write and defend a thesis publicly in the college.¹

Owing to many circumstances beyond the control of the trustees and faculty, or the pressure of circumstances too powerful to be successfully resisted, the requirements for the degree in medicine, in the course of years, were gradually made less stringent by the authorities, but they have always succeeded in maintaining a relatively high standard among medical schools of this country for the Medical Department of the University of Pennsylvania. In 1876 the term of study was extended from two years to three, and the course was graded. At the present session a further reform and great step in advance was made by re-establishing the preliminary examination, or requiring in lieu thereof the presentation of a certificate of graduation or an academical degree, as an evidence of fitness for entering upon the medical studies.

Jefferson Medical College was chartered in 1825, as the Medical Department of Jefferson College at Canonsburg, Penn. It has long outlived the parent institution, but continues to flourish under its university charter, the right to which it usually asserts once a year by granting honorary degrees of doctor of divinity, and more rarely of doctor of laws, to distinguished individuals recommended by the board of trustees, but no honorary degree in medicine is ever granted by Jefferson College, upon the occasion of the annual commencement. Jefferson College for many years has been in a most flourishing condition, and claims to have at the present time a larger number of living graduates than any other college in the country, and certainly has a larger number of students now in attendance upon the lectures than any other American college.

Both of the above-named institutions have large general hospitals connected with them which are well adapted to their purpose, commodious, clean, and well

ventilated, and furnished with the latest appliances for the treatment of the sick and maimed and for clinical teaching. In all, Philadelphia has twenty hospitals and at least ten dispensaries, and thirty-eight other charitable institutions with which infirmaries are connected; many of these are devoted to specialties. Before considering the curriculum of the schools more in detail, it is proper to devote some attention to the Pennsylvania Hospital, which has served a highly useful purpose, and taken an honorable part in the history and development of medical education in this country. In 1751, through the persistent efforts of some charitably disposed citizens, a charter was obtained from the proprietary for a hospital for "the sick poor and the reception and cure of the insane," which was opened in this city in 1752. This institution has always been characterized by the economical management of its funds, and the faithfulness of the officers charged with the administration of its important trusts. Upon its staff have been some of the most prominent physicians and surgeons in Philadelphia. Early in its existence the clinical material found in the wards was utilized for the benefit of science. Attracted to the hospital by its growing reputation, even before the establishment of the medical department of the university, students were found in attendance upon the practice of the house. Dr. John Fothergill presented, in 1762, a medical book to the hospital "for the benefit of the young students in physic, who may attend under the direction of the physicians;" this book afterwards was the nucleus of a library, which is now one of the great medical libraries of this country, the Medical Library of the Pennsylvania Hospital. The hospital, before the establishment of the regular schools, took "apprentices," as they were called, and subsequently gave them a certificate of attendance upon the practice of the house. At the present time free medical and surgical clinics are held twice a week for students from the University and Jefferson Colleges and physicians, on Wednesday and Saturday from ten to twelve o'clock, and there is also a clinic to female students from the Woman's College, on Tuesday mornings throughout the winter session at the college. The insane department of Pennsylvania Hospital stands among the first of institutions of its kind. Its two large buildings are situated in about forty acres of ground in the western part of the city, and are under the care of Dr. Kirkbride and his able assistants.

The medical schools of Philadelphia at present are that of the University of Pennsylvania, Jefferson College, and the Woman's Medical College of Pennsylvania. The schools devoted to special departments of medicine are the Philadelphia School of Anatomy, the Pennsylvania School of Anatomy, the Philadelphia College of Pharmacy, the Pennsylvania College of Dental Surgery, the Philadelphia Dental College and School of Oral Surgery, and the Dental Department of the University of Pennsylvania. At the Nurse's Home, or, as it is technically styled, The Philadelphia Lying-In Charity and Nurse Society, besides the training of nurses, two very practical courses of illustrated lectures on midwifery are given during the winter by the principal physicians, Drs. J. G. Allen and Albert H. Smith.

At the hospital connected with the Woman's Medical College there is an admirable training-school for nurses. In considering the opportunities for special instruction, it should not be forgotten that daily clinics

¹ From an Address on Higher Medical Education the True Interest of the Public and of the Profession. By William Pepper, Professor of Clinical Medicine, University of Pennsylvania. Philadelphia, 1877.

are held at the Will's Eye Hospital; and at the Philadelphia Orthopaedic Hospital and Infirmary for Nervous Diseases clinics are regularly held by the attending physicians and surgeons.

THE UNIVERSITY OF PENNSYLVANIA.

The University of Pennsylvania occupies over twenty acres of elevated ground upon a commanding site in West Philadelphia, one half of this ground being devoted to the medical department; it has situated upon it the Hall of the Department, the Laboratory Building, and the University Hospital. The architecture is modern and harmonious in design, and appropriate and attractive in appearance. The following is the *personnel* of the faculty as at present constituted:—

Charles J. Stillé, LL. D., Provost of the University and *ex officio* President of the Faculty; Henry H. Smith, M. D., Emeritus Professor of Surgery; Joseph Leidy, M. D., LL. D., Professor of Anatomy; Richard A. F. Pearce, M. D., LL. D., Professor of Obstetrics and Diseases of Women and Children; Alfred Stillé, M. D., LL. D., Professor of Theory and Practice of Medicine, and of Clinical Medicine; D. Hayes Agnew, M. D., LL. D., John Rhea Barton Professor of Surgery and of Clinical Surgery; William Pepper, M. D., Professor of Clinical Medicine; William Goodell, M. D., Professor of Clinical Gynecology; James Tyson, M. D., Professor of General Pathology and Morbid Anatomy; Horatio C. Wood, M. D., Professor of Materia Medica, Pharmacology, and General Therapeutics; Theodore G. Wormley, M. D., LL. D., Professor of Chemistry; John Ashhurst, Jr., M. D., Professor of Clinical Surgery; Harrison Allen, M. D., Professor of Physiology. Professor James Tyson, M. D., is the Secretary of the Faculty.

The curriculum of the graded course is arranged as follows:—

First year. Anatomy, Histology, Materia Medica and Pharmacy, General Chemistry, Physiology, General Pathology, General Clinics—Medical and Surgical. Final examinations at the end of the course: General Chemistry, Materia Medica, and Pharmacy.

Second year. Anatomy, Topographical Anatomy, Medical Chemistry, Physiology, General Pathology and Morbid Anatomy, Therapeutics, Theory and Practice of Medicine, Surgery, Obstetrics, General Clinics—Medical and Surgical. Final examinations at the end of the course: Anatomy, Medical Chemistry, and Physiology.

Third year. General Pathology and Morbid Anatomy, Topographical Anatomy, Therapeutics, Theory and Practice of Medicine, Surgery, Obstetrics, Operative Surgery, Minor Surgery and Bandaging, Diseases of Women and Children.

Opportunities for practical work in the physiological laboratory will be afforded to those who desire them. A separate fee is charged.

Gynecology, Bed-side Instruction in Practical Medicine (including Physical Diagnosis), Bed-side Instruction in Practical Surgery, Practical Ophthalmology, Practical Otolaryngology, Practical Dermatology, Practical Electro-Therapeutics, General Clinics—Medical and Surgical. Special Clinics (Nervous Diseases, Diseases of Skin, Eye, Ear, Diseases of Women and Children).

Final examinations for degree at the end of the course: General Pathology and Morbid Anatomy, Therapeutics, Theory and Practice of Medicine, Surgery, Obstetrics, and Diseases of Women and Children.

No beneficiary students are received at the University of Pennsylvania, nor is the secretary at liberty to receive students at reduced rates, except in the case of the six successful applicants for the scholarships created by the board of trustees. These are open to competitive examination by applicants, provided, (1) that they are able to furnish satisfactory evidence that they are without the means to defray the expenses of a medical education; (2) to write a brief autobiography, not exceeding a page of foolscap, which will serve as a test of their qualifications in orthography and grammar; and (3) to pass an examination in a Latin prose translation (first three books of Caesar), and an examination

in elementary physics. This examination is held annually in September.

The faculty express great satisfaction with the results of the lengthening of the term and grading the course; it is claimed that the students are better taught, they seem of a higher order of intelligence, and finally that the classes are increasing rather than diminishing in members. The faculty have also established a post-graduate course, which embraces Practical Physiology, taught by Dr. Edward T. Reichert; Medical Chemistry, by Professor Wormley; Pathology, by Dr. H. F. Formad; Clinical Medicine, by Professor Pepper and Dr. Edward T. Bruen; Clinical Medicine, by Professor Tyson; Clinical Surgery, by Professor Ashhurst; Clinical Surgery of Children, by Professor Ashhurst and Dr. H. R. Wharton; Operative Surgery and Bandaging, by Dr. C. T. Hunter; Practical Obstetrics, by Dr. Elliot Richardson; Clinical Gynecology, by Dr. B. F. Baer; Diseases of the Nervous System, including Electro-Therapeutics, by Dr. Charles K. Mills; Diseases of Children, by Dr. John M. Keating; Diseases of Children (Children's Hospital), by Dr. Louis Starr; Ophthalmology, by Dr. S. D. Risley; Dermatology, by Dr. A. Van Harlingen; Otolaryngology, by Dr. W. M. L. Ziegler; Laryngoscopy, by Dr. Carl Seiler; and Venereal Diseases, by Dr. J. William White. A fee ranging from fifteen to twenty-five dollars is charged for instruction in each of these special departments. The Laboratory Building is a spacious building of four floors, the first being devoted to operative dentistry; the second and third are fitted up as chemical laboratories; while the fourth contains apartments for physiological, histological, and pathological investigation. There is also a pharmaceutical laboratory, and one of experimental therapeutics, supplied with the usual instruments for recording pathological conditions and the effects of medicines upon the system. The attendance of the students upon the laboratory courses is compulsory. Before commencing dissecting the student is obliged to attend the osteo-syndesmiological laboratory, in order to make himself familiar with the bony skeleton before operating upon the cadaver.

At the last session the total number of matriculants was three hundred and forty-seven, and ninety-one were graduated last spring. So far this fall the number in attendance is greater than at a corresponding period last year. The following are the requirements for graduation:—

(1.) For admission to the session of 1880-1881, the candidate will be required to pass the preliminary examination. Students may report to the secretary for examination at any time after the second Monday in September.

(2.) Students who have attended one course in a regular¹ medical school will be admitted as students of the second course in the University of Pennsylvania, after having satisfactorily passed an examination in general chemistry and materia medica and pharmacy. Students who have attended two courses in a regular medical school shall be admitted as students of the third course in this institution, after having satisfactorily passed an examination in general and medical chemistry, materia medica and pharmacy, anatomy, and physiology.²

Graduates of other regular medical schools in good standing will be admitted as students of the third course without an examination.

Graduates of colleges of pharmacy and dental colleges in good standing are admitted to the second course without an examination.

(3.) The candidate for the degree of doctor of medicine must have attained the age of twenty-one years, and be of good moral

¹ Homoeopathic and eclectic schools are not recognized as being in this category.

² These examinations for admission to advanced standing in the next year will be held on Thursday, September 25, 1880, at 12 M.

character. He must have applied himself to the study of medicine for three years, and have attended at least his last course of instruction in this school; have prepared a satisfactory thesis,¹ and have passed the required examinations.

(4.) When a candidate applies to the secretary of the faculty for examination, he must give satisfactory evidence that the above rules have been complied with.

(5.) Candidates who have not been successful upon a first examination will be permitted to have a second before the June commencement.

(6.) The candidate shall pay the graduation fee on the presentation of his thesis, or before receiving notice of having successfully passed his final examination. Upon receiving such notice, he will enter his name on the register for the purpose of being reported to the board of trustees.

(7.) Candidates who have passed their examination, and in other respects complied with the regulations, are reported by the secretary of the faculty to the provost of the university, who communicates such report to the board of trustees, in order that, if approved of by them, their mandamus may be issued for conferring the degree.

(8.) The commencement for conferring the degree of doctor of medicine is held on the 15th day of March, unless that day should fall on a Saturday or Sunday, when it is held on the preceding Friday.

(9.) The degree will not be conferred upon a candidate who absents himself from the public commencement, except by special permission of the medical faculty.

In regard to the arrangement of sessions, the announcement is as follows:—

The winter session, upon which alone attendance is obligatory, begins on Monday, the 4th day of October, and ends on the last week-day of February ensuing.

The preliminary session begins on the second Monday in September (13th), and ends on the Saturday preceding the day of opening of the winter session.

The spring session begins on the first Monday in April, and ends about the middle of June.

The entire college expenses for the three years' course is \$435, including matriculation and graduating fees.

JEFFERSON MEDICAL COLLEGE.

The buildings of Jefferson College are situated in the central part of the city (near Tenth and Walnut Streets), and consist of a medical hall, a new laboratory building, and a new hospital.

The medical hall contains two large lecture rooms, each capable of seating over six hundred students; they are spacious, well lighted and ventilated. A valuable anatomical, surgical, and pathological museum, rooms for practical pharmacy and experimental therapeutics, as well as the private rooms for offices for the faculty, are also included in this building. The laboratory building is immediately adjoining the medical hall, and communicates directly with it. The first floor is devoted to chemical and philosophical apparatus, the second to laboratory teaching of chemistry, and the third to demonstrations of experimental physiology and microscopy. It also contains a large room for operative and minor surgery. The different departments are all efficiently equipped for scientific work.

The new hospital of the Jefferson Medical College is situated immediately west of the college, fronting on Sanson Street, and is bounded on three sides by streets, and by a wide private passage-way on the fourth side. It is one hundred and seven feet square, five stories in height, and is designed for the easy ac-

commodation of one hundred and twenty-five patients. In connection with the hospital is the out-door or dispensary department, which furnishes much valuable material for clinical instruction.

The faculty of the college comprises the following professors: Joseph Pancoast, M. D., general, descriptive, and surgical anatomy (*emeritus*); Samuel D. Gross, M. D., LL. D., D. C. L. Oxon., LL. D. Cantab., institutes and practice of surgery; Eilerslie Wallace, M. D., obstetrics and diseases of women and children; J. M. Da Costa, M. D., practice of medicine; William H. Pancoast, M. D., general, descriptive, and surgical anatomy; Robert E. Rogers, M. D., medical chemistry and toxicology; Roberts Bartholow, M. D., materia medica and general therapeutics; Henry C. Chapman, M. D., institutes of medicine and medical jurisprudence. Professor Wallace is the dean of the faculty. [Prof. William Thompson, M. D., is the ophthalmic surgeon of the hospital; William S. Forbes, M. D., is demonstrator of anatomy; J. Ewing Mears, M. D., demonstrator of surgery; J. Gibbons Hunt, M. D., demonstrator of histology; G. Mason Ward, M. D., demonstrator of chemistry; Morris Longstrech, M. D., demonstrator of pathological anatomy, and curator of the hospital museum; and A. P. Brubaker, M. D., has been appointed demonstrator of physiology, and curator of the anatomical museum.]

The requirements for graduation are as follows:—

I. The candidate for the degree of M. D. must be of good moral character, and at least twenty-one years of age. He must have attended at least two full winter sessions of lectures, one of which, the last, shall have been in this college, and must exhibit his tickets, or other adequate evidence of attendance, to the dean of the faculty.

He must have studied medicine for not less than three years, and have attended at least one course of practical anatomy and of clinical instruction. He must present to the dean of the faculty a thesis of his own composition, correctly written, and in his own handwriting, on some medical subject, and exhibit to the faculty at his examination, satisfactory evidence of his professional attainments.

II. Students who have attended one complete course in a respectable medical school, where attendance on two complete courses is necessary to a degree, and where the same branches are taught as in this, are permitted to become candidates by an attendance here on one full course, the rules of graduation being in other respects observed. They are also exempted from the payment of fees upon attending a second term.

Students of dental colleges, where a five months' winter session is held, and where full courses are given on anatomy, materia medica, physiology, and chemistry, may become candidates after attendance on two courses at such colleges, and one full course at the Jefferson Medical College, with two courses on surgery, practice of medicine, and obstetrics.

Students of colleges of pharmacy, where full courses are given on materia medica and chemistry, may become candidates after attendance on two courses at such colleges, and one full course at the Jefferson Medical College, with two courses on anatomy, surgery, practice of medicine, physiology, and obstetrics.

III. Students who have attended two full courses on anatomy, chemistry, materia medica, or institutes may be examined on any of these branches, at the end of their second course. They are thus enabled to devote their last (third) course to the didactic lectures on the remaining branches, and to clinical study. The faculty record with satisfaction the large and increasing number of students who now avail themselves of these examinations, and who attend three courses of lectures before presenting themselves as candidates for graduation. The attendance upon the summer course of lectures has also greatly increased in numbers, and the faculty earnestly recommend all who have it in their power to use these improved facilities for a complete medical education.

No *honorary* degrees in medicine are granted.

IV. The degree will not be conferred upon any candidate who absents himself from the public commencement without the special permission of the faculty.

Fee to each professor, twenty dollars, in all, one hundred and forty dollars. Matriculation fee five dollars, to be paid once only. Graduation fee thirty dollars. Students who have paid for two full courses are entitled thereafter to attend free of all charge.

V. Students who have attended two full courses of lectures in other accredited medical colleges are entitled to the tickets of a full course in the Jefferson Medical College for seventy dollars. Graduates of three years' standing of other accredited medical colleges are required to pay the matriculation fee only;

¹ The thesis must be in the candidate's own handwriting, and should be written on thesis paper, the alternate pages being left blank. It is recommended that the candidate prepare his essay before the commencement of the last course of lectures. It should also be bound. A thesis may be published by the candidate if he desires it, the permission of the professor by whom he was examined thereon having been first obtained; but no alteration shall be made in such thesis without the consent of the said professor.

to graduates of less than three years' standing the fee for a general ticket is fifty dollars. To graduates of accredited dental colleges and colleges of pharmacy the fee for a general ticket is one hundred dollars.

A preliminary course of lectures is given in September, the regular term commencing annually with the first week in October, and continuing until the close of February following. There are several courses of special instruction which should be mentioned. The demonstrator of anatomy and the demonstrator of surgery each give two illustrated lectures a week in the evening during the winter, spring, and fall sessions. The large anatomical rooms are open daily from eight A. M. to ten P. M.; a full supply of material is furnished at the rate of one dollar per part.

The working laboratory for practical chemistry, under the supervision of the professor of chemistry, aided by the demonstrator of chemistry, is open twice a week during the winter and spring courses. The student is here taught to manipulate for himself in the preparation of gases, acids, salts, etc., and to test and trace reactions, to perform qualitative and quantitative analysis, to examine normal and abnormal products, and to become familiar with those instruments, such as the microscope, the galvanic battery, etc., which are useful in the hands of the medical practitioner. In connection with this the demonstrator, Dr. G. M. Ward, holds weekly examinations upon the didactic lectures by the professor of chemistry. The fee for the courses is five dollars, and for the use of apparatus and chemicals one dollar and a half. The laboratory which pertains to the chair of physiology is under the immediate charge of a demonstrator, who conducts vivisections and assists advanced students in original investigation. The micro-cop laboratory is amply provided with microscopes and other appliances for thorough practical instruction, and is under the charge of Professor J. Gibbons Hunt, demonstrator of histology.

Lectures upon pathological anatomy are given by Dr. Morris Longstreth, pathologist to the hospital, who also gives instruction in the post-mortem room of Pennsylvania Hospital, opportunities being given for the students to be present at the autopsies.

Professor Bartholow has instituted this year an original plan in connection with his lectures for teaching therapeutics and materia medica. He has appointed an instructor in pharmacy (Dr. J. Mason McCollin), one in materia medica (Dr. N. K. Minich), and one in therapeutics (Dr. Frank Woodbury) to conduct a series of demonstrations and examinations during the winter upon these branches, for which they are abundantly supplied with material and the proper apparatus of precision. Experimental therapeutics will also be carried on by advanced students interested in original studies of the action of drugs upon the lower animals. For these several departments no fee is charged beyond a small one for material furnished. This promises to be quite popular among the students.

The clinics at the new hospital and at the Pennsylvania Hospital are in the neighborhood.

At the close of the winter session a spring session is held, beginning on the fourth Monday in March and lasting to the middle of June, embracing the following subjects:—

Clinical Surgery and Medicine, by the hospital staff; Clinical Lectures at the Pennsylvania Hospital, Professor Bartholow; Physiology and Comparative Anatomy, Professor H. C. Chapman; Electro-Therapeutics, ———; Diseases of the Urino-

Genital Organs, Dr. S. W. Gross; Operative Surgery, Dr. J. H. Brinton; Ophthalmic Surgery, Professor William Thomson; Venereal and Cutaneous Diseases, ———; Laryngoscopy and Diseases of the Throat, Dr. J. Solis Cohen; Anatomy, Dr. William S. Forbes; Physical Diagnosis, Dr. J. Gibbons Hunt; Microscopy, Dr. J. C. Wilson; Pathological Anatomy, with demonstrations, Dr. Morris Longstreth; Diseases of Children, Dr. W. B. Atkinson; Toxicology, Dr. H. Leffmann; Urinary Pathology, Dr. Jos. S. Neff.

Attendance upon the summer course is allowed as office instruction, but does not count as a "session" of lectures.

There is no additional charge for the spring course of lectures to matriculates of the college, except a registration fee of five dollars. Non-matriculates pay the registration fee, and also \$35, *which latter sum is, however, credited on the amount of fees paid for the ensuing winter course.* And, while attendance on the fall or spring courses is not obligatory for graduation, the faculty earnestly recommend the student to avail himself of the advantages which are to be derived from these especial instructions.

The fees for the Jefferson College are matriculation five dollars, professors' tickets (\$20 each) \$140 (for the term \$280, no charge after the second term), graduation \$30. Total, \$315.

THE WOMEN'S MEDICAL COLLEGE.

This institution was chartered in 1850, since which time annual sessions have been held, and nearly three hundred ladies have been graduated in medicine. The college, situated in the northern part of the city, has a modern, commodious building, containing two large lecture rooms (seating three hundred each), and also large laboratories for chemical and pharmaceutical classes, dissecting, and for the museum. The sessions open in October and close at the end of February. A spring course is also held, which is free.

Early in the career of this college its authorities inaugurated the graded system of teaching, and established a chair of dental physiology and pathology, and a department of practical pharmacy; thus furnishing facilities for work in the pharmaceutical and chemical laboratories, which are kept open both during the winter and spring sessions. Lectures on histology and pathology are given weekly through the entire winter, with training in the use of the microscope. Among the features peculiar to the college may be specified the course in the pharmaceutical laboratory. Without additional fees regular weekly examinations are held through both winter and spring sessions. The college has an excellent though small library.

The Women's Hospital, in immediate proximity to the college, is a large, well-appointed building, admirably adapted for its purpose.

The faculty of the Women's Medical College, with the auxiliary instructors, is as follows:—

Mary J. Searlett-Dixon, M. D., Professor of Anatomy; Rachel L. Bodley, M. D., Professor of Chemistry and Toxicology; Benjamin B. Wilson, M. D., Professor of Surgery; Clara Marshall, M. D., Professor of Materia Medica and Therapeutics; Frances E. White, M. D., Professor of Physiology and Hygiene; Anna E. Broomall, M. D., Professor of Obstetrics and Gynecology; James B. Walker, M. D., Professor of Practice of Medicine; Alice Bennett, M. D., Demonstrator of Anatomy, etc.; J. Gibbons Hunt, M. D., Professor of Microscopy and Histology; C. Newlin Peirce, D. D. S., Professor of Dental Physiology and Pathology; W. W. Keen, M. D., Lecturer on Clinical Anatomy; Jos. B. Remington, Ph. G., Lecturer on Pharmacy; Edward T. Bruen, M. D., Lecturer on Pathology; Anna McAllister, M. D., Instructor in Obstetrics; Mary E. Allen, M. D., Demonstrator of Chemistry; Amy S. Barton,

M. D., Instructor in Practice of Medicine; Emilie B. Dubois, M. D., Instructor in Materia Medica; Hermann Haupt, Jr., M. D., Instructor in Physiology. Professor Rachel L. Bodley is Dean of the Faculty.

The whole cost of two or more courses of lectures and fee for graduation is \$265. Attendance upon two courses of lectures is required, the last to be at this college, and the candidate must have been engaged in the study of medicine for at least three years.

The advantages of Philadelphia as a medical centre need not be enlarged upon. The cleanliness and healthfulness of the city, the abundant supply of good water and good food at moderate prices, its convenience of location, and many attractions to the visitor can here only be mentioned. It can also be said with truth that its moral atmosphere (by no means an unimportant consideration "to parents and guardians") is rather better than some other large cities. As concerns its special inducements to medical students, which continue to attract them from all parts of the continent, we have very imperfectly indicated some of the more prominent of them. If the tree may be judged by its fruit, the profession can have no reason to complain of Philadelphia or her ancient halls of learning in regard to the quality of the instruction imparted by her distinguished teachers.

JOHNS HOPKINS UNIVERSITY.

COURSE ANTECEDENT TO THE STUDY OF MEDICINE.

THE Johns Hopkins University provides a special collegiate course for those who intend afterwards to study medicine. This course extends throughout three years, and, as a mental discipline, is equivalent to the other courses leading to the A. B. degree, which is therefore conferred on matriculated students who complete it. The main object held in view is to utilize for intending medical students the opportunities for practical study in physics, chemistry, and biology, found in an endowed institution with well-equipped laboratories, and so often wanting in medical schools; it is also considered an object to lessen the work to be subsequently crowded into the period of study at a medical school by giving the student a good knowledge of the sciences which lie at the basis of the medical art before he commences professional study. Physics, chemistry, and biology are therefore the main subjects included in the course; some knowledge of French and German is also demanded; and there are, in addition, several subjects (inserted with a view to giving some breadth of culture) between which an option is allowed. These are Latin, Greek, mathematics, English literature, history, logic, and psychology. Each student must take up at least two of these optional subjects, the amount of knowledge required in each being such as would be obtained by a year's honest work.

The scientific subjects are taken up in the following order:—

1. PHYSICS.

There will be three recitations, two lectures, and one exercise in the physical laboratory, weekly, through a year, at ten A. M.

Elementary mechanics will be studied during the first portion of the year; then will follow, in the order named, the study of the physical properties of matter, theory of undulations, acoustics, heat, magnetism, electricity, and light.

The lectures have as their aim the elucidation, by means of

experimental demonstrations, of the subjects pursued by the class.

A morning of each week will be assigned for the work in the laboratory. This work will be selected with two principal ends in view: first, to give the student a clearer insight into the subjects studied, serving as a test of progress both to teacher and learner; and, second, to enable him to acquire a familiarity with the use of apparatus. The manner of conducting the exercise will be as follows: With the enunciation of a problem, each student will receive the apparatus necessary for its solution, and will be required to make the series of observations which, with their discussion and reduction, he is to submit to his instructor. These results will then be criticised and returned. Those who are aiming at the profession of medicine will thus grow familiar with physical instruments and methods which are of prime importance in physiological researches, for example, thermometry, the laws governing the phenomena of electricity, of light, etc. A knowledge of trigonometry is in all cases requisite before entering on this course.

II. CHEMISTRY.

The course of lectures and recitations on general chemistry is in progress through the year, at nine A. M. Students of this course are expected to attend all these exercises during the first year, and during the last half of the first year and the first half of the second year to work daily in the chemical laboratory. The instruction in the laboratory will be directed in such a way as seems best adapted to give the student a thorough knowledge of the pure science of chemistry and the methods peculiar to it. This kind of instruction is considered to be the best basis, whatever the object may be which the student has in view.

At first the student will have to make himself acquainted with the action of the various classes of substances upon each other by actual observation at the laboratory desk; and his knowledge will be constantly tested by means of appropriate problems given him for solution. After completing this course, he will be enabled further to test his acquirements by taking up a course of qualitative and quantitative analysis. At intervals during the time he is engaged in this work, he will be required to prepare some chemical compounds in a pure state, so that his ideas concerning chemical action may become enlarged, and his knowledge of the special properties of the different classes of compounds more definite and detailed.

Opportunity is given in the laboratory for the prosecution of the study of chemistry to any extent, but generally the course thus briefly sketched will suffice for one who looks toward a course in medicine.

III. BIOLOGY.

The study of biology will begin in the second year, that is to say, after the student has made considerable progress in the study of physics and chemistry, and will continue through the third year. Those who have acquired elsewhere sufficient knowledge of the above subjects to satisfy the examiners may be at once admitted to work in the biological laboratory.

The course is designed to give the student, in the first place, a knowledge of the laws of life in general, whether exhibited in animals or plants; and, secondly, a knowledge of human anatomy and physiology. Human physiology is taught as a part of general physiological science, the student being left to acquire afterwards its clinical and hygienic applications as part of his medical studies proper; and similarly surgical and regional anatomy are left for the medical school proper; the student in this course studies the human body as the final one in a series of animal types.

It is believed that by approaching these sciences from a general scientific stand-point the student is best prepared for the study of pathological structure and function; and that a great advantage will result from his being able to concentrate his attention on the professional applications of these students when he enters a medical school.

The order of study is as follows:—

A.

(1.) *General Biology.*—Lectures, recitations, or examinations four times weekly throughout one year, with daily laboratory instruction. This course is intended to bring prominently before the student the fundamental facts of biology as gathered from a detailed study of a number of typical plants and an animal from each class of the animal kingdom. The embryology of the chick is also studied in detail.

In this course beginners are taught how to use the microscope and to dissect.

(2.) *Human and Comparative Osteology.*—About sixty lectures or recitations.

These biological courses, with the corresponding laboratory study, give the student from three to four hours' work daily throughout the year.

B.

The closing year of the preliminary medical course includes: (3.) *Human Anatomy*.—This course extends from the commencement of the academic year to the end of March, and consists chiefly of demonstrations and practical study in the dissecting-room.

(4.) *Animal Physiology and Histology*.—Mainly with reference to the human body. Three lectures or examinations weekly throughout the academic year. The microscopic structure of the tissues and organs is studied in this course, except so much as may have already been gone through in the general biology course. Students are required to perform for themselves the simpler physiological experiments, while other more difficult but important facts are demonstrated to them.

The physiological apparatus belonging to the university is unusually good and complete, and students who follow this course will acquire a knowledge of the method of using all the chief instruments employed in physiological research; and, so it is hoped, will be able afterwards to carry out scientific investigations on the physiological action of drugs, in experimental pathology, etc.

(5.) From time to time short advanced courses of lectures on special physiological topics are delivered.

IV. SUMMARY OF THE COURSE.

Requisite for Matriculation: A good English education; Latin; Greek, or French and German; mathematics; physical geography.¹

First Year.—Physics (daily); chemistry (daily); German; English physiography.

Second Year.—Chemistry (daily, first half year); general biology (daily); French; English drawing.

Third Year.—Physiology and anatomy (daily); logic; psychology.

At the option of the student during the three years, mathematics; ancient languages; and various courses of lectures.

V. ADDITIONAL INFORMATION.

(1.) Students not unfrequently having presented themselves for admission to the preliminary medical course without the knowledge required to pass the full matriculation examination, and yet apparently fitted to profit by the course, the university authorities receive such if they possess an elementary knowledge of Latin (sufficient, for example, to translate *Cæsar* and *Virgil*, with a knowledge of accidence), and also of arithmetic, algebra, and geometry. Such candidates must in their answers conform to the rules of English grammar, including orthography, and no candidate will be approved who fails to satisfy the examiners in this respect. The student may, however (and is always encouraged and advised to), offer himself for matriculation at any time during his course, and may, after passing his matriculation examination, present himself in the regular course for a degree.

(2.) For requirements and opportunities in the study of mathematics, ancient and modern languages, history, psychology, etc., reference may be made to announcements in the University Register and Programme. It is only necessary to mention here that in French and German students will receive such instruction as should enable them to read at sight French and German, and to render English into French and German, and to understand French and German grammar; and that courses in English philology and literature will be in progress during the year.

(3.) Instruction is provided by the university in comparative anatomy and botany, but attendance upon special courses in these subjects is not required of all who follow the preliminary medical course, as the general principles and more important facts are taught in the course of general biology.

(4.) College graduates from approved institutions, having already obtained a liberal education, are permitted to concentrate their attention on the scientific courses, and so may complete the curriculum of the above course preliminary to medical studies in less than the usual three years. On the other hand, a student may, if he wish, spend a longer time in these preparatory studies, or take up additional ones.

(5.) It may be added that the trustees and instructors of the university are especially anxious to promote post-graduate study and original research. Medical men or others properly fitted to

¹ If the candidate enter with a knowledge of French and German other studies may be substituted for them during the progress of the course.

profit by such opportunities are received for advanced study or investigation in chemistry, histology, or physiology, as well as other subjects. The equipments of the university for such purposes are unusually complete. Twenty fellowships, each bringing in five hundred dollars per annum, are annually awarded to advanced students, at least three being in chemistry and an equal number in biology.

Last year the number of students taking courses with reference to the study of medicine was twenty-four, excluding advanced workers engaged only in research in the laboratory. Of the total, twelve were graduates; six matriculated students, aiming at the A. B. degree through the above course of study; and six were under-graduates, received without passing the full matriculation examination, and not candidates for a degree.

The buildings of the Johns Hopkins Hospital are now in course of erection. When completed, a medical school will be instituted in connection with the hospital. This it is hoped to make adapted for post-graduate study, and for training in the more scientific branches of medicine, as hygiene, pathological chemistry, experimental pathology, experimental therapeutics, etc., so that the student who has already acquired a thorough practical knowledge of chemistry and physiology and normal anatomy can carry an advanced study or research in connection with disease.

As yet, however, no steps have been taken in connection with the organization of the medical school proper, and no authoritative statements can be made.

THE HARVARD MEDICAL SCHOOL.

THOSE interested in the progress of medical education in this country are already sufficiently familiar with the general features of the changes which have taken place at the Harvard Medical School within the past ten years. They are also aware that the results have in every way proven gratifying to the friends of the college, and stimulating to the medical profession in other States, and to medical schools in various sections of the country. It is well known that the effect of these changes has been to improve the quality of the students, to increase the income of the school, and to add largely to the number of instructors. These results have been mainly attained by offering such inducements as have resulted in a prolongation of the period of residence of each student at the school. In 1872 only five per cent. of the graduates had remained three years at the school, while in 1879 eighty-eight per cent. of the graduates had remained at the school during their three years of study. It must be evident to every unprejudiced observer that measures which will lead to such a prolongation of the period of study deserve every encouragement, if such measures are considered to represent additional requirements and additional opportunities. That the latter are far greater and more numerous in 1880 than in 1870 is so obvious to every person at all familiar with the history of this school during the past decade that it would seem superfluous to direct attention to the printed annual reports of the president of Harvard College.

The latest changes which have taken place at the Harvard Medical School are such as carry out the spirit of all earlier advances, and tend to make still wider the interval which may lie between this school and those which strive to compete with it in promoting the cause of medical education in this country. These

changes consist in additional requirements for admission, and an extension of the period of study.

When they first demanded an examination for admission, the faculty felt that so obsolete a custom must not be restored in such an abrupt manner as to turn away many candidates who were sure to make excellent physicians, although they might not have had the fullest opportunities of college training. The examination was, therefore, made sufficiently stringent to insure a certain liberality of education, still more a certain training which should enable the student to appreciate the opportunities of study afforded by the medical school. The study of a language other than English, and the study of physics, were thought to indicate a knowledge of many other subjects, and an examination in Latin, French, or German, and physics, was offered as a test of the sort of preliminary education the applicant had been able to obtain. The standard in Latin was purposely made high to exclude the school-boy who might have studied this language for two or more years, and yet have had but little opportunity to progress in the study of mathematics, natural science, or general literature. The effect of this admission-examination was immediate, improving the quality of the students. Before it was instituted the inefficient or incompetent students failed to advance with their class, and gradually withdrew from the school, either to give up the study of medicine altogether, or to seek for a degree elsewhere. Candidates who are unlikely to profit by the opportunities offered are now prevented from entering the school, at all events until they have fitted themselves to profit by their surroundings.

It has been thought by the faculty that this test should be made still more delicate. They have determined, therefore, to exact a knowledge of Latin, instead of accepting another language as an equivalent, to require, as heretofore, an examination in physics, to demand a special examination in English, likewise an examination in French, German, the elements of algebra or of plane geometry, or botany. This examination applies to all candidates for admission, with the exception of those holding a literary or scientific degree, and those who have already passed the more stringent examination for admission to the college, and must be passed before the students are admitted to the school.

An extension of the period of study to four years is the other step which the faculty have seen fit to establish this year. It has been apparent for some years past that the amount of instruction given in the third year was greater than could be properly assimilated. The students were not slow in learning this fact, and either failed to attend certain exercises in subjects in which there was no searching examination, or voluntarily attended the exercises of the school during a fourth year. The latter class were thus enabled to lighten the work of the third year, and at the same time to avail themselves of all the instruction given. To persuade more students to remain four years is the present effort of the faculty.

As the three years' course is to be as full and complete as heretofore, and students are permitted to graduate at the close of this three years' course, it was necessary to make the additional year of study voluntary. It has therefore been the design of the faculty to make the fourth year so attractive that students would feel a keen sense of the advantages to be gained

by adding to their period of study. Every effort has been made to give special clinical opportunities to students of the fourth year in all the specialties, as well as in medicine and surgery; to furnish practical instruction in such subjects as mental disease, forensic medicine, and hygiene; to add to the efficiency and thoroughness of operative courses in surgery, obstetrics, and gynecology; and to open the laboratories of physiology, chemistry, and pathological anatomy in the fullest and freest manner, for such advanced students to investigate those subjects which may be of special interest to them. The essential features of this fourth year are the opportunities of instruction offered to the individual. He becomes one of a class of three or four, instead of one in a class of fifty or a hundred.

As attendance upon this fourth year is voluntary, so an examination in its work is not insisted upon. The attempt is made, however, to encourage the students to be examined by offering a special degree, which shall indicate not only that they have studied four years, but that they have attained an average of seventy-five per cent. in all the examinations of these years. For those who may desire the opportunities offered, yet either fail to reach the standard or be unwilling to try for it, a certificate of attendance in the studies of the fourth year, in addition to the ordinary degree of doctor of medicine, will be given.

Such are the latest efforts made by this school to educate better physicians for the country at large, and to bring medical education in the United States more nearly to the level maintained by the great schools of Europe. May the time soon come when the voluntary fourth year shall be made compulsory, and all our medical schools be enabled to offer the best opportunities at the least cost.

THE MEDICAL SCHOOL OF MAINE.

This venerable institution, the medical department of Bowdoin College, enters upon its sixty-first annual course of instruction in the second week of February next. It was established in 1820, at a time when the vast majority of the medical practitioners of the State of Maine had received no systematic education, but had picked up their knowledge of physic under the supervision of their private preceptors, — a method not entirely devoid of advantages which are not presented by our modern system, but not well calculated to develop the intellectual capacities, or to impart a broad and deep knowledge of the science and art of medicine. The new school, being well officered and receiving the countenance and financial aid of the legislature, was not slow in making its influence felt; and before many years had passed it was quite as generally the rule, as it had formerly been the exception, for practitioners to have diplomas which certified their graduation from a respectable institution.

This school, while not attempting to compete with metropolitan institutions, has always done and is still doing a most important service to the profession and the community. It affords, at a moderate price, an excellent medical education to a considerable number of young men, who are determined to practice medicine, but are unable to attend the more extended and expensive courses of instruction in the large cities. They supply places which, without them, would have to depend for medical advice upon ignorant and unprincipled charlatans. The standard of the school is being ele-

vated as rapidly as the integrity of the institution will warrant, and is already creditably high, as will be seen by the following statement of requirements and advantages.

Before a student can become a member of the class, he must give satisfactory evidence of possessing a fair English education. All who cannot show diplomas from recognized academies and high schools must pass a written examination in the ordinary branches. Being admitted, the student finds that, while the plan of lectures which is usual in colleges obtains here, the course is practically graded for those who prefer this better method. The faculty advises him to devote his time in the first year to the elementary branches, in the second to those which naturally follow, and in the third to the most difficult topics, the study of which necessitates a knowledge of the previous departments. At the end of the first year the final examinations in anatomy, physiology, and chemistry are held; at the end of the second those in materia medica and obstetrics; and at the close of the third those in practice, surgery, and gynecology. The pursuit of this method is optional, but a large number adopt it, and it is growing in favor. If a student chooses, he may take all his examinations at the end of his third year of study.

The members of the faculty hold frequent quizzes without extra compensation, a service which is greatly appreciated by the students, who value these exercises as highly as the lectures.

The examinations are both written and oral, and are of a searching character. Applicants must have dissected three parts of the body, have written a thesis, and have studied medicine three years.

Though situated in a country town, the school affords good opportunities for witnessing surgical and medical cases. The clinics are very large, the patients coming from all, even distant, parts of the State to receive free treatment. The means for studying practical chemistry and anatomy are superior. The faculty is composed of men who have had long experience in teaching, and who, appreciating the responsibility of their positions, are anxious to do all in their power to advance the interests of the medical profession.

PORTLAND SCHOOL FOR MEDICAL INSTRUCTION.

This is not a diploma-conferring institution, but simply, as its name implies, a school in which medicine is taught. It takes the place of private preceptorship, the difference being that, while with a preceptor a student is generally left to follow such plan of reading or idleness as his discretion or folly may dictate, and gets no help from his nominal teacher from beginning to end of the year, in this school he has systematic daily instruction in all the fundamental branches and a number of the specialties, and is held to a strict accountability in the performance of his duties by a corps of eleven competent physicians, each of whom devotes especial attention to the work of his own department. Recitations, lectures, clinics, demonstrations, dissections, all receive their share of attention. The school is admirably equipped with apparatus and material of various kinds. The Maine General Hospital, the Greely Hospital, and the Portland Dispensary afford ample clinical advantages.

The educational standing of the school is higher than that of most medical colleges, applicants being required to pass a written examination in English, and in elementary Latin and physics.

This school fully supplements the work of the Medical School of Maine, its sessions occupying eight months of the year, and those of the latter institution the remaining four. The entire year is thus consumed. The success which those who have taken their medical education in these schools attain in the practice of their profession is the best evidence of the quality of the instruction given.

THE CHICAGO MEDICAL SCHOOLS.

The regular medical schools of Chicago are the Rush, Chicago, and Women's Hospital Medical colleges.

The Rush was organized nearly forty years ago, and was the only medical institution here for many years. Twenty-two years ago the

CHICAGO MEDICAL COLLEGE

was organized, mostly by gentlemen who resigned from positions in Rush College to enter its faculty. The Chicago College was founded for the purpose of inaugurating and carrying out a change in the method of teaching which was thought to be an improvement on the practice then in vogue in this country. That practice was for students to attend two courses of lectures, of about four months each, before graduating, the lectures of the successive courses being practically identical. The plan of the Chicago was to divide the studies into the elementary or junior branches and the practical or senior branches, and recommend that students attend these courses respectively during successive terms. At the end of the junior course a student was allowed to pass his final examination on the branches of the course, and have thereafter nothing but the senior branches to attend to.

History will accord this school the credit of having first adopted the "graded system" in these years in this country.

The plan is certainly philosophical, as it has proved to be in literary colleges, and much was hoped for it in the advancement of the profession. But as it exacted nothing that other colleges did not require, but only rearranged and put in different sequence what all the first-class schools were teaching, it did not constitute an elevation of the standard in the true sense. No higher grade of requirements was made, no better qualifications for a degree were enacted; the studies were only made more convenient for the student. The result was that no better doctors were turned out; the fountain was not made higher; at the same time a student found it easier to pass his examination by this plan than under the old system.

It was not till a very few years ago that the standard was really raised by this excellent school, when it required an entrance examination in English, and lengthened its course. Its course is now six months long, and the studies are divided into three groups, junior, middle, and senior, and students are advised to take these respectively in successive years, and to pass final examinations in the studies taken at the end of the respective years. Two courses of lectures, however, are all that is exacted; and such as do not attend more divide the "middle" branches between the junior and senior courses.

The entrance examination for applicants not presenting diplomas of academic institutions has doubtless done good in improving the character of the classes,

but the examination is unfortunate in being wholly arbitrary and subject to the personal notion of the examiner. It may be severe or utterly useless, according to the individual bias. "Applicants must possess at least a good English education," and failing to present documentary proof they "must sustain a satisfactory examination before a committee of the faculty." When a rule of this sort is so wanting in specific definition of its meaning, great confidence in its uniform and beneficial working should not be expected. The term "satisfactory" is too flexible when applied to such an examination. For a strictly medical examination usage has defined the word well enough. This school has a good chemical laboratory, where students who desire may pursue practical chemistry. Quite a proportion of the classes do so.

The clinical facilities that are used are the Mercy Hospital in an adjoining building, and the dispensary in the college building. The hospital usually has about fifty patients, and the clinical advantages both there and at the dispensary are worked up to an admirable degree of perfection. The hospital medical staff are all members of the college faculty. The dispensary is largely attended, several thousand patients visiting it annually, and students regularly rotate in their attendance upon the several departments, so there is no crowding, and the best use is made of the material.

The lying-in department of the hospital is sufficiently extensive generally to enable each member of the graduating class to witness one case of obstetrics at least. Students are allowed to attend the County Hospital, but this is so far off (five and three quarters miles) that they do not visit it.

One course of dissections is made obligatory. Students must pursue the clinics of Mercy Hospital at least one term. A thesis is required. Students who desire may have instruction in practical physiology.

A practitioners' course of four weeks was inaugurated last spring immediately after the commencement, and was very successful, thirty-nine gentlemen being in attendance. The fee for this course is \$30. This school united with Rush two years ago in raising the fees from about \$50 to \$75. The graduation, or final examination, fee is \$30. The number of students attending the last session was 148, and the number of graduates 36.

RUSH COLLEGE,

as already stated, is nearly forty years old. Twenty years ago the regular course of lectures had a duration of sixteen weeks. Within a few years it has been lengthened several times, so that it now continues twenty-one weeks. In addition there is a spring term of sixteen weeks that is a complete course of lectures in itself; this is practically free to the regular students of the institution, but does not count as a "course of lectures" in the conditions of graduation.

The two regular courses of lectures required for the degree are practically identical; there is no grading of the course, but students are advised to devote themselves mainly to the elementary studies during the first year, and this advice is emphasized to such as take three or more courses of lectures.

The rule of one and only one final examination has never been modified till a year ago, when it was decreed that students who will attend at least three winter courses may pass their final examination in anat-

omy, physiology, materia medica, and chemistry at the end of the second winter course.

The clinical facilities are the college clinics, seven each week, the Central Free Dispensary (in the same building), at which a hundred or more patients attend each day, and the Cook County Hospital.

The college clinics, occurring each week, that are public to all the class are one each on surgery, orthopaedic surgery, gynaecology, dermatology, and venereal diseases, nervous diseases, diseases of the chest, and general medicine. In addition there is a daily clinic in gynaecology, attended by an average of eight patients each, to which small sections of the graduating class only are admitted.

There are several public clinics in the Central Dispensary each week, and in the prescribing rooms small sections of the graduating class are received in rotation by a system of cards of admission.

The County Hospital is under control of the county commissioners. Of its medical staff three members belong to the faculty of the Chicago College, three are from Rush College, and seven belong to no college.

The hospital stands opposite the college, is the public (charity) hospital, and the largest in the city, having three hundred beds. Students are required before graduation to have attended at least one year the clinics and post-mortem examinations at the hospital. There is a spacious amphitheatre for clinics and another for post-mortem exhibitions, with all the modern appliances. There are six public clinics in the hospital each week.

The college has a students' chemical laboratory, capable of accommodating about thirty at work at one time. A course in practical chemistry is obligatory, and the briefest course allowed is one consisting of thorough urinalysis, a short course in general toxicology, and a similar one in general qualitative analysis. There is a course on practical physiology, but it is optional. Practical anatomy is required, "and to the extent of having dissected each region of the body."

The fees are seventy-five dollars, exclusive of matriculation (five dollars), laboratory and dissecting tickets, (each five dollars), and the examination fee is thirty dollars, but the fee is not returnable in case the candidate fails. No thesis is required, but most of the examinations are in writing.

The announcement has just been made by this school that after March 1, 1883, all new applicants will be required to submit to an examination, unless they have passed an entrance examination in some respectable literary college or are graduates of a high school. The examination is to include only the elements of physical sciences as taught in common school text-books and arithmetic to cube root, but the examinations are to be in writing, and the papers are to be judged critically as to "spelling, knowledge of grammar, and composition exhibited."

The spring course is conducted mainly by a faculty of lecturers, who do not teach regularly in the winter course. To encourage a higher grade of attainments a special certificate of honor is awarded to students who attend three winter and at least one spring terms. A post-graduate course was established last year, but as it occurred during the latter part of the regular winter session, when the college was full of students, it was found to be inconvenient. Hereafter it is to follow the regular course, and continue four weeks. The fee for this course is thirty dollars.

The number attending the practitioners' course last winter was forty, the whole number of students attending the last winter course was four hundred and eighty-one, and the number of matriculates at the last spring session was two hundred and twenty-seven. The graduates of 1889 were one hundred and forty-eight.

THE WOMEN'S COLLEGE

is ten years' old, and is in every way a first-class school. It receives women only; divides the curriculum into junior and senior studies, and advises that they be taken in successive years; has an entrance examination for those not bringing "certificates of graduation from a high school or like institution, or a teacher's certificate from a county superintendent of schools," but the line up to which students must come in such examination is not stated.

The requirements for graduation are rigid. In addition to the three years' study and two lecture terms the student must have "dissected each of the usual divisions of the body at least once," and have attended one course of clinical instruction; she must also take a course in practical chemistry in the laboratory; she must write a thesis. While the studies are divided into junior and senior branches, the student is not allowed an examination at the end of the first course. The final examination covers all branches taught.

The clinical advantages are several college clinics, the Cook County Hospital, which is directly opposite, the Hospital for Women and Children, four blocks away, and Central Free Dispensary, one and one half blocks away.

The Hospital for Women and Children is wholly under the professional care of female physicians; it has about thirty beds, and is always full.

The college has a very excellent summer course of lectures, given mostly by members of the faculty.

The number of students at the last winter term was sixty-five, and the graduates were ten.

Each of the three colleges has a permanent building of its own, built after the modern notion of things, and very well adapted to its wants. Perhaps the most perfect one is that of the Women's College. The best and most spacious lecture-room is the upper amphitheatre at Rush, — which has a seating capacity of five hundred, — unless it be the clinical amphitheatre of the County Hospital, which is even larger.

THE DETROIT MEDICAL COLLEGE.

The course of instruction at this college is introduced by a definite written examination in English composition, in arithmetic, in algebra, and in physics.

The obligatory attendance upon college drill covers three yearly terms of six months each. The college requires daily laboratory work during the first two years, and daily clinical work during the last year. It requires attendance upon from three to four lectures or recitations daily during the three terms. During the first two terms, it requires attendance upon one or two clinical lectures each day. During the last year, each student is obliged to spend from one to three hours daily in actual clinical work in hospital wards or in dispensaries. It requires that each student shall pass satisfactory examinations at the end of each term upon the studies he has actually pursued, and upon

the laboratory or clinical work he has actually performed.

The plan of study is carefully graded. All instruction is so arranged that each branch may aid in the comprehension of each other branch pursued at the same time, and that these together shall prepare the way for the most easy and perfect comprehension of those which follow. The instruction of each class is prepared for and given to it alone, and always in a room separate from the other classes. Thus the separation of the three classes is as distinct as in the best literary colleges. The freshman class must, during each week, attend four lectures or recitations on anatomy, four on physiology, three on chemistry, three upon materia medica, and one on pharmacy. It must work twelve hours weekly for four months in the chemical laboratory, and for two months in the laboratory of practical pharmacy.

The junior class must attend each week four lectures or recitations upon anatomy, four upon physiology, two upon medical chemistry, three upon therapeutics, and four upon morbid anatomy and pathology. It must work twelve hours per week in the dissecting-room for three months, and in the physiological and histological laboratory for three months. The senior class must attend four lectures a week upon general surgery, five lectures or recitations per week upon practice of medicine, two upon diseases of women, three upon obstetrics, one upon diseases of the eye and ear, one upon diseases of the larynx or genito-urinary apparatus, one upon diseases of children, one upon nervous diseases, and one upon toxicology and medical jurisprudence. It must also work in small sections (each section being in charge of a clinical teacher) from one to three hours daily in hospital wards or dispensaries. Three hospitals, with from thirty to one hundred beds each, and two large dispensaries, situated in a city of one hundred and thirty-five thousand people, afford ample clinical material. The four laboratories are large, well lighted, and fitted with all modern conveniences for the successful study of the four fundamental branches of medicine and surgery.

CHARLESTON.

In a few days the Medical College of the State of South Carolina will open its fifty-ninth anniversary session. In sympathetic and cooperative affiliation with such institutions as are moving through the only avenue that can conduct their labors to a broader, more complete, and more productive field of usefulness, this college has seen fit to indorse and accept the three years' term of a graded course of instruction as the necessary requirement for graduation.

The difficulties inherent in an internecine war, have fortunately been surmounted, and the successes of the past few years encourage the hope that the present step, which otherwise would long since have been taken, will add to the reputation the college has always enjoyed.

Larger classes of students and greater proficiency among the graduates of late bear attestation to the continued popularity of this school, and to a more earnest aim among its attendants at the acquirement of that knowledge in search of which they are engaged. A more protracted course of studies, a higher standard of requirements, and necessarily a more complete final

examination may and doubtless will in the future drive some away, but the faculty have not allowed expediency to interfere with duty, and they feel assured that they will at least secure that better class of aspirants for medical renown who in time must reflect greater credit upon their alma mater.

The Medical College adjoins the Roper Hospital, which is a great advantage, since attendance upon the clinical lectures in the one and the didactic prelections in the other necessitates no loss of time in transit from one building to the other.

One word with regard to the present appearance of the old college. Its architectural improvements need not be referred to particularly. But we cannot forbear to chronicle a change in one respect. The campus ground, though long since inclosed by an iron railing in continuation with that which encircles the Roper Hospital, had long been an unsightly field of overgrowth and rubbish, which in the rear, seen from the street, presented the brick wall of the amphitheatre of dissection, with its untasteful sky-lights. This area, now elegantly laid out in walks and garden beds, has been literally converted into a fairy land, through the taste and liberality of Professor C. U. Shepard. Luxuriant growths embroider the beds, and the hot-houses exhibit almost every variety of hot-house plants.

The present *régime* has wrought important changes in the management of our Roper Hospital.

Under a lease of this building from the trustees of the Roper fund, the city authorities for the past fifteen years have had entire control of this institution, making their own appointment of a medical officer from the list of dispensary physicians, whose jurisdiction extended over both medical and surgical departments, supervising even the financial affairs of the hospital.

This arrangement impaired greatly the value of such an establishment as a school of instruction for students in attendance upon the medical college in this city. The reputation of all such charities depends upon the professional fame and name of those representing the medical administrative element. If a hospital be an asylum for the sick poor, who are permitted to avail themselves of its charitable benefits only to be cured of their diseases, and then promptly discharged to make room for others, such a purely medical charity should be under the absolute control of the medical faculty; and, in order to secure the greatest share of medical and surgical skill in behalf of the welfare of its inmates, should be under the care and guidance of representative men in the several departments of our art, — the *dei majores* of the metropolis, city, town, or hamlet, as the case may be. But it has, until of late, been otherwise with us. The faculty had no right to intrude themselves; they could inaugurate no regular course of clinical instruction; they could not even present, nor operate on, cases which they may have sent to the hospital, except through courtesy partially extended by the attending physician, who necessarily regarded any proposition of the kind as an encroachment upon his prerogative, which he was at liberty to accept or decline as he pleased.

The faculty, long since recognizing the importance of a regular, systematic annual course of clinical teachings to students, attracted to colleges only which were able to offer such facilities, saw fit to urge these claims and requisitions of a high medical educational curriculum upon the intelligent consideration of the council; while they proposed that their own professional services

would be offered *gratuitously* to the city, giving every pledge on their part for the conscientious and punctual discharge of their self-imposed duties to the sick poor. Though some opposition arose in council upon the subject, as was to be expected, yet, as *nos besoins sont nos forces*, this appeal was not made in vain. The Roper Hospital has at length been turned over to the faculty of the Medical College, who have entire control now of all that concerns the medical and surgical treatment of the sick. Private cases in the practice of the professors are, whenever they see fit, brought to the hospital; and patients coming to the city addressed to either of these gentlemen are accommodated in private apartments, the appointments of which are in every respect suitable to pay patients, at a reasonable *per diem*.

Clinical instruction in various branches is given during the winter session to large classes; and all the year round clinical prelections are offered to those students remaining with us. These didactic lessons are perhaps the more useful because the more varied, since they are apportioned among six professors, a medical and a surgical clinician for each term of four months. Four house physicians, or *internes*, make up the complement of a full corps of professional attendants in constant and efficient ministrations upon the sick.

Not very anxious to encumber themselves with the financial concerns of the hospital, the medical faculty requested at once to be exonerated from such an additional tax upon their time and labors, and we are pleased to announce that a board of commissioners were appointed. This division of labor between the purely medical and administrative concerns of a hospital, in its operations entirely independent of each other, is a most provident arrangement, and was a consummation greatly to be wished for, particularly in view of the recent difficulties at Guy's Hospital and other organizations nearer home, which has worked admirably so far. With a laudable desire to exhibit their efficiency and interest in the welfare of the hospital, the commissioners have already improved the buildings in many respects, particularly in fitting up and embellishing the private apartments of pay patients; while further changes are in contemplation which will make the Roper Hospital one of the most complete and acceptable charities of its kind in the Southern States.

THE MEDICAL SCHOOLS AT LOUISVILLE.

UNIVERSITY OF LOUISVILLE. — The forty-fourth regular term begins October 1st, and lasts five months. Last session the school had 249 matriculates and 97 graduates.

LOUISVILLE MEDICAL COLLEGE. — The eleventh regular session begins October 1st, and lasts five months. Last session the school had 131 matriculates and 45 graduates.

HOSPITAL MEDICAL COLLEGE. — The seventh regular session begins October 1st, and lasts five months. There were 81 matriculates during last session and 31 graduates.

KENTUCKY SCHOOL OF MEDICINE. — The next regular session, which is the second since the reorganization of the school apart from the Louisville Medical College, will be held from March to June (inclusive). Number of students in last session, 99; graduates, 43.

There are four schools of medicine in Louisville, as above enumerated, — three holding their session in

winter and one in spring. Since the disruption of the Kentucky School of Medicine from the Louisville Medical College, a year since, the several schools pursue independent courses.

The plan of instruction in all is essentially the same,—by lecture and quiz. Recitation terms (optional) are held during the spring by the winter schools. Provision is made for graded course for such as desire it. There are daily clinics at the University and Hospital schools, and semi-weekly classes at the City Hospital, in which all the schools participate. The University supplies special demonstrators for microscopy, histology, chemistry, dressings, etc.

The Louisville schools are all members of the American College Association. The requirements for graduation are three years' study and two courses of lectures. They stand pledged to require three courses after 1882.

By mutual agreement of the winter schools, the lecture ticket will hereafter not be issued to matriculants until February. This is done to insure, somewhat, attendance at lectures.

The whole number of students present at the several colleges during last session was 546, of which 209 graduated. Owing to the fact that this year the opening of the preliminary term (September 20th) has been postponed a fortnight beyond the usual date, no estimate can yet be made as to the number of the coming classes, but the impression is strong that in spite of the increased fee for tuition, which will be exacted this year, the benches will be as full as usual.

THE UNITED STATES ARMY.

THE following memorandum is prepared for the information of persons desirous of entering the medical corps of the United States Army:—

[EXTRACT FROM LAWS OF THE UNITED STATES.]

Act of Congress, Approved June 30, 1834.

Section I. *Be it enacted, etc.* That from and after the passage of this act no person shall receive the appointment of assistant surgeon in the Army of the United States, unless he shall have been examined and approved by an Army Medical Board, to consist of not less than three surgeons or assistant surgeons, who shall be designated for that purpose by the secretary of war; and no person shall receive the appointment of surgeon in the Army of the United States unless he shall have served at least five years as an assistant surgeon, and unless, also, he shall have been examined by an Army Medical Board constituted as aforesaid.

Act of Congress, Approved June 23, 1874, and June 26, 1876.

Sec. IV. That the medical department of the army shall hereafter consist of one surgeon-general, . . . one assistant surgeon-general, . . . one chief medical purveyor, four surgeons, with the rank, pay, and emoluments of colonels, two assistant medical purveyors, . . . eight surgeons, with the rank, pay, and emoluments of lieutenant-colonels, fifty surgeons, with the rank, pay, and emoluments of majors, one hundred and twenty-five assistant surgeons, with the rank, pay, and emoluments of lieutenants of cavalry for the first five years' service, and with the rank, pay, and emoluments of captains of cavalry after five years' service, . . .

All candidates for appointment in the medical corps must apply to the honorable secretary of war for an invitation to appear before the Medical Examining Board. The application must be in the handwriting of the candidate, stating age and birthplace, and be accompanied by testimonials from professors of the college in which he graduated, or from other physicians in good repute. Candidates must be between twenty-one and twenty-eight years of age (without any exceptions), and graduates of a regular medical college, evi-

dence of which must be submitted to the board before examination.

The morals, habits, physical and mental qualifications, and general aptitude for the service of each candidate will be subjects for careful examination by the Board, and a favorable report will not be made in any case in which there is a reasonable doubt.

The following will be the general plan of the examination:—

I. A short essay, either autobiographical or upon some professional subject, to be indicated by the board.

II. Physical examination. This will be rigid, and each candidate will, in addition, be required to certify, "that he labors under no mental or physical infirmity, nor disability of any kind, which can in any way interfere with the most efficient discharge of his duties in any climate."

III. Oral examinations on subjects of preliminary education, general literature, and general science. The candidate must satisfy the board in this examination that he possesses a thorough knowledge of the branches taught in the common schools, and a failure to show this will end his examination.

Oral examination on scientific subjects will include chemistry and natural philosophy; and that on literary subjects will include English literature, history of the United States, and general history,—ancient and modern. Candidates possessing a knowledge of the higher mathematics, the ancient and modern languages, will be examined therein, and due credit given for a proficiency in any or all of these subjects.

IV. Written examination on anatomy, physiology, surgery, practice of medicine and general pathology, obstetrics, and diseases of women and children. Oral examination on these subjects, and also on medical jurisprudence, materia medica, therapeutics, pharmacy, toxicology, and hygiene. Few candidates pay the attention to hygiene which it deserves; it is made an important subject in this examination.

V. Clinical examination, medical and surgical, at a hospital.

VI. Performance of surgical operations on the cadaver.

The board will deviate from this general plan whenever necessary, in such manner as they deem best to secure the interests of the service.

The board will report the merits of the candidates on the several branches of the examination, and their relative merit in the whole, according to which the approved candidates will receive appointments to existing vacancies, or to vacancies which may occur within two years thereafter.

An applicant failing one examination may be allowed a second after one year, but not a third.

No allowance will be made for the expenses of persons undergoing examination, as this is an indispensable prerequisite to appointment, but those who are approved and receive appointments will be entitled to transportation on obeying their first order.

THE UNITED STATES NAVY.

THE RELATIONS OF THE MEDICAL CORPS OF THE NAVY TO MEDICAL EDUCATION.

ADMISSION into the medical corps of the United States Navy can only be obtained through a professional examination before the Naval Medical Board, composed of medical officers of the higher grades. From the very beginning this board has assumed to be the sole judge of the qualifications of candidates, the mere possession of the diploma of a medical school having no weight whatever as an evidence of professional capacity; and the experience of the board has demonstrated that the most incompetent applicants

have been found among graduates of the great schools, while many of the ablest men of the corps have received their degrees from comparatively obscure institutions.

The candidate is presumed to have received a proper liberal education. A biographical sketch, an essay on some assigned subject, and written answers to a series of comprehensive questions in the various branches of medicine are intended as evidences of such proficiency, the orthography, grammatical construction, form, and manner of expression being as carefully scrutinized as accuracy of statement. An oral examination follows by the several members of the board in every branch of medicine, and upon such collateral studies as the candidate may have pursued, with the object not merely of ascertaining the amount of detailed information he may have learned by rote, but rather his intelligent comprehension of the fundamental facts and principles which constitute the science of medicine. Finally, extemporaneous chemical and pharmaceutical manipulations, the clinical diagnosis and treatment of actual patients in hospital, the adjustment of surgical appliances and apparatus, and the performance of operations upon the cadaver exhibit his cognizance of the practical requirements of the healing art, and his ability to assume its responsibilities, under the emergencies of a career which sometimes places the issue of life or death upon his unaided knowledge and skill.

A second examination is required for passing out of the grade of assistant surgeon, preliminary to promotion to that of surgeon, and took place, formerly, five years subsequent to the first. Recently the interval has been injudiciously lessened to the completion of two years' service on board a man-of-war. This examination presupposes a wider practical acquaintance with the various branches of medicine, particularly in the special departments which have arisen, and a familiarity with the current literature of the profession, facilities for which are now liberally provided by the Bureau of Medicine and Surgery, under the administration of its present chief, Dr. Wales. It has been the custom to allow a period of preparation for this final examination, but as its object is to ascertain the fitness of the individual for occasions when his knowledge as a medical or sanitary officer may be of need, it is manifest that such a preliminary cramming, evidencing a greater or less ability to memorize facts, is inconsistent with its real purpose, while it operates unequally upon the members of a class, under the diverse circumstances of their duty ashore and afloat. An impromptu examination, while it might not exhibit such finished results, would furnish a more accurate measure of the real acquisitions of the class examined.

The bureau's interest in the officer does not cease with his final examination. Individual research and investigation are encouraged by the supply of apparatus, instruments, or opportunities required, and by the publication of essays voluntarily contributed, as well as by the requirement of annual medical and sanitary reports from every officer in charge of the medical department of a vessel or station, embracing the medical topography, climatology, and hygiene of every station or place visited, with all attainable information respecting statistics of disease and its causes, establishments for the care of the sick, charitable institutions, medical colleges, or other matters of professional interest.

A medical education, such as admission into the medical corps of the navy implies, has until quite lately scarcely been attainable through the ordinary curriculum of any school in this country, and those who have passed the examination have been men whose industry, ambition, and thirst for knowledge, under the guidance of competent preceptors, have impelled them to seek for themselves that fuller professional training of which they have felt the need. Happily, a number of the leading schools, disregarding possible pecuniary loss from smaller classes, have begun a reform in medical teaching, which promises to make their graduates as really "learned in medicine" as the phraseology of their diplomas implies, and ultimately we may hope that every reputable college will be compelled to the same thoroughness of teaching. This accomplished, the most sublime and profound and ennobling of the sciences will be delivered from the hands of empirics and sciolists into the keeping of men distinguished for their achievements.

What is being sought to be accomplished for the whole profession the medical corps of the navy has aspired to make the patent of its own nobility, and its board of examiners may justly claim recognition for its pioneer efforts to exclude from fellowship the unworthy and incompetent.

ALBERT L. GIBON, M. D.,
Medical Director, U. S. Navy.
1736 I STREET, WASHINGTON, D. C.

UNITED STATES MARINE HOSPITAL SERVICE.

THE following extract from the regulations governing the Marine Hospital Service is published as showing who are eligible for examination:—

(24.) Original appointments of medical officers in the United States Marine Hospital Service will be made to the grade of assistant surgeon only.

(25.) Medical officers in the Marine Hospital Service will in no case be appointed to any particular station, but to the general service, being subject to change of station as the exigencies of the service may require, and shall serve in any part of the United States wherever assigned to duty by the secretary of the treasury.

(26.) No person will be appointed an assistant surgeon whose age is less than twenty-one or more than thirty years, and, as a preliminary to a recommendation for appointment, the applicant must have graduated in medicine at some respectable medical college, and must pass a satisfactory physical and professional examination before a board of surgeons of the Marine Hospital Service, which will be convened from time to time, for that purpose, by the secretary of the treasury.

(27.) The passing of an examination must not be considered as giving assurance of appointment, as the department will select those of the highest attainments in case there should be more candidates than vacancies.

(28.) No qualified candidate will be eligible for appointment more than one year. If not appointed within that time, he may, if he desires, be reexamined, when, if successful, he will take position with the class last examined.

(29.) An applicant failing at one examination may be allowed a second examination, after one year, but not a third.

(30.) Assistant surgeons, after three years' service, at least one year of which shall have been at a United States marine hospital, shall be entitled to an examination for promotion to the grade of passed assistant surgeon. The application for this examination must be accompanied with testimonials of correct deportment and habits of industry from the surgeons with whom they have served, and the applicant must be familiar with these regulations.

(31.) A vacancy in the grade of surgeon will be filled by promotion from among passed assistant surgeons.

All applications should be addressed to the surgeon-general of the service at Washington, D. C.

We extract from the annual report for 1880 the following, relative to the character of the examinations:—

"There is probably no branch of the public service to which the rules laid down by the civil-service regulations of 1872 can be more easily applied. The experience of this office has not only demonstrated their practicability, but has proved entirely satisfactory. The following table shows the number of candidates examined for the past five years:—

Year.	No. of candidates.	No. of branches in which examined.	Passed.	Rejected.	Percentage of rejections to whole No. examined.	No. invited to appear for examination.
1875	11	10	8	3	27 3-11ths.	—
1876	13	10	8	5	28 6-13ths.	—
1877	18	19	6	12	66 2-3ds.	38
1878	11	10	2	9	72 8-11ths.	35
1879	29	10	6	23	79 9-20ths.	52
1880	23	10	4	19	82 14-23ds.	43

The marking adopted has been in accordance with the scale recommended by the board of civil-service examiners of the treasury department in their report, dated January 21, 1873.

The scale is as follows:—

Best possible.....	100	Somewhat bad.....	40
Extremely good.....	90	Bad.....	30
Very good.....	80	Very bad.....	20
Good.....	70	Extremely bad.....	10
Somewhat good.....	60	Worst possible.....	0
Indifferent.....	50		

In an average examination the only branch in which the "best possible" may be obtained is of course anatomy, but it may be occasionally reached in the answers to certain questions in several branches. In the first four years during which these examinations were held, no examination in the common-school branches was made, but during the last year an oral examination in arithmetic, physics, and history has been added. Proficiency in these branches, together with a "personal history" showing the candidate to have had good advantages in schools or experience in hospitals, increases the marking under the heading "general aptitude." This heading is the one most likely to be misinterpreted by the enemies to the system, or by the friends of disappointed candidates, and yet it has been found impracticable to discontinue it. Under this heading is included the preliminary education of the candidate, his health, his personal appearance, as to neatness or slovenliness, as well as the general fitness for the service, as shown by examination-papers as a whole. The following is given as a specimen of the examination-papers, and shows the scope of the examination. The questions were propounded at the session of the board held in April, 1879:—

Anatomy. (1.) Name the bones of the cranium, the foramina at its base, and the structures transmitted through them. (2.) Give the origin and distribution of the trigeminal nerve. (3.) Describe the regions of the abdomen, and name the viscera contained in each. (4.) Name the parts divided in a circular amputation of thigh at middle of Scarpa's triangle.

Physiology. (1.) Give the histology and function of the kidneys. (2.) How is the nutrition of muscular tissue effected? (3.) Give the normal constituents of bile, blood, and gastric juice. (4.) Give functions of sympathetic system and spinal cord.

Chemistry. (1.) Describe the atom and molecule, and state what is meant by atomic weight and molecular weight of an element. (2.) Give the chemical reaction that occurs in an active galvanic battery composed of carbon and zinc plates and the fluid made by dissolving bichromate of potassium in dilute sulphuric acid. (3.) Describe the physical and chemical properties of alum, and give its formula. (4.) Mention the different forms of carbon, and give brief description of each, and name the most important combinations of this element.

Practice of Medicine. (1.) Describe the process of inflammation. (2.) Give, briefly, the symptoms and treatment of cerebro-spinal fever. (3.) What are the causes of anasarca? (4.) Give the differential diagnosis between eczema, herpes, and lupia.

Hygiene. (1.) Give, briefly, your views as to the best method of lighting, heating, and ventilating hospital wards. (2.) Assuming that the water supply of a hospital contains matters deleterious to health, what method would you use to discover the impurities, and to eliminate them? (3.) What, in your opinion, are the necessary articles and proper proportions of the same, for a hospital ration? (4.) What are the principal substances used as disinfectants and deodorizers, and what is their mode of action?

Surgery. (1.) Give the causes of compression and concussion of the brain, and their differential diagnosis and treatment. (2.) What are the causes of popliteal aneurism? (3.) Describe the treatment of compound comminuted fracture of the leg. Give the best method of management, and the possible dangers of the injury. (4.) Mention the symptoms, complications, and treatment of penetrating wounds of the chest and of the abdomen.

Obstetrics. (1.) Describe the fetal circulation and the changes taking place therein at birth. (2.) Give the causes and treatment of post-partum hæmorrhage. (3.) Give the causes, symptoms, and treatment of puerperal convulsions. (4.) Give the differential diagnosis between abdominal tumors, spurious and true pregnancy.

One day is devoted to clinical examinations at a hospital, which, with an oral examination, concludes the exercises.

FOREIGN SCHOOLS.

GREAT BRITAIN AND IRELAND.

THE number of examining bodies in the United Kingdom which grant degrees and diplomas capable of registration under the Medical Act of 1858 is nineteen; and the registrable qualifications obtainable from them amount to fifty-seven.

The following is a general summary of the conditions required on the part of candidates for examination. The regulations of the examining bodies are, with very few exceptions, framed in accordance with the resolutions and recommendations of the General Medical Council.

Every medical student is required to be registered at the office of the General Medical Council, prior to which he must have passed an examination in subjects of general education. As evidence of this are recognized: (1.) The possession of a degree in arts of an university of the United Kingdom or of the colonies, or of some university recognized by the medical council. (2.) A certificate of having passed an examination in subjects of general education conducted by some one or other of the educational bodies, a list of which is given with the Recommendations of the General Medical Council. The medical council recommends that no such certificate should be accepted by any of the licensing boards, unless it testify that the candidate has been examined in the following subjects: (1.) The English language, including grammar and composition. (2.) Arithmetic, including vulgar and decimal fractions, and Algebra, including simple equations. (3.) Geometry, the first two books of Euclid, or the substance thereof. (4.) Latin, including translation and grammar. (5.) One

of the following subjects at the option of the candidate: Greek; French; German; Elementary Mechanics of Solids or Fluids, meaning thereby mechanics, hydrostatics, pneumatics, and hydraulics. [On and after January 1, 1882, the following subjects will be required: (1.) English Language, including grammar and composition. (2.) English History. (3.) Modern Geography. (4.) Latin, including translation from the original and grammar. (5.) Elements of Mathematics, comprising (a) Arithmetic, including vulgar and decimal fractions; (b) Algebra, including simple equations; (c) Geometry, including the first two books of Euclid, or the subjects thereof. (6.) Elementary Mechanics of Solids and Fluids, comprising the elements of statics, dynamics, and hydrostatics (this subject may be passed either as preliminary, or before, or at the first professional examinations. (7.) One of the following optional subjects: (a) Greek; (b) French; (c) German; (d) Italian; (e) any other modern language; (f) Logic; (g) Botany; (h) Elementary Chemistry.] The preliminary examination having been passed, the student should at once register, as the commencement of the course of professional study is not recognized as dating fifteen days earlier than the date of registration. Forms of such registration are supplied by the licensing bodies and at the schools and hospitals.

After passing the preliminary examination, the student may commence his medical education in one of the following ways (according to the regulations of the licensing body with which he intends to become connected): (1.) By attendance for one year on the practice of a provincial hospital or other public institution recognized for this purpose. (2.) As the pupil, for one year, of a legally qualified surgeon, holding sufficient public appointments to afford such opportunities of practical instruction as shall be satisfactory to the authorities. (3.) By entering at once at a recognized medical school.

The minimum period of medical study required is forty-five months from the date of registration as a student, of which time at least two years and a half must be passed at a recognized medical school. For the degrees of the universities (except that of London) the candidate is required to spend a portion of the time of medical study at the university which grants the degree, or at a college in connection therewith.

To obtain a degree, diploma, or license, two examinations at least in professional subjects must be passed. The first examination may be completed at or before the close of the second year of professional study, and embraces the following subjects: (1.) Chemistry and Chemical Physics. (2.) Anatomy. (3.) Physiology. (4.) Materia Medica and Pharmacy. The second or final examination, which must not be passed until the completion of the fourth year of study, comprises: (1.) Pathology (including morbid anatomy). (2.) Medicine (including medical anatomy, clinical medicine, and therapeutics). (3.) Surgery (including surgical anatomy and clinical surgery). (4.) Midwifery. (5.) Forensic Medicine. This arrangement is of course subject to some variation; but the general principle of examining first in the elementary and afterwards in the practical subjects is invariably followed. Some of the examining bodies — such as the universities in Scotland — divide the examinations into three or four parts.

The medical schools in London are those of St. Bartholomew's, Charing Cross, St. George's, Gay's, the

London, St. Mary's, the Middlesex, St. Thomas's, and Westminster hospitals; and the Medical Faculties of King's and University colleges. To these may be added the London School of Medicine for Women, with which the Royal Free Hospital is connected for the purpose of clinical instruction, and Mr. Thomas Cooke's School of Anatomy and Surgery.

In the provinces in England, there are the medical departments of Queen's College, Birmingham, Owens College, Manchester, and the Medical College of the University of Durham, at Newcastle-on-Tyne; together with medical schools at Bristol, Leeds, Liverpool, and Sheffield. The Universities of Oxford and Cambridge do not profess to give a complete education; in fact, there is no medical school at Oxford; but instruction in many branches is provided for at Cambridge.

In Scotland, the medical schools in which a complete course of professional education is given are those attached to the Universities of Aberdeen, Edinburgh, and Glasgow, the Extra-Academic School in Edinburgh, and the Anderson's College and the Royal Infirmary School of Medicine in Glasgow.

In Ireland, the medical schools are, the School of Physic in Ireland, the School of the Royal College of Surgeons of Ireland, and the colleges at Belfast, Cork, and Galway, in connection with the Queen's University in Ireland. There are also several medical schools in Dublin, namely, the Carmichael College of Medicine and Surgery; the Catholic University; Dr. Steevens's Hospital and Medical College; and the Ledwith School of Anatomy, Medicine, and Surgery.

FRANCE.

Degrees in medicine of the University of France are conferred by the faculties of Paris, Montpellier, Nancy, Bordeaux, Lille, and Lyons, under regulations laid down by the government.

(1.) The studies necessary for obtaining the degree of doctor of medicine last four years; during the first three years they may be carried on either in the faculties, in the *écoles de plein exercice*, or in the preparatory schools of medicine and pharmacy. The studies of the fourth year can only be made in a faculty or in an *école de plein exercice*.

(2.) The candidates must produce, when they take the first inscription, the diploma of bachelor of sciences, limited as regards the mathematical part. They must undergo five examinations and defend a thesis. The second, third, and fifth examinations are divided into two parts. The *examens de fin d'année* are suppressed.

(3.) The five examinations are on the following subjects. First examination: physics, chemistry, medical natural history. Second examination: first part, anatomy and histology; second part, physiology. Third examination: first part, external pathology (surgery), midwifery, operative surgery; second part, internal pathology (medicine), general pathology. Fourth examination: hygiene, legal medicine, therapeutics, materia medica, and pharmacology. Fifth examination: first part, clinical surgery and obstetrics; second part, clinical medicine, practical demonstrations in pathological anatomy, and a thesis on a subject chosen by the candidate.

A foreigner holding medical qualifications to practice medicine, if desirous of obtaining the degree of the University of France, must show to the minister of public instruction his diploma, and the certificates of the course

of study which he has undergone in his own university or medical school. The minister, if satisfied, will authorize the candidate to present himself for the five final examinations (*examens de réception*). These are conducted in the French language. The fees are as follows: each examination 90 francs = 450 francs; thesis, 240 francs; fifteen inscriptions, 520 francs; three *examens de fin d'année*, 90 francs; diplomas of *bachelier ès lettres et ès sciences*, 100 francs; in all 1400 francs. It will be seen that the candidate has to pay all the fees, although exempted from the necessity of passing the preliminary examinations and those for the *bachelier ès lettres et ès sciences*.

Medical education in France is under the control of the state, and is given in the faculties of medicine and pharmacy, the *écoles de plein exercice*, and the preparatory schools of medicine and pharmacy.

The following are the conditions laid down by the French government for the recognition of a faculty of medicine: The city in which the school is established must pay a proper share of the expenses. There must be seventeen professorships, namely, anatomy, physiology, internal physiology (medicine), general pathology and pathological anatomy, hygiene and forensic medicine, operative surgery, therapeutics, materia medica, botany and zoology, medical chemistry, medical physics, pharmacy, and clinical midwifery,—each with one professor; and two professors each of clinical medicine and clinical surgery. There must also be eight assistant professors: two each for the natural sciences, medicine, and surgery, and one each for obstetrics and for anatomy and physiology. These assistants are selected by *concours*, and appointed for ten years.

The School of Medicine in Paris is open not only to the French public, but to all who wish to attend the courses and take degrees. Great facilities are afforded to British and foreign students for the prosecution of their studies, all lectures being given gratuitously, and no payment being required for hospital attendance. For dissections, however, a payment of 30 francs or more is expected from each student.

The medical sessions begin for winter on October 15th, and for summer on April 15th, of each year.

The instruction in the faculty of medicine in Paris is given by the following professors: M. Sappey, Anatomy; M. Robin, Histology; M. Bédard, Physiology; M. Wurtz, Medical Chemistry; M. Baillon, Natural History; M. Gavarret, Medical Physics; M. Regnaud, Pharmacology; MM. Jaccoud and Peter, Internal Pathology or Medicine; M. Trélat, External Pathology or Surgery; M. Guyon, Surgical Pathology; M. Le Fort, Practical Surgery; M. Hayem, Materia Medica and Therapeutics; M. Charcot, Pathological Anatomy; M. Pajot, Midwifery; M. Bouchardat, Hygiene; M. Brouardel, Forensic Medicine; M. Bouchard, General Pathology and Therapeutics; M. Vulpian, Comparative and Experimental Medicine; MM. G. Sée, Lasègue, Harby, Potain, Clinical Medicine; MM. Gosselin, Richet, Vernoni, Clinical Surgery; M. Depaul, Clinical Midwifery; M. Panas, Clinical Ophthalmology; M. Parrot, Diseases of Children; M. Laboulbène, History of Medicine; M. Ball, Diseases of the Mind and Nervous System. Supplementary courses are also given on Diseases of the Skin, Diseases of Children, Venereal Diseases (M. Fournier).

There are laboratories for Normal Histology (under the charge of Robin); Physiology (Bédard); Path-

ological Anatomy (Charcot); Experimental Pathology (Vulpian); Therapeutics (Hayem); Biological Chemistry (Gautier); Pharmacology (Regnaud). The sphere of these laboratories is limited owing to imperfect accommodations and means; they are used chiefly by medical men and students preparing their theses.

GERMANY.

In the German empire there are twenty universities which possess a medical faculty and grant degrees in medicine; namely, those of Berlin, Bonn, Breslau, Erlangen, Freiburg im Breisgau, Giessen, Göttingen, Greifswald, Halle, Heidelberg, Jena, Kiel, Königsberg, Leipzig, Marburg, Munich, Rostock, Strasburg, Tübingen, and Würzburg.

No one can legally practice medicine in this empire unless he has passed the Staats-Examen board. The law forbids any one to call himself *Arzt* (physician) unless he has passed the State Board, or doctor unless he has passed the examinations at some university, and thereby acquired the degree. The doctor who has not passed the State Board is not a licensed physician, and may hold no appointment; and if he practice has no power or right to insist on payment of his services. The physician licensed by the State Board, on the other hand, is not allowed to call himself "doctor," unless he has passed an university examination. The practitioner who is neither doctor nor physician practices at his peril; for though he is not forbidden by law to do so, yet, if any mishap occur from his ignorance, he is punished not only by fine, but by imprisonment for a period varying from six months to ten years.

The expenses of passing the State Board are less than half of those for the faculty of an university, and the examination is more exclusively practical; hence it is selected by the poorer students, who seek only a rural practice. The majority of students pass both the university and the state examinations, and this is especially necessary for those who aspire to any medical office.

No medical diploma, either from an university or otherwise, can be obtained in Germany without a gymnasial certificate, to obtain which an examination must be passed at a German gymnasium (public school) in Greek, Latin, at least one modern language besides German, logic, the physical sciences, and mathematics. A candidate who cannot present this, or an equivalent certificate, must pass a preliminary examination in those subjects.

The number and character of professional chairs in the medical faculties vary greatly in the different universities; but in all we find three classes of teachers, namely, professors, extraordinary or assistant professors, and *privat-docents*.

The professors are appointed for life, and at the end of thirty years' service can retire on a pension; they receive a fixed salary from the state or university, a part of the revenue derived by the medical faculty from certain fees, and their lecture fees from the students. The fixed salary is occasionally increased, according to the success and reputation of the professor. Any doctor in medicine may be a candidate for a vacant chair, the selection being made by the Minister of Public Instruction from a list of names recommended by the faculty.

The extraordinary or assistant professors are appointed in like manner from among the *privat-docents*.

As a rule, their compensation comes only from students' fees, but occasionally a small fixed salary is allowed.

The position of *privat-docent* is accessible to all doctors of medicine, and the number is unlimited. Their compensation is from students' fees, and they may not underbid the regular professor. At some universities they are furnished with rooms, and given a share of the clinics; at others they receive little or no assistance.

There are no independent schools in Germany. No one can open a course on his own responsibility, and the universities have alone the power to confer academic grades. The system of *privat-docents*, however, compensates in a great measure for this want of freedom. As the test of fitness for a degree in the university, or for the position of a practitioner in the state, is mainly the ability to pass certain examinations, and as the salaries of the professors are guaranteed by the state, it is evident that it makes little difference as to precisely when, where, or how the student gets his information, provided only that he really gets it.

There is, therefore, little objection to free, or, as it is sometimes called, "extramural teaching," and hence young men of ability can establish themselves as private teachers, demonstrators, etc. in the immediate vicinity of the universities, relying on their own talents and tact to secure pupils. These are the *privat-docents*, much of whose teaching consists in giving short courses, of from six to eight weeks' duration, on special subjects. These *privat-docents* are subject to certain regulations, and follow in a general way the teaching and directions of the professor of the special branch to which they attach themselves; they are understood to be in training for professorships, and, if they show marked ability as teachers or as investigators, their promotion may be very rapid.

The course of study at the German universities varies according to the requirements for the particular medical degree, but in no case is it less than three years. At some the course extends over four years. The following lectures are the least which will be accepted by any of the university faculties, and may be taken in whatever order the student may wish. The courses occupy nine and a half months in each year. For one year: chemistry, six hours weekly; physics, four hours weekly; zoology and comparative anatomy, three hours weekly; botany, three hours weekly; mineralogy and geology, two hours weekly; anatomy, histology, and preparation of specimens, ten hours weekly; physiology and laboratory work, eight hours weekly; general pathology, pathological anatomy, and practical work, six hours weekly; pharmacology and toxicology, two hours weekly. For two years: special pathology and medical clinic at hospital, ten hours weekly; general and special surgery, hospital clinics, and operating, ten hours weekly for one year, or five hours weekly for two years. This course may not be taken at the same time as the previous medical course. Obstetrics and gynecology, with clinics, three hours weekly for one year; eye and ear clinics, use of ophthalmoscope, operations, four hours weekly for one year; forensic medicine, two hours weekly for one year.

The professors receive fixed salaries, varying from £120 to £480 annually, and increased every ten years by the addition of from £20 to £50. The students'

fees for the entire course vary in different schools from £36 to £52.

UNIVERSITY OF BERLIN.

The institutions for clinical treating connected with the university are: Professor von Langenbeck's Clinic for Surgery; the University Polyclinic (Dr. J. Meyer); the Ophthalmic Polyclinic (Dr. Schweigger); the Aural Clinic (Dr. Lucae); the Obstetric Clinic (Dr. Schroeder); the Institute for Practical Instruction in State Medicine (Dr. Liman); and, in the Charité Hospital, the Medical Clinic (Dr. Frerichs); the Clinic for Elementary Medical Instruction (Dr. Leyden); the Surgical Clinic (Dr. Bardeleben); the Ophthalmic Clinic (Dr. Schweigger); the Obstetric Clinic (Dr. Gusserow); the Gynaecological Clinic (Dr. Schroeder); the Clinics for Diseases of the Skin and Syphilis (Dr. Lewin), for Diseases of Children (Dr. Hlénock), and for Diseases of the Mind and Nervous System (Dr. Westphal). The Pathological Institute is under the direction of Professor Virchow; the physiological laboratory under that of Professor Du Bois-Reymond; and the chemical laboratory under that of Professor Hofmann.

SWITZERLAND.

In Switzerland degrees in medicine are granted in the universities of Basle, Berne, Geneva, and Zurich. These degrees do not confer a license to practice, for which a separate examination is required.

AUSTRIA.

The universities of the Austro-Hungarian Empire which possess medical faculties and grant degrees in medicine are: Agram (Croatia), Gratz (Styria), Innsbruck (Tyrol), Cracow, Lemberg (Galicia), Pesth (Hungary), Prague (Bohemia), and Vienna.

All the universities are under government control, and the degree of doctor of medicine obtained at any of them alone gives the right to practice medicine in the empire.

The course of study required of candidates for the degree of doctor of medicine in the universities of the Austrian Empire extends over five years, or five winter and five summer terms or semesters. The following arrangement is recommended by the government. (The first, third, fifth, seventh, and ninth are winter semesters; the others are summer semesters.) First semester: systematic anatomy; experimental physics; inorganic chemistry, general botany; dissections. Second semester: systematic anatomy (second part); experimental physics (second part); organic chemistry; special botany; practical introduction to chemical analysis; practical introduction to the use of the microscope. Third semester: physiology, histology, medical chemistry; zoology; dissections. Fourth semester: physiology (second part); embryology; exercises in physiology, in histology, and in medical chemistry. Fifth semester: general pathology and therapeutics; pharmacology; pathological anatomy; pathological histology; post-mortem examinations; practical introduction to the physical examination of patients. Sixth semester: pathological anatomy (second part); special pathology, therapeutics, and clinic of internal diseases; special surgical pathology, therapeutics, and clinic; post-mortem examinations; exercises in pathological histology. Seventh semester: special pathology, therapeutics, and clinic of internal diseases; special surgical pathology, therapeutics, and clinic; diseases of

the eye; exercises in surgical anatomy (operations). Eighth semester: internal diseases; surgery or diseases of the eye; surgical operations (surgical anatomy). Ninth semester: internal diseases; surgery; theory and practice of obstetrics and gynaecology; forensic medicine (exercises in obstetric operations); medico-legal exercises. Tenth semester: clinics of diseases of children, of diseases of the skin, and of syphilis (obstetrics and gynaecology); exercises in obstetric operations (medico-legal exercises). Of the subjects included in parentheses one course only is required, which may be attended in either a winter or a summer term, at the option of the student.

The examinations are public, and each member of the commission examines the candidate for a quarter of an hour. He is required to undergo three examinations for his degree.

The great clinics on medicine, surgery, etc., are conducted during the two sessions, from the middle of October to the middle of March, and from the middle of April to the end of July. They are under the immediate direction of the professors of the medical faculty, and constitute, of course, an essential part of the curriculum of study for the ordinary Austrian student.

The special courses of instruction are most numerous during the regular academical sessions, but there are always some going on, even in August and September. They last usually from four to eight weeks. The courses are given for the most part by private lecturers and the professors' assistants, and the material for them is derived from the wards of the clinical professors.

CANADA.

The following are the Medical Examining Bodies and Schools in the several provinces constituting the Dominion of Canada.

NOVA SCOTIA. — University of Halifax Faculty of Medicine; Halifax Medical College.

ONTARIO. — College of Physicians and Surgeons of Ontario; Medical Faculty of the University of Victoria College, Coburg; Medical Faculty of Queen's College, Kingston; Royal College of Physicians and Surgeons, Kingston; Medical Faculty of the University of Ottawa; Toronto University Faculty of Medicine; Trinity College Faculty of Medicine, Toronto; Toronto School of Medicine; Trinity Medical School.

QUEBEC. — College of Physicians and Surgeons of Quebec; Bishop's College University Faculty of Medicine, Montreal; Laval University, Montreal and Quebec; McGill University Faculty of Medicine.

MCGILL UNIVERSITY FACULTY OF MEDICINE.

The matriculation examination comprises the following subjects: English language (including grammar and composition); Arithmetic (including vulgar and decimal fractions); Algebra (including simple equations); Geometry (first two books of Euclid); Latin (translation and grammar); and one of the following optional subjects: Greek, French, German, Natural Philosophy, including Mechanics, Hydrostatics, and Pneumatics. Graduates in arts of recognized universities are not required to submit to the matriculation examination; and a certificate of having passed this examination before the College of Physicians and Surgeons of Ontario or of Quebec is accepted.

No one can be admitted to the degree of doctor of medicine and master of surgery who shall not, in this

or in some other university, college, or medical school, approved of by this university, either have attended lectures for at least four six-months' sessions, or studied medicine during at least four years, and during that time have attended lectures for at least three six-months' sessions.

Candidates for the final examination must furnish testimonials of attendance on the following courses: anatomy, chemistry, materia medica, and pharmacy, institutes of medicine, principles and practice of surgery, midwifery and diseases of women and children, theory and practice of medicine, practical anatomy, clinical medicine, clinical surgery, — each two six-months' courses; medical jurisprudence, — one course of six months, or two courses of three months; practical chemistry, botany or zoology, hygiene, — each one three-months' course duration; no less than twenty-five demonstrations upon microscopic anatomy, physiology, and pathology. Testimonials equivalent to, though not precisely the same as, those above stated may be presented and accepted. The candidate must have attended during eighteen months the practice of the Montreal General Hospital, or that of some other approved hospital, and have compounded medicines for six months. He must also have attended for at least six months the practice of the university or other approved lying-in hospital, and have attended at least six accouchements.

Every candidate for examination must have attended at least one session at this university, and one full course of all the branches included in its curriculum.

JAPAN.

In June, 1876, the number of medical practitioners in the returns of two cities and forty-three prefectures was estimated at 23,284, about twenty-one per cent. of whom were practicing medicine according to the Western system, and all of the remainder either according to the mixed systems of China and the West, to that of China and Japan, or to the pure Japanese one.

Knowing that it would be impossible to make the change to the new methods at once, and thus to secure uniformity, the government adopted a politic course. It strongly recommended to the young medical students to pursue only the most approved course of study, and to those now in practice to continue as in the past, or to make such changes as the exigencies or advantages of their practice might afford. In 1876 the late home minister, Okubo, issued a notification "that the examination of candidates for a certificate to practice medicine in accordance with the following regulations shall be introduced into every prefecture as soon as the condition of medical men in each prefecture shall admit: —

Regulations for the Examination of Candidates. Article I. Any one desirous to become a medical practitioner shall be required to apply for a certificate, which shall be given only after the prescribed examination has been passed satisfactorily.

Note. Any one who has been at the time of the issue of these regulations practicing medicine shall not be obliged to subject himself to an examination. The local authorities shall therefore take the proper measures to distinguish such medical practitioners from those who have been licensed after a satisfactory examination. . . . The subjects for examination for candidates are the general principles of natural philosophy, of anatomy, of physiology or pathology, of pharmacology, and the theory and practice of medicine and surgery. . . .

Article III. The examination shall be held at a convenient place, such as the local government office or public hospital; and the results shall be reported to the Home Department, which shall grant the certificates. . . .

In June, 1877 (the date of the last published report),

there was in Japan a population of 32,812,116, of whom 31,268 were medical practitioners (this enumeration includes all of the prefectures except Kagoshima), giving a proportion of 0.91 to the thousand of population. Of this army of "doctors," 20,568 were followers of the Chinese system; 4098 mixed and non-classified; 6402 the Western system; and 200 licensed after the prefectural examination. Though no official reports are at hand, yet the testimony of the native physicians in Hokkaido and at the line of hospitals in North Nippon is to the effect that Western medicine has made greater progress during the past three years than at any previous period; that the number of the Chinese school of doctors is decreasing; that the people are slowly being educated up to the advantages and benefits of the new treatment, though a very large number still adhere to the old methods; that local hospitals and dispensaries are springing up in all parts of the interior; and that the Western ideas of hygiene and sanitation are receiving increasing attention from all the local authorities.

Medical and Surgical Journal.

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THE PROGRESS OF MEDICAL EDUCATION.

A GLANCE beneath the surface at the work done by our medical schools during the past decade in raising the standard of education shows an amount of improvement even among those colleges which have not adopted a new plan, or joined any special association, that one would hardly expect to find who had not followed closely the process of evolution so rapidly developed since an onslaught was first made upon the old system, which had maintained undisputed sway for nearly a century. A course of instruction which ten years ago was considered amply sufficient to enable the brain of Young America to digest the art and a handsome allowance of the science of a great profession, a course which received the indorsement of the leading men in the country, would now be disclaimed, if not openly despised, by any faculty having pretensions to "standing." The time occupied then in obtaining a degree would hardly suffice now to enable the student to complete satisfactorily a preparatory course of study. It was thought by students at that time evidence of unusual talent and an enviable record for one to get his degree in the smallest possible number of months. A man who "hung round" a medical school for three years was looked upon as a sort of dunce. At the present day, even at many of the schools which still hold on to the old go-as-you-please plan of study, it is thought quite the thing not to get through your anatomy, chemistry, and physiology until well into your second year, and "four-year men" are, we are happy to say, not only the "very latest style," but also quite a popular one.

The tide of reform has acted so unequally upon different localities, and has been so much modified by various currents and eddies, that we have thought the present season a peculiarly appropriate one to take a new survey of the situation; and although we have allowed in each case friendly hands to heave the lead, we think the educational number which we present to our readers is a tolerably correct chart. It is not intended, like many of our foreign exchanges, to present a "student's number," but is designed rather for the use of teachers, or those who wish to form an opinion which will enable them to advise a young man where best to seek his medical education. For purposes of comparison we have given a brief account of the most prominent of the European schools. The regulation of the practice of medicine is a subject which is pressing itself more and more strongly upon professional men in this country. It should be distinctly understood by the community that the motives which influence medical men in the movement are akin to those which prompt them to urge the adoption of hygienic laws and the study of state medicine; it is for the protection not of the profession, but of the people. Professional prejudice apart, it really seems as if the time had come when something should be done for the relief of a most unmercifully besindled and bequacked country, of which in this sense, if in no other, our own poor city may indisputably claim to be the hub. The theory that perfect liberty in the selection of one's medical adviser, no matter what his or her qualifications may be, is the inviolable right of every American freeman is certainly a plausible one, but let our legal friends crack this gaudy shell, and they will find inside the bogus-diploma crab, the medium snail, and a collection of vermin which might have put poor Pandora to the blush. We have therefore presented a few of the medical practice acts, — unfortunately there are very few to choose from, — and those selected cover the legislation which has thus far been accomplished in this direction. The States which are without any protection of this kind are also largely in the majority, but we have faith that the medical profession have influence, when they choose to exert it, to bring about the needed reform. Dissecting laws, like vivisection laws, are delicate subjects, and difficult to handle in a way that will not excite fear and distrust among the ignorant. We are at stated intervals, however, reminded somewhat sharply that these are questions which will not take care of themselves, and in view of certain recent unpleasant and unsavory occurrences, the influence of which, we have no doubt, every demonstrator in the country has since felt in a greater or less degree, we open in the present number a series of articles on the anatomy acts, which we are sure will prove an interesting and valuable contribution to the subject.

NOTE. The materials we have collected together in the present number have largely been prepared specially for the JOURNAL; we have to acknowledge our indebtedness for a portion of the statements in regard to foreign schools to an abstract in the *London Medical Record*, from Hardwicke on Medical Education and for the description of Japanese education to a letter from Dr. J. C. Cutter in the *Philadelphia Times*.

Lectures.

CLINICAL LECTURE ON CHLOROSIS.

DELIVERED AT THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

BY PROF. T. GAILLARD THOMAS, M. D.

GENTLEMEN, — The patient upon whom I propose to base a few remarks to-day in regard to an affection of considerable interest is a young woman, eighteen years of age, a native of the United States, and unmarried. The account that she gives of herself is that she was perfectly well up to a few months ago, when she began to suffer with a pain in the left side, which has continued to a greater or less degree ever since, and which is always aggravated by exercise. More recently she has suffered from a pain in the back, and this is all that she complains of, with the exception that she feels weaker than she used to, this weakness being especially noticeable when she goes up-stairs. She is quite regular in regard to her monthly periods, although the flow is now so slight as barely to amount to a "show." Her bowels are regular also, she says, and she digests her food well.

We thus have all the history which the patient has to give, and I trust that while she has been answering my questions you have been watching her attentively, as you should always do while you are drawing out the history of the case, whenever a patient comes to consult you. You observe that the entire complexion of this girl is not only very pale, but that it is in addition of a somewhat greenish hue. Her pulse I find to be over 100 and quite small. It is by no means that of an inflammatory condition, because it is very soft and compressible. Auscultation of the heart reveals the existence of a loud basic murmur, which can also be heard along the course of the large blood-vessels. Her tongue is white, soft, and indented by the teeth, while at the same time it is found to be very pale, as are also the lips and inner surfaces of the eyelids. In fact, wherever we examine the mucous membrane, we find that the red globules of the blood do not show as they ought, so that she has the appearance of one who has lost much blood. So far from this, however, she has lost, as we have seen, scarcely any at all.

Such cases as this are usually brought to us for either amenorrhœa, obstinate constipation, or phthisis, the more or less rapid emaciation leading the patient's friends to suspect the latter trouble. What attracts our attention particularly, however, is the peculiar discoloration of the skin, and this ordinarily affords us the clew to the true nature of the case. The disease from which this girl is suffering occurs, as a rule, just at the age at which she has arrived, or, in other words, at the age of puberty, — say from sixteen to eighteen, — when all the functions undergo more or less alteration. The name which we give to the affection is one which has been in common use for centuries now.

Why is it that this girl is so weak and so pale, and why does she suffer so much from this pain about the cardiac region (which is, indeed, the principal symptom of which she complains)? Some might call it a case of anæmia or spanæmia, the latter term signifying not too little blood, but poor blood. If you were to pass through the wards of Bellevue Hospital, you would see spanæmia under a great variety of conditions. One patient, for instance, would look very pale, and, on inquiry, you would find that he was suffering

from albuminuria. In Bright's disease, not only is the albumen drained from the blood, but, in addition, there is actual deterioration of the life-giving fluid from a poison that is poured into it. Another patient would attract your attention by his appearance of spanæmia, but instead of having Bright's disease, you would find that he was suffering from well-marked malaria. In still another there would be no blood-poisoning whatever, but simply the result of loss of blood from hæmorrhoids, for instance. This is not strictly anæmia, however, for the man has just as much blood as ever, and it is therefore better to call the case one of spanæmia, as there has been merely an increase of the watery element of the blood.

But now, is the case before us one of anæmia or spanæmia? I do not think it is, but, on the other hand, regard it as something entirely different. This I can show you, I think, by comparing it with the other cases which have been suggested. Take the man suffering from malaria, for instance. Give him a sufficient amount of quinine, remove him to a perfectly healthy locality, feed him up well with nourishing food, and in a single month he would probably be almost if not entirely well. Or take the one suffering from bleeding hæmorrhoids. Tie his piles, and give him plenty of iron and other tonics, and in six weeks he will be perfectly well. But now take this girl (and I pass over the supposed case of Bright's disease, because the spanæmia seen in that case, like that of phthisis, is due to irremediable causes). Give her as much iron and as much food as you choose, and after months and months she will probably be scarcely at all improved.

What she is suffering from is a disease called by the old writers *chlorosis*, and long popularly known as the "green sickness," from the peculiar discoloration of the skin which characterizes it. Those who suffer from it usually menstruate regularly for a time after they first arrive at the age of puberty, and then this trouble begins to develop. As a general rule, it seems to be originally due to some strong mental or emotional disturbance, and nostalgia is regarded as one of its most frequent causes. The mother of such a young woman at first notices that she is getting very pale, and then becomes alarmed because her menses are diminishing to such an extent that she fears they will cease altogether. Instead of lasting six or more days, as before, there is merely a show of blood that does not continue for as many hours, perhaps. Other symptoms that generally follow are obstinate constipation, disordered primary digestion, irregularity and violence of the heart's action, and marked nervous disturbances.

Although the case now before us is not a very strongly marked one, its features are sufficiently distinct to enable you to obtain a fairly good idea of the affection in question; for unless you are pretty well informed in regard to it, there is great danger of mistaking the diagnosis in such cases. What, then, is chlorosis? I believe it to be a disease of the nervous system, and the latter, as you know, is always profoundly impressed at this period of life. While it is in this state of exaltation, as it may be called, something (we do not know exactly what) may possibly go wrong with it, and, as a result, we have this chlorosis, in which all the functions, and especially that of blood-making, are more or less interfered with.

But what is the use, it may be asked, of making a diagnosis between spanæmia and chlorosis? Because

not only is the prognosis, but also the treatment, very different in the two conditions. In simple spanæmia iron is of the very highest service, but this is not the case where chlorosis is present. Hence you will sometimes hear one physician say that iron does no good whatever in his hands, while another will claim that it is a most valuable remedy, and one that seldom disappoints him. In the present case I do not think that iron would accomplish much. Then I believe that the ganglionic system has been affected by some malign influence, although we possibly may not be able to discern precisely what the trouble is. The treatment that will answer in simple spanæmia is therefore not sufficient in such a case as this. The patient requires something more, and I feel sure that if she could only have a complete change of scene, with something new constantly to engage her attention, for a number of months, she would recover more quickly than if any other course were pursued. In cases where it is impossible for patients to go upon a prolonged tour, lesser changes in the manner of life are often of great service. Thus, an alteration of the surroundings at home, the removal from school, the change from the city to the country, and *vice versa*, all prove beneficial in certain instances. Besides, it is important to improve the nutrition in every way possible, and hence the patient should have as much food (especially of a kind that will make blood rapidly, such as milk, eggs, animal broths, etc.) as she can digest. Not that this will really reach the disease, but as poorness of the blood is one of the principal features, it should be our aim to counteract this as well as we can. To this end, therefore, the patient, instead of having three meals a day, should take about six, although the intermediate ones may be light, and consist principally of fresh un-boiled milk. Nine tenths of patients will tell you that they cannot take milk at all, as it makes them bilious and constipated, but with a little care they can all be educated so as to be able to take any amount of milk that is necessary for them. But when I say that food should be taken at frequent intervals I do not by any means ask you to overload the stomach, and care should always be taken that the diet should be of the proper character, and that too much nourishment should not be given at once.

There are also certain medicines which are useful as adjuvants, and among them I may mention iron, and such nerve tonics as the hypophosphites, strychnia, and arsenic. Small doses of Fowler's solution, I have found, will often do much more good than iron. In addition, a proper amount of exercise is imperatively demanded in most cases of chlorosis. It is not enough for the patient to walk, but she should also engage in such gymnastic exercises as light calisthenics. One form of such exercise which I have found of the greatest possible service is that which the rowing-machine affords, and I usually direct such patients to work on it, with a very light oar, for fifteen or twenty minutes three times a day. This, then, is the general plan to be pursued in chlorosis, and if it could be carried out in the present instance I think that in six or eight months we might see considerable change in the patient. We should not expect too rapid results, however, and I would be perfectly satisfied if she were entirely cured in the course of a year. Of course, were it simple spanæmia that we had to deal with, a complete recovery could no doubt be effected in a very much less space of time.

Original Articles.

DEEP ABSCESS OF THE NECK.¹

BY D. W. CHEEVER, M. D.

SUPPURATION of the connective tissue beneath the deep cervical fascia is of moderately frequent occurrence. The anatomical arrangement of the parts concerned makes it both insidious and dangerous. The neck is closely packed with flexible, mobile, and vital structures. The muscles are long muscles, slender and vertical, with the exception of the hyoid groups, which act as stays in preserving the central position of the hyoid bone. The neck revolves upon the vertebrae, and bends up and down and from side to side. The movements of respiration are, though slight, incessant, and the corresponding movements of blood in the great veins are largely influenced by the full or empty condition of the lungs and of the right auricle of the heart. The movements of deglutition are frequent and violent, though occasional, and as essential to life are only secondary in importance to those of respiration. To secure freedom of action the muscles of the neck, as well as the pharynx, œsophagus, larynx, and trachea, are very loosely joined together by what was formerly called areolar or cellular and is now called connective tissue. Particularly does the pharynx, carrying with it the larynx, slide with great freedom on the prevertebral group of muscles. And in swallowing quite strong vertical motion is communicated to the hyoid bone, to the cricoid cartilage and trachea, and to the œsophagus.

That this free motion may be carried on harmoniously and without displacement of individual parts the neck is enfolded in a strong membrane called the deep cervical fascia. It compresses the sterno-mastoid muscles, forming the sheath of the great vessels, and below swings the arch of the aorta and the pericardium by a continuation of its fibrous membranes. Attached behind to the spines of the vertebrae and ligamentum nuchæ, the deep fascia first forms a covering for the whole front of the neck, of varying density, and then sends processes in between the muscles. It is attached above to the lower jaw, below to the clavicle and sternum, and also takes a strong hold of the styloid process under the name of stylo-maxillary ligament. While thus bracing and compressing the muscular system of the neck and the carotid artery and internal jugular vein, it leaves the trachea and œsophagus free behind to slide on the bodies of the vertebrae, and it forms no boundary between the neck and the anterior mediastinum or the apices of the pleural sacs in the subclavian triangles. It follows from this that if fluids, either inflammatory or hæmorrhagic, should be poured out in the cellular interspaces of the neck they are firmly shut in from reaching the surface by the fascia, but not at all restrained from burrowing and gravitating behind and around the œsophagus and trachea into the thorax. It follows also that large amounts of inflammatory or other effusion speedily fill and distend the sac of the fascia, and then press profoundly on the great vein, the vagus nerve and the pharynx, the œsophagus, and back of the trachea.

This is the anatomical history of deep abscess of the neck.

¹ Read at the meeting of the Boston Society for Medical Improvement, October 11, 1880.

Ordinary acute cellulitis from any cause may locate itself under the sterno-mastoid muscle, as well as in the connective tissue of the palm or the axilla. The effusion of serum and leucocytes and fibrin having taken place is stopped by the fascia from reaching the surface, and burrows in and among the sheaths of the long muscles. Prevented, possibly, by the motion of the parts, or else originally of a low grade of inflammation, it fails to form an efficient lymph wall to the abscess, but assumes the form of diffuse suppuration. The process is acute and rapid. The accompanying symptoms are intense and the suffering profound. There is chill, fever, sweat, great rigidity and immobility of the neck, serous effusion under the skin, brawny and pitting exudation in the superficial cellular tissue, gradually a dusky redness, but no fluctuation. A very few days accomplish these stages. The neck is held on one side, the saliva dribbles away, the act of swallowing becomes excessively difficult, and yet an inspection of the fauces, by the mouth, reveals no obstruction. Graver symptoms now come on. The voice is hoarse, and finally whispering, respiration croupy. Edema of the glottis follows the continuance of the serous effusion, which always forms the outer zone of the suppurating process, and spasm of the glottis is produced by pressure on the laryngeal branches of the vagus. Unless relieved, the patient either dies rapidly, by suffocation, or lingers with a chronic suppuration burst into the mediastinum, or an empyema, from gravitation.

Deep abscess of the neck attacks adults. It differs from the ordinary and frequent suppuration of the lymphatic glands of the neck in being acute and spreading. Usually the superficial lymphatics lying along the external jugular vein are the seat of suppuration. They inflame in childhood, rise easily to the skin, and burst. When the deeper layer along the carotid sheath inflames it is a chronic, tuberculous form of suppuration, extends very slowly, and is in the form of a cold abscess.

Alveolar abscess in some of its vagaries resembles deep abscess of the neck. Pus forms in the tooth socket, drills the alveolus, escapes into the cellular tissue, and may gravitate down the neck above the deep fascia or beneath it. But it is chronic, not diffuse, and not productive of profound symptoms. Nature has time to accommodate her functions to gradual pressure and gradual infiltration, just as she does in the cold abscess of the lymphatic gland. Alveolar abscess makes adhesions, hard lumps and bands, and long fistulous tracts, sometimes opening as low as the clavicle or acromion. It is rarely dangerous.

Facial erysipelas, assuming the cellulito-cutaneous or phlegmonous form, may end in deep abscess of the neck. This is, if possible, more dangerous than acute deep abscess alone, since we have the added perils of hardened chains of lymphatics which always accompany erysipelas, and the risk of plugging of the veins which frequently follows it. Erysipelas, however, is by no means a constant cause of deep abscess. The latter exists alone quite frequently, and is to be defined as a *spreading cellulitis of the connective tissue of the neck*. Its course is rapid and fatal; its treatment simple in the extreme. The difficulty lies in the diagnosis and in appreciating what is coming.

Incision through the deep fascia to let out the inflammatory exudation is the treatment. The obstacles are the absence of fluctuation and the dangerous locality for

such incisions. Sometimes the abscess can be reached behind the sterno-mastoid muscle. Ordinarily we have to open over the superior or inferior carotid triangle. The infiltration is great and the pus is deep. It can be safely evacuated by a method known as Hilton's. Make an ordinary incision parallel to the sterno-mastoid until you reach the deep fascia. Raise and nick this, as in tying an artery; then abandon the knife and take a director, or a pair of dressing forceps, or even the little finger, and bore down between the muscles and cellular interspaces until pus is reached. With ordinary prudence the veins will not be perforated, and they are more likely to be injured than any other part. Relief is immediate and complete. Subsequent treatment should comprise free drainage and syringing with antiseptics, tonics, good liquid food, and opium. Occasions arise where tracheotomy is instantly called for, before seeking for pus. The deep, brawny infiltration and swelling in these cases render it an unpleasant and hazardous operation.

I have seen six cases of deep abscess of the neck. The first was in the second year of my practice. The patient was a feeble Irishwoman at the North End, seen by a poor candlelight on a winter evening. She was sitting, supported, in a chair, breathing with labor, faint, and partially collapsed. She had been able to swallow nothing, the voice was whispering, the pulse very weak, suffering extreme. The neck was enormously infiltrated, pitting, and reddened. Having, fortunately, explained to the friends her danger, I made an incision and got pus, but she collapsed and died while it was flowing.

The second case was some years later, in a young man, intelligent and in good circumstances. Warned by the former case, and seeing him comparatively early, I persuaded him to take ether, and peaceably reached and evacuated the pus. He recovered.

The third case I was called to on a cold night in the town of Weymouth. The symptoms were very urgent, but the patient strong and young. I ventured to give him a little ether, and reached pus, with entire relief.

The fourth case was at the City Hospital, a strong young Irishman. Symptoms severe and progressive. Fortunately I recognized the commencement of edema of the glottis at a morning visit. Opened by the method described, and with entire relief.

The fifth case was in the hospital. A man was brought in in the afternoon with swollen throat. I did not see him. Urgency of symptoms was not recognized. In the night the house officer was called in haste, and found him suffocating. He promptly and fortunately opened the trachea. The next day I etherized and reached pus. He recovered.

The sixth case was a dissipated and poverty-stricken woman in the hospital. At my morning visit I saw her and recognized the disease. The whole space between the sterno-mastoids was brawny and much swollen, saliva dribbling, nothing in the fauces, voice nearly extinct, pain great, pulse 140, temperature 102° F. History of exposure to wet and cold. I gave a little ether, and reached pus. She then breathed better. I then etherized fully, and made large openings in front of and parallel to the sterno-mastoids, finding extensive infiltration and offensive pus, with sloughs. Rubber drainage tubes were put in and syringed. She recovered. The disease had dissected so much that she suffered from adhesions afterwards.

A CASE OF IDIOPATHIC ANÆMIA; RECOVERY UNDER THE USE OF ARSENIC (FOWLER'S SOLUTION).

BY R. T. EDES, M. D.,

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SINCE Dr. Addison first (and best) described a peculiar form of anæmia of unknown origin, calling it "idiopathic," but more especially since the disease received its German baptism at the hands of Biermer as "progressive pernicious," cases have not been infrequently reported which with considerable regularity justified, in spite of all treatment, the later designation.

Since, however, cases have been observed where the diagnosis was open to no reasonable doubt, but which formed exceptions to this rule, it appears as if the earlier title, which expresses no opinion as to prognosis, were to be preferred.

The following case, though showing nothing new, does, I think, add one to the small number of those which have recovered, not from the use of either of the two methods of treatment which would at first sight suggest themselves, but which all experience in this disease has shown to be in most cases useless or worse,—that is, first, large doses of iron, and, second, transfusion of blood,—but from a drug which, however difficult may be the physiological explanation of its action, has been empirically proved to possess great value in this as in other forms of anæmia, namely, arsenic.

J. A., aged forty-one, single, American, ship carpenter, entered the City Hospital on May 11, 1880. He is said to have had a "heavy cold" two years ago, and not to have been well since. Works at his trade at intervals. No further cause for his condition was discovered, although the records fail to show just how searching the cross-examination may have been, and it is not now possible to complete them.

He is a man of large frame, good muscular development, and though not inclined to obesity, like many subjects of this disease, yet by no means emaciated. His complexion is exceedingly pale, with hardly a trace of red, somewhat yellowish in hue, with the tint of anæmia but not of jaundice.

He complains of weakness, headache, dyspnoea on exertion, loss of appetite, and general malaise. His sight is dim, and he is somewhat deaf. His aspect is listless and apathetic. Has had a very slight cough without any expectoration. Epistaxis occasionally. Considerable pain in lumbar region. Not much vomiting, but food distresses him. Bowels usually constive.

There is but a slight amount of ascites now, but he says his bowels have been much larger.

No œdema of feet or ankles at present, but they have been considerably swollen. He complains of palpitation.

Pulse is 90, the heart-sounds feeble, and there are systolic souffles both at the base and apex. The sphygmograph shows low tension. The spleen measures ten or eleven cm. The lower edge can be felt by the fingers thrust deeply under the rib during inspiration. The hepatic dullness extends a little below the border of the ribs.

May 12th. Urine slightly smoky, acid, 1024. Trace of albumen. Sediment: pus, blood, granular and very few epithelial casts. May 14th. High colored, 1012. Albumen, slight trace, a few hyaline casts.

On May 12th he began to take tincture of chloride of iron, thirty minims every four hours. On May 17th

this was omitted, and Fowler's solution, five minims, substituted. Quinia was given for some time, citrate of magnesia and guarana for an occasional headache, and from time to time a cathartic.

At first his appetite was very small, and he had much nausea. A "liquid food" which had been sent to the hospital, which I think was largely composed of blood preserved by alcohol and aromatics, but which I found contained a large amount of albumen coagulable by heat, was used by the mouth, and, combined with pepsine, by the rectum.

May 22d. Afterwards eggs with pepsine were given as enemata. Soon after he made an unauthorized addition to his diet by eating a hearty dinner of ham and eggs.

On June 8th his urine contained nothing abnormal. From this time on his appetite, strength, and complexion rapidly improved, until on July 4th his patriotism became so irrepressible that he left the hospital without leave, and I have been unable to get hold of him since. He is said by persons at his boarding place to have left for parts unknown, and to have been pretty well when he went away. Further tidings it has been impossible to obtain.

As detailed above the case presents but little to distinguish it from an ordinary convalescence, and a critic might suggest, in view of the first examination of urine and the history of some œdema, that he had had a mild nephritis. In fact, he was for a short time supposed to be suffering from renal disease. This supposition, however, is negatived by the very rapid disappearance of all symptoms which could be interpreted in this way, even at a time when the patient was not in the least improving as regards the general condition, and the progress was regarded by himself and attendants as very unfavorable; and more especially by the state of the blood, which I did not report with the other symptoms, as the progressive improvement in its globular richness can be best seen by bringing the successive counts together.

The first examination of the blood showed in the most distinct manner to the naked eye its extreme poverty in red corpuscles. It appeared, as issuing from a puncture, of a pale pink color and extremely thin and watery.

Under the microscope the corpuscles were found not only very few in number, but deformed both as to size and shape. Many were much smaller and a few larger than the average. They were irregularly distorted, pear-shaped, globular, or nearly so, some with distinct tails as if a portion were being pinched off; others were distinctly and deeply cupped, and gave one the impression of the swelling of a distensible mass, tending to retain somewhat of its original shape, within an indistensible but flexible envelope. One would be likely to suppose that they might be deformed because of floating in a serum of density less than normal. In fact, I am inclined to think that a considerable part, if not all, of the deformity in shape was due to an altered relation between the density of the corpuscles and the serum in which they floated. This would very well account for one of the most frequent distortions observed, namely, a disk which had nearly become a sphere, but with two slight indentations, like a foot-ball nearly but not quite blown up. I have since noticed this same appearance to a less extent in the blood corpuscles from an anæmic patient probably with malignant disease, and a globular richness of a little over two million. A very good idea of the various forms assumed may be formed from the

plates accompanying a very interesting lecture on this disease, by Dr. Finny, in the *British Medical Journal* for January 3, 1880, which not only confirmed the diagnosis, but suggested the treatment apparently so successful.

The blood countings were made with a Gower's hæmocytometer, as arranged under Dr. Amory's direction.

It should be said that the difference between the first three countings is not beyond the usual limits of error, unless very great care is taken and a large number of fields counted; a somewhat tedious process in the midst of ordinary clinical work, and not altogether agreeable to eyes not of the strongest. The first two observations (three counts) probably signify that no material change had then taken place.

My instrument gives in presumably healthy blood five million or more red corpuscles to the cubic millimetre.

Red corpuscles in one cubic millimetre:—

May 20th	{ 740,000
May 21st	{ 820,000
May 27th	{ 735,000
May 31st	{ 955,000
June 7th	{ 1,290,000
June 14th	{ 2,002,000
June 24th	{ 2,070,000
	2,595,000

As the proportion of red corpuscles increased, that of the deformed ones diminished.

It has been quite generally acknowledged by all writers upon this disease that iron is very far from producing the favorable effect we might naturally anticipate, and in most cases utterly fails in usefulness.

One case, however, is reported by Dr. Byrom Bramwell,¹ where the patient, who was unable to bear arsenic, recovered under the use of iron. The latter drug, however, has been the most essential part of the treatment in those other few cases, reported by Dr. Bramwell and by Dr. Finny,² which have recovered, and it is difficult to avoid assigning to it an important share in the exceptional result.

In this case the dose was not large, being five minims of Fowler's solution at first, afterwards increased to seven and one half; suspended for a day or two on account of swelling beneath the eyes, and resumed at a little smaller dose.

Transfusion of blood has been a resource to which the thoughts of the physician, in presence of so hopeless a condition, would naturally turn, but it has proved a delusive one. It has never been of any permanent value, and Dr. Pepper has shown³ that it is "not free from grave danger."

RECENT PROGRESS IN DERMATOLOGY.⁴

BY E. WIGGLESWORTH, M. D.

NO GENERAL TREATMENT FOR SYPHILIS BEFORE THE GENERAL SYMPTOMS.

Professor v. Sigmund called attention⁵ last year to the vast experience upon which he based his dictum, repeated in his article of this year,⁶ upon syphilis,

¹ Edinburgh Medical Journal, November, 1877.

² Loc. cit.

³ American Journal Medical Science, October 1875.

⁴ Concluded from page 349.

⁵ Wien. med. Wochenschr., No. 10, 1879.

⁶ Wien. med. Wochenschr., No. 16, 1880, et seq.

namely, no general symptoms, no general treatment. Mercury, potassic iodide, etc., he considers useless and often harmful, if given for treatment of the initial sclerosis before subsequent constitutional manifestations are present. The initial lesion is not healed thereby, the consequences of the infection are not in any way averted, the general health may be impaired. There is no "humanity" in too early treatment. Unity or duality of the virus is by no means a settled question, and there is very often serious difficulty or impossibility in deciding between the simple venereal ulcer and the initial sclerosis of syphilis. The latter, like the former, may disappear without treatment; its consequences always follow. And yet forty per cent. of healthy people attacked by syphilis suffer so little subjectively or objectively that neither they nor their physicians necessarily become aware of the existence of the virus in their systems. Too early general specific treatment is a pandering of medical science to lay superstition. By local and general hygienic treatment, however, much is to be gained. The existence of other general or of local venereal diseases must be particularly regarded. Diet is to be considered, and especially is the importance of absolute cleanliness of every part of the person to be borne in mind. Here individual portions of the body liable to be affected later by lesions belonging to the secondary stage, and also individual idiosyncrasies, must not be forgotten. It is rarely sufficient to lay down general rules, in the foolish hope that the average patient may possess by instinct the knowledge the physician has been years in acquiring; minute details are to be taught and to be enforced by frequent supervision. This supervision is useful on account of the recklessness, the bad habits already formed, the stupidity, and the helplessness of the patient, and also from the fact that, owing to the privacy insisted upon, many means of affording relief are excluded, and it is indeed a test of patience, and usually a thankless labor. These facts show the need of special hospitals for the treatment of syphilitic patients. The parts to be daily inspected and most carefully cleaned are those liable subsequently to erosions, ulcerations, pustules, etc., such as the genitals, anus, vulva and vagina, scalp, mouth, nares, throat, umbilicus, nipples, axilla, elbows, and knees, and the belly, breast, and back, where the erythema is most liable to first present itself. The neglect of cleanliness of the entrances to the body is often followed by quite serious consequences, to the mouth and throat in particular. Do not allow violent changes from old habits. Gauge the diet by the exertion demanded by daily life. Business must not be allowed to exhaust the patient. Good ventilation is needed, but no special raising of the temperature of the house. Scrofulosis, tuberculosis, and anemia in youth, in age, and in pregnant women call for special attention.

COMPLETE AND UNIVERSAL ALOPECIA FOLLOWING FIGHT.

Total baldness coming on rapidly is usually the result of severe fevers, and is followed by entire restoration to the normal condition. A case of Frédet⁷ is cited,⁸ however, which may perhaps be regarded as a unique one. A healthy Italian blonde, aged seventeen, lymphatic, with exceptionally profuse hair, was sewing at her window. Suddenly the floor fell in, leaving her

⁷ Annales de la Société de Méd. de St. Étienne, Arch. gén., 1879.

⁸ Allg. med. Centr.-Zeitung, March 6, 1880.

only time to catch hold of the window frame, where she hung till taken down by means of a ladder. No subsequent loss of consciousness nor nervous excitement through the day. At night headache, chills, and bad dreams. In the morning nervous excitement, weakness at the knees, spasms in the fingers, and great itching of the scalp. The following day she felt better, only the itching of the scalp remaining. But on arranging her hair whole tufts came out at the roots, adhering to her comb. In three days not a single hair was left on the scalp. Eyebrows, eyelids, axillae and genitals, began to lose their hair the day after the falling began from the scalp, and in five days these regions were devoid of hair. General health good and no functional disturbance of any kind. A month after the fall of hair began Prédet was consulted. The fallen hair, destined for a wig, was fine, silky, very rich and long. Not a hair on the body, though a lens was used in the search. Head smooth as a billiard ball; no more itching, and sensation normal. Physical condition otherwise, perfect. Mentally the patient has become despondent, fearing non-recovery of her hair. Two years later, after constant treatment, no return of the hair.

ICTHYOSIS CORNEA.

Boegehold furnishes¹ the case of a boy aged nine and a quarter years, healthy till three months old, then developing warty formations upon palms and soles until these were covered. Otherwise healthy, as were parents and the other children; no disease of the skin ever known of in any other generation of the family. When the warts appeared, the parents would snip them off with scissors; but as they continually reappeared, the patient was brought to the surgical station for the district, in Berlin. The whole palms and soles were at this time covered with spine-like protuberances, one to one and a half centimetres high. These extended to the volar aspect of the fingers and the plantar aspect of the toes, but were here less prominent. The bed of the nails was affected, the nails loosened, stunted, and brittle. Over each knee a space, one by one and a half centimetres in extent, showed spines one quarter centimetre long. The rest of the skin of the whole body was healthy. The formation upon the hands and feet was colored green by spore production. The spines, under the microscope, proved to be of exclusively epithelial character. Papillae hypertrophic, cutis otherwise not thickened. A single layer of nucleated round cells, two deep, surrounded the papillae as a glove the finger. The rest of the epidermis consisted wholly of flattened, polygonal, un-nucleated cells, such as usually occur superficially only, and the spines consisted solely of these. The process is an abnormally rapid turning to horn of the new epidermal cells. These lose their elasticity and flatten by mutual pressure. The excessive development of epithelial cells forming the spines can arise from the deep layers, which, though now horny, can still proliferate; or, what is more probable, the thin layer of double round cells, above mentioned, is the sole matrix of all the new cells. The thickened, stratified mass of cells now dries and cracks into separate spines under the influence of motion, friction, etc. The spines were removed several times by the scraping spoon. Under dilute lead water the skin rapidly healed. Soap or a weak solution of potassa was used subsequently upon the intact integument. No arsenic nor other internal treatment was

employed. Up to date the spines have always been renewed, and the contest has apparently resolved itself into a question of the comparative staying powers of the round-cell stratum and of the scraping spoon.

CEREBRAL SYPHILIS.

The curation of cerebral syphilis, says Atkinson,² consists in the treatment of processes essentially syphilitic; and it must be kept in mind that, apart from these, the results of syphilitic disease of the brain are identical with those of various other affections; they are the indelible traces of a battle that has, may be, long since been fought. Three cases are given by the writer of cerebral syphilis, where not one of the symptoms of brain disease observed presented a feature which could, in any special sense, be termed syphilitic which could not, equally well, be produced by a non-syphilitic malady. Yet they show that widely different morbid conditions may arise from the same source, and that this source, probably more than any other in the pathology of these affections, is within the influence of our art. But it daily happens that their true nature remains unrecognized, and patients drift into suffering, helplessness, imbecility, and death for lack of mercury and potassic iodide. Remember, however, that to cure these cases they must be treated while the *specific* processes are developing or in full activity; when the membrane is hyperæmic and beginning to thicken, the gumma forming, the artery narrowing; and not after the essential parts have been destroyed or crowded out by the unwelcome stranger. Almost any given case may have a syphilitic origin, recognizable often by the curious combinations of symptoms displayed.

RINGWORM UPON THE HEAD.

Dr. N. Smith furnishes³ some valuable hints regarding tinea tonsurans. Physicians are apt to consider this disease cured, when it is only chronic. Hair may be growing freely and firmly again on the part affected, but if the lens shows scurfiness and broken hairs or stumps scattered among the new hairs, the disease is there. Or where these hairs have been removed by friction or epilation, the patent follicles, which if filled with dirt or with stumps broken off on a level with the surface of the scalp show as black dots, mark where broken hairs have retracted within the follicles. Especially dangerous are cases of old "disseminated ringworm," the hair growing freely over the whole head, no patches, and skin nearly free from scurf, and yet individual stumps are to be found irregularly distributed, and require close examination. At times actual stumps are not seen, but shortened, irregular, twisted-looking hairs, sometimes lying quite flat on the scalp, and of a lighter color, which, on attempted epilation, break off and show the fungus when examined. The stumps are about two mm. in length and often of a lighter color than the rest of the hair [or may be made so by chloroform. — R.E.R.]. They tend to break off, and epilation must be several times repeated, the diseased stump protruding again in a week or ten days, and this fracture and renewal going on for months. All affected parts of the head must of course be simultaneously treated, or reinfection continues endlessly. The long hairs rarely contain the spores. The regular, equal-sized, and head-like arrangement of the bright and circular conidia, with their double-contoured outline and num-

¹ Arch. f. path. Anat. u. Physiol. u. f. klin. Med., March 8, 1880.

² Reprint from Trans. Med. Soc. of Virginia, 1879.

³ Lancet, January 10, 1880.

clear contents, on or in the substance of the hair, are easily distinguished from oil globules, which last are also dissolved by the addition of ether. The fractured, fagot-like appearance of the broken end of the stump is also most characteristic. Ringworm attacks all, but especially the lower classes. Of a school of boys examined, fifty per cent. had tinea tonsurans; of the girls examined for admission into Christ's Hospital, 33.3 per cent. The disease seems more contagious among children under ten years of age, and rarer after the age of fourteen. It sometimes appears as pustular spots with stumps of hairs in their centres,—nature's process of cure, and often to be initiated with advantage. Pure carbolic acid dissolved in one to three parts of glycerine, according to the extent of the disease or the age or idiosyncrasy of the patient, penetrates the follicles freely, the hair having been previously shaved from the patches. For the whole head in young or weak children a weaker solution should be used. Apply two or three times daily, and rub well in with a bit of sponge tied to a stick. Nurses will shirk this duty if not watched. At night a weaker solution (one in ten) may be rubbed over the whole head to destroy any stray conidia. This treatment must be continued some three months or more. The head should be washed twice a week, and the patches kept cut close and epilated. Caps may be used at night; otherwise the sound skin of the cheeks may be irritated by contact with the pillow-case where it has been saturated from the hair. For recent patches glacial acetic acid may be used. A parasiticide which will cure one child may fail with another. The body, especially the neck, should be frequently examined when the head is affected, and *vice versa*, ringworm of the body being often only secondary to chronic disease of the scalp.

MILIARIA FROM CONTACT WITH ASPARAGUS.

Günz reports¹ the case of a woman, aged forty, blonde, fat, pale and unhealthy in general appearance, sister of a restaurant keeper, who had the task, during asparagus time, of washing and cutting the raw asparagus. This occupation lasted all day, and was carried on in a special room. Baskets full stood around her. The atmosphere of the chamber was intensely aromatic, causing sneezing and pricking of the eyes. The patient had never been affected during previous seasons, and had never had any other kind of disease of the skin. Examination showed redness and swelling of the hands and arms as far up as they were left unprotected by the rolled-up sleeves, with numerous miliaria vesicles, each surrounded by a dark areola. The palms of the hands were softened and wrinkled by the asparagus juice, like the hands of washerwomen. The face and neck down to the clothes were reddened, swollen, and blistered; the eyelids more red and chemotically swelled; the forehead up to the hair reddened, and showing some scattered vesicles. Severe conjunctivitis with smarting, nasal catarrh with sneezing. Rest from work brought a cure in a few days. A return to the same labor caused instant redness, but no formation of vesicles. The following year, under the like circumstances, a redness appeared, but not severe enough to cause discontinuance of work. In subsequent years the patient has escaped any attack. A niece of sixteen, a blonde, was similarly affected and obliged to give up this form of work.

¹ Reprint from Viertelj. f. Dermatol. u. Syph., 1880.

SPHILIS OF BLOOD-VESSELS.

Lues venerea may affect the vessels of the body universally and to any extent, just as it may attack simultaneously any number of the other organs. Dr. Huber records² the case of a puella publica who began her trade at the age of eighteen, and within three years was twice treated for "specific" disease. Two weeks after leaving the hospital for the second time, apparently well, her urine became cloudy, and an oedema, beginning at the lower extremities, soon spread over her whole body. General health still good. Entered the hospital again two weeks and five days from the day of leaving it. General oedema. Signs of fluid in thorax and abdomen. Slight difficulty in respiration. Diminished secretion of urine, pale but cloudy, with albumen, pus cells, and casts. Vomiting. Diarrhoea. Weak action of heart. Physical weakness. Mental depression. Restlessness. Trembling of hands. Having entered the hospital the 11th of February, she died the 19th of May, comatose. The necropsy showed that all the vessels except those of the brain and head were diseased and extensively calcified, especially the arteries. Amyloid degeneration of spleen, intestines, mesentery, and of liver, with fatty degeneration also of the last. Amyloid nephritis of right side. Pyelonephrosis of left side. Uteritis. Cystitis. Hydropsanasarca. Some hydrothorax and hydropericardium. Ascites. Thrombosis of vena cava inferior and of vena cruralis dextra. Emboli of arteries of lungs. Ulceration of intestines and of larynx. In both lungs cheesy and fresh inflammatory infiltrations with bronchiectasis. Excessive oedema of lungs. Sacral decubitus. The microscope showed every grade of inflammation of the vessels from slight thickening to the most marked calcification, especially of the small arteries of the extremities, and that the venous as well as the arterial system participated in the process. These conditions and the intact state of the cerebral arteries and those of the heart vary essentially from the usual characteristic alterations found in such cases.

DERMATOPHONY.

Hueter's article³ upon dermatophony in 1878 excited the attention of clinicians as well as physiologists, as suggesting a possible marked advance in means of diagnosis of disease. Senator and Guttman⁴ confirmed Hueter's views, and attributed the origin of the râles to the capillary circulation; Hering, however, to muscular contraction, and Lewinski to original, and Fraenkel to secondary oscillation of membranes. Dr. Feinberg, superintendent of the hospital at Korvno in Russia, has pushed his investigations even farther.⁵ The capillary circulation was increased and diminished under mechanical and chemical agents, and yet much the same sound as under normal conditions was noticed. The skin was removed and the dermatophone applied directly to the muscles; the sound was louder than before. A gutta-percha membrane was substituted for the skin; the râle was that obtained when the skin was in position. When the skin was raised and the inner surface listened to no result was observed. The skin was raised at two sides and left attached on two sides, and a thin plate interposed: here, if the plate lay close on the muscles, the râle was

² Virchow's Archiv., March 8, 1880.

³ Berl. klin. Centralblatt, No. 51, 1878.

⁴ Berl. klin. Wochenschr., No. 10, 1879.

⁵ Berl. klin. Wochenschr., No. 12, 1880.

heard whether the skin was cut away or left in position over the plate; if the plate was taken away from the muscles, by raising it with the skin, no sound was audible. In cases of paralysis from disease, or from section of the spinal nerves in dorsal or lumbar regions, the sounds were unaltered. The leg of a rabbit was shaved, compressed with Esmerch's bandage; the muscles cut through to the bone, and the bandage then removed. The foot was cold, pulseless, cyanotic. The sound was nearly normal, so also much later, and had not disappeared after twenty-four hours. The skin being now raised, and the dermatophone applied to the bare muscles, the sound was louder. The sound existed until mummification of the whole leg had taken place. This conflicts somewhat with the idea of an origin from capillary circulation. To test this the kidney, which consists chiefly of capillaries, was listened to directly, it having been lifted from the opened body of a healthy, living rabbit, and its connections all retained. An evidently continuous r  le was heard. The vessels at the hilus were ligated. The r  le was heard as before. The wound was sewed up, leaving the kidney outside. After twenty-four hours kidney gangrenous, *r  le still audible*. Experiment repeated, the capsule being removed and the ureter tied. R  le as before. A dead kidney, from a slaughtered animal, gave a moderate r  le. The liver, lungs, heart, and muscles did not. In one case, where the animal lived a week after one kidney was tied, the other kidney was at necropsy hypertrophied, and gave a very marked continuous r  le, greater than that of a healthy kidney, and this r  le continued *after the kidney had been long preserved in spirit*. As the necrotic kidney suggested a dead one, so the latter suggested other inanimate material, and india-rubber gloves filled with wool, loosely packed, were found to give the r  le in proper form: strongest at the ends of the fingers, elsewhere less marked. Tight packing prevented the r  les. The element of elasticity must be considered, and the removal of the membrane of the dermatophone weakened, but did not destroy the sounds.

SUBCUTANEOUS INJECTIONS OF BICYANIDE OF MERCURY.

G  ntz has experimented¹ upon fifty cases of syphilis with hypodermic injections of bicyanide (not cyanide) of mercury 1.0 gramme, aq. dest. 100.0 grammes. This must be kept in separate small bottles, as it is decomposed by exposure to the air. It is good as long as it retains its odor of hydrocyanic acid. One gramme is injected each time, containing of course exactly 0.01 gramme of the mercury. This preparation causes less pain than the sublimate. From twenty to fifty injections were needed as the average. Cases treated were in every stage of the disease, had had no treatment, or all treatment had failed, and were kept under observation from three months to two years after "cure." Very marked improvement occurred in every case after three to five injections. Only three cases of salivation. Pain was the chief objection to this plan of administration of the drug, which in different cases was therefore employed daily, or only every second day. Whenever mercury is indicated, and other means fail, G  ntz recommends this form of treatment, especially for painful ulcers with crusts, and even for pains in the bones, the suffering being speedily removed.

¹ Reprint from Wien. med. Presse, 1880.

PRURIGO.

Prurigo was first clearly defined by Hebra, the father of modern dermatology. He regarded it as an incurable disease. In 1876 his distinguished assistant, Neumann, advanced the opinion that in very young children, and in them alone, the disease was curable. In the recently published treatise of Hebra and Kaposi this view is also entertained. More recently Simon² regards it as "curable in children under four years of age." All have considered it as incurable in adults. In addition to two cured cases of children, Geber now relates³ a case of "cure of a very inveterate form of prurigo in an adult," the first such case on record. The patient, a youth of nineteen years, pruriginous from earliest childhood, received a daily sulphur bath, and was inunction every second day over whole body with a one per cent. carbolic-acid oil, after which he lay several hours in bed enveloped in blankets. Internally he took Fowler's solution and water equal parts, in gradually increasing doses up to twenty drops per diem. In six weeks, patient being greatly improved, carbolismus set in. The patient lost strength and appetite; there was headache; thin, grayish, bad-smelling stools; greenish urine; cold skin. Under tannin, red wine, and dilute sulphuric acid, he recovered in ten days. Treatment resumed, omitting the carbolic-acid oil, and in a fortnight patient went home on trial for three months.

He then returned. There had been no new efflorescences; the lymph glands were scarcely swollen at all. Objective appearances very good, nearly normal. Subjective sensations almost nil. For a month two sulphur baths were administered daily, also the carbolic-acid inunction and three drops of the arsenical solution, and the youth was allowed to attend school, from which he had previously been compelled for many years to abstain. For the next month pure olive oil was substituted for the oil and carbolic acid. In about a month more the baths were reduced to one per diem, the rubbings with oil to one every second day. The dose of Fowler's solution and water had by this time reached fifteen drops. Three weeks later oil discontinued and arsenic gradually diminished. Discharged apparently cured after another month. To continue baths and diminishing doses of arsenic. Four months after discharge the youth passed his physical examination for military service as "able bodied and fit for service." Since that time a year has passed, and there has not been the slightest sign of a relapse of the disease. The skin is still dark colored, but normal otherwise; no adenitis; no prurigo papules nor itching. This case shows that hope should never be lost; treatment always instituted, and long and patiently adhered to. External circumstances, improved nutrition, and careful attention to the condition of the skin are of the highest importance.

Reports of Societies.

QUARTERLY MEETING OF THE RHODE ISLAND MEDICAL SOCIETY.

VIRGIL O. HARDON, M. D., SECRETARY.

The regular quarterly meeting of the Rhode Island Medical Society was held in Providence on Wednesday.

² Weber, Prurigo und die Behandlung derselben mit Pilokarpin, Berl. klin. Wochenschr., 1879, No. 59.

³ Wien. Med. Wochenschr., 1880, No. 10.

day, January 15, 1880, the president, Dr. Charles O'Leary, of Providence, in the chair.

Dr. George D. Hersey read a paper for Dr. O. C. Wiggins, giving the report of a case of Embolism of the Middle Cerebral Artery. The patient, a man aged twenty-five, while in ordinary health, was suddenly seized with loss of speech, paralysis of the entire right side of face and body, and vomiting. The pupils were moderately dilated, the temperature normal, pulse 50, respiration irregular and sighing, perspiration profuse. The tongue when protruded was turned to the left. There was no paralysis of the bladder. He remained in this condition until the third day, when his breathing became decidedly stertorous, the temperature rose to 101 °F., the pulse to 120, perspiration ceased, and he passed urine unconsciously. He died sixty-five hours after the first attack. The patient was born cyanotic, and during his infancy frequently had "purple spots" on various parts of his body. He had malarial fever in childhood. He was always subject to frequent attacks of nose-bleed. The autopsy showed the dura mater to be firmly adherent to the left second frontal convolution. Diffuse extravasations of blood and lymph were found beneath the sheath of the superior longitudinal sinus for two thirds of its length. The middle cerebral artery with all its branches was filled with coagulated blood. The clot was confined to those portions of the arteries lying in the fissure of Sylvius. Beyond the points where the arteries entered the brain substance, they were empty and collapsed, but not obliterated. The lining of all these arteries was bright red, softened, and wrinkled longitudinally. Nearly all those portions of the brain supplied by the occluded vessels were in an advanced stage of yellow softening. The corpus striatum was completely broken down, forming a mere granular pulp. Other portions of the brain were normal. Upon examining the heart a curious anomaly was found, the auriculo-ventricular septum being entirely absent, the two chambers forming one continuous cavity.

Dr. Edward T. Caswell reported a case of stone in the bladder which he had removed by litholapaxy. The patient, a man aged forty-three years, had suffered for two years with the usual symptoms of stone, of which an examination showed the presence. The stone was crushed with Thompson's fenestrated lithotrite and the bladder washed out with Bigelow's evacuator. The searcher was then introduced and the bladder found to be free from fragments, so that a second introduction of lithotrite or evacuator was unnecessary. The time occupied by the operation was thirty minutes. The calculus was composed of oxalate of lime and weighed forty-three grains.

Dr. Harold F. Ernst, interne at the Rhode Island Hospital, showed a specimen of aneurism of an intercostal artery, the rupture of which was the cause of the death of the patient. He also showed the trachea of a woman who committed suicide by cutting her throat. The wound healed readily, but so much cicatricial contraction followed that the trachea was nearly closed thereby and the woman died of suffocation, having refused to permit the performance of tracheotomy.

Dr. A. G. Browning reported a case of trifacial neuralgia of eight years' standing which was cured by daily applications of direct and inverse constant currents of electricity for six months, one pole being placed over the cervical plexus, and the other at different points over the course of the nerve.

Dr. William F. Hutchinson read a paper upon neurasthenia, and reported three cases from his own practice illustrating the three varieties into which he believes that all cases may be divided. The division is based upon the etiology of the affection, and the classes may be named cerebral, gastric, and genital, according as the cause arises in the brain from overwork or other exhausting influences, in the stomach from chronic indigestion, or in the genital organs from sexual excess or other irritating local causes.

Dr. William S. Bowen reported three cases of nephritic inflammation of the retina which had recently come under his observation. The symptoms in all were similar, and consisted in failure of vision in one eye with a blur over objects viewed from a distance. The urine was loaded with albumen and contained epithelial casts. The ophthalmoscope showed the characteristic appearances of albuminuric retinitis. The first two cases were in male subjects, the third in a woman after confinement.

Dr. George W. Port-r read a paper upon Battey's operation. He stated the conditions which render the operation necessary, as (1) cases of neurasthenia arising from long continued ovarialgia and dysmenorrhœa, with accompanying cellulitis and uterine displacement, the whole nervous system being shattered by the frequently recurring pain and by malnutrition, and every organ in the body suffering from the nervous perturbation arising from the long-continued disease of the pelvic organs; (2) cases of epilepsy and insanity arising from ovarian irritation acting upon the chief nervous centres either directly through the sympathetic nervous system, or indirectly by gradual impairment of general nutrition; (3) cases where the ovaries are present, but there is arrested or imperfect development of some other of the sexual organs, whereby menstruation is rendered impossible although the menstrual molimina occur regularly; (4) cases of subperitoneal or intramural fibroid of the uterus causing uncontrollable hemorrhage or otherwise endangering life, while the tumor cannot be removed. The writer gave statistics of one hundred and forty-seven cases which he had collected, of which number one hundred and eighteen recovered from the operation and twenty-nine died (nineteen and three fourths per cent.). Three methods of operating have been advocated, the vaginal, the abdominal through the linea alba, and the direct lateral. The percentage of recoveries from the operation is slightly greater by the vaginal method, but the percentage of cures of the original trouble is greater by the abdominal. All things considered, the abdominal method is preferable in the large majority of cases. It is necessary to remove every particle of both ovaries, as the least vestige remaining may serve to keep up the menstrual molimina. The manner of performing the operation was fully and clearly described.

Dr. A. E. Tyng reported that the patient upon whom he performed Battey's operation several months ago had recovered, and the uterine fibroid which had previously caused hemorrhage and dysmenorrhœa was diminishing in size and had ceased to give rise to any troublesome symptoms.

Dr. William F. Hutchinson read a letter received by him from Dr. William A. Hammond, of New York, expressing the opinion that Battey's operation should never be undertaken unless there is unmistakable ovarian disease, and even in that case only after all other remedies have proved unavailing.

Dr. S. S. Keene read a paper giving an account of three cases of intermittent fever which he recently treated at Drownville, R. I., on the shores of Narragansett Bay. The affection was well marked in all the cases, and the patients had never before had malarial disease or lived in any malarial region. Each was cured by a single dose of twenty grains of sulphate of quinine. Twelve cases similar to these have occurred in the same village within six weeks, and at Nayatt, one mile distant, there have been ninety cases of fever, apparently of the intermittent type. Cases have also occurred among the summer residents along the shore. Extensive excavations have been made at Nayatt, including many acres that are filled with rain-water having no outlet. This water, as well as that of all the ponds in the vicinity, has been much lower than usual during the past summer. This is the first time that an epidemic of intermittent fever has ever been observed in Rhode Island.

The secretary announced the death of Dr. William B. Greene, of East Greenwich a member of this society, which occurred from yellow fever on board the steamer *Acapulco* in New York harbor, while returning from Aspinwall.

EXTRACTS FROM THE RECORDS OF THE MID-DLESEX EAST DISTRICT MEDICAL SOCIETY.

GEORGE E. FITNEY, M. D., SECRETARY.

The two hundred and ninth regular monthly meeting of the society was held at Winchester, March 24, 1880, at the house of Dr. Winsor. After supper Dr. Winsor read a paper on Angina Pectoris with Rupture of the Heart, which was substantially as follows:—

"Pain in the region of the heart, occurring in paroxysms, which usually radiates over the left side of the thorax and left arm, more rarely over both sides and arms. The pain is associated with a peculiar sensation of anxiety and constriction, and often with other motor, vaso-motor, and sensitive disturbances. The period between the paroxysms is free from pain, and usually from all other symptoms."

"Such is the definition given by Eulenburg in Ziemssen's *Cyclopædia*; and he says further that the disease is evidently a *neurosis*, and may be classed with the visceral neuralgias. It is sometimes called stenocardia. The name of angina pectoris originated with Heberden more than a century ago, when it was first recognized."

"It appears that there is no lesion or pathological condition of the heart, or of the great blood-vessels in the neighborhood of the heart, with which angina has any constant or necessary connection, although it occurs in many cases of valvular disease, of atheromatous deposit in the aorta, pulmonary artery, and especially in the coronary arteries."

"But it fails to occur in many cases where the autopsy proves the existence of the above-named lesions. Moreover, in some severe and fatal cases of angina, the autopsy does not detect any of these lesions, or any other pathological condition to which the 'breast pang' may be attributed."

"It appears to be from the absence of any characteristic morbid change, or any inflammatory condition during the attacks, from the complete relief between the paroxysms, and from the peculiar and characteristic but indescribable sensation of distress and alarm, while yet there is no disturbance of the brain, that angina pectoris is classed with the neuralgias."

"In addition to these reasons, experimental physiology has thrown important light on the nature of this disease."

"In the paroxysms the face may be flushed or pale; the pulse may be full and violent, or small, irregular, and intermittent. The pale face and small, irregular pulse are more common, and as the attack passes off these are succeeded by general flush and gentle perspiration, with the pulse often full and strong."

"Prognosis must be unfavorable in proportion as physical examination can detect organic disease of the heart or great vessels. But even in the absence of all evidence of structural changes we should naturally give a guarded prognosis."

"Treatment must, of course, be directed to the immediate relief of the frightful suffering of the paroxysms, and subsequently to the avoidance of every exciting cause. At present we seem to be too much in the dark to be able to direct our treatment toward the removal of any morbid condition of which angina pectoris may be supposed to be symptomatic."

"It is evident that powerful and speedy remedies alone can be of service during the paroxysms; and it is equally evident that our intended remedies may act most disastrously by exaggerating functional disturbances, or by enfeebling vital power at the critical moment."

"For this reason, I should not dare to administer chloroform, however much I might wish for speedy relief."

"On the other hand, I should dread to stimulate by alcohol. Morphia subcutaneously, ether by inhalation, and in the cases marked by pale and shrunken face, nitrate of amyl by inhalation, are the remedies to which I should resort during the paroxysms."

"In the way of prevention we can only urge the importance of a most temperate, guarded, and unexciting mode of life, giving the patient detailed cautions."

The writer here reported "a case, the diagnosis of which was for a long time difficult, and may now be called in question."

The following is an abstract of the case:—

A merchant, aged sixty-two, fat, weighing two hundred and twenty pounds, of correct habits, and highly gifted with mental and physical powers, about two and one half years ago had several sudden attacks of distress while walking up hill. The feeling was described as "an oppression and constriction in the carotid regions, with a sense of dread." No other symptoms were then noticed, except one or two that indicated tardy digestion.

Diagnosis: temporary exhaustion of the nervous centres.

Prognosis: without absolute rest, the functional disturbance might become structural.

Treatment: rest and regimen.

Result: eighteen months of apparently perfect health; during which time he effected several heavy life insurances on himself, and passed a first-class examination six months ago.

February 25th he went to Albany on important business; he retired at night in his usual health, but was soon attacked with a chill and greater distress in both carotid regions than he had ever before experienced.

He returned to Boston on the early train, and remained at his home in Winchester five days, during which time he had no more trouble.

He then ventured a trip to Boston, but returned the

same day, having had a severe attack at his office, during which he became ashy pale.

Dr. H. J. Bigelow saw him soon after, and expressed the opinion that it might be angina.

March 3d, during a quiet but long business interview at his home, another attack came on, in which the writer saw him. There was no change in his pulse, temperature, respiration, or pupils. There was no pain, only *distress and constriction in the neck*. There was a grayish color of the ears and scalp, but the face retained much ruddy color. A very careful examination detected no fault in the thoracic organs. Chemical and microscopical examination of the urine found nothing abnormal.

In the afternoon of the same day Dr. Calvin Ellis saw him in consultation, and after a thorough examination agreed with the writer that the attacks were neuralgic; distressing and dangerous because the disordered nerves pertained to vital organs, but probably would not shorten life.

If a name must be given to them it must be angina pectoris. From this time the patient was kept upstairs, and was comfortable till ten p. m. of March 6th. In this attack, which lasted three and one half hours, the pulse varied and intermitted. The forehead and ears were ashy gray at times; still there was no pain. The distress extended in a less degree from neck to præcordia, and even epigastrium. Under the use of amyl nitrite the face flushed and partial relief was obtained, but subcutaneous morphia was more effective. He got one fourth grain twice, and then one fifth grain.

On the 7th Drs. Ellis and Harlow saw him, and detected nothing wrong in the heart or lungs. "We all thought," said the writer, "that he would recover, and be able to lead a quiet life comfortably, though we informed the family that sudden death might occur in some future attack."

From the 7th he remained in bed, felt better and hopeful. The pulse was 100 until the 10th, when it became stronger and regular at 94. About midnight of the 10th he quietly died without pain or distress.

Autopsy by Dr. W. F. Whitney thirty-six hours after death.

Head not opened. Nothing abnormal noticed in the abdominal cavity.

Diaphragm at the fourth rib on the right side, and at the fourth intercostal space on the left side.

The pericardium contained about seventy-five cc. (by estimate) of dark coagulated blood. Its lining was healthy.

The heart was large, but not so in relation to the size of the individual, and weighed four hundred grammes. Commencing near the apex of the left ventricle was an interrupted rent with ragged edges, extending towards the base for a distance of seven cm. in length. This rent communicated with the cavity of the left ventricle.

Upon opening the heart, the apex of the left ventricle was found to be filled with a dark reddish clot mixed with grayish portions. The walls of the left ventricle measured nine mm. in thickness, except in the neighborhood of the rent above mentioned, where they were exceedingly thin.

The color of the muscle was a reddish-brown. Under the microscope it showed a deposit of pigment in the neighborhood of the nuclei, and the dark transverse markings of the fibres were more marked than normally.

In the vicinity of the rent, however, the characteristic appearance of the muscle was lost, the muscular fibres being here filled with a granular material and in many places with minute fat drops. The grayish portion of the clot above mentioned presented muscular fibres in the same degenerated condition.

At the base of the aortic valves were several small yellowish patches raised above the surrounding level, but the hydrostatic test showed the valves capable of good closure.

The other valves, as well as the right heart (the ventricle of which measured four mm. in thickness of its walls), presented nothing unusual. The walls of the left coronary artery from the point of origin to the place where the superior branch is given off were thickened, and their inner surface was covered with yellowish-white patches, some of them with a roughened base, slightly sunk below the surrounding level, and others smooth and slightly raised above the level. At one point, about three cm. from the origin of the artery, one of these patches had so far protruded into the lumen of the vessel as to cause a coagulation of blood at that point, which coagulum had become adherent to the walls, thereby preventing the flow of blood through the vessel.

The portion of the heart in which the rupture had occurred and in which the fibres were found degenerated corresponded to the territory supplied by the branches of this artery.

The right coronary artery was found changed in a similar manner, but not to the extent of entirely occluding the vessel. There was moderate œdema and congestion of the lower lobes of both lungs.

The kidneys showed a moderate amount of parenchymatous and interstitial nephritis.

The liver was fatty, infiltrated.

The other organs were normal.

The aorta showed the marks of extensive atheromatous degeneration, but these were beyond the points where the coronary arteries were given off.

The authorities state that rupture of the heart is the cause of one fortieth of all sudden deaths; that in two hundred and two cases of death from pathological changes in the circulatory apparatus thirty-three were from this rupture; that it is much more frequent in males than in females, and immensely more frequent after than before the sixtieth year of life. Of fifty-five cases, forty-three (seventy-eight per cent.) were in the left ventricle, seven (thirteen per cent.) in the right. Of another series of forty-seven cases, thirty-four (seventy-two per cent.) were in the left and eight (seventeen per cent.) in the right ventricle. There is usually but one rent. The mode of death may be by sudden anæmia of the brain, or by interference with the heart's action from clot within the pericardium, or by nervous shock.

Prognosis, in cases where this lesion is suspected, must be eminently unfavorable, though the possibility of cure must be admitted.

Rostan stated, in 1870, his belief that the scars found on many hearts indicate healed rupture! Certainly no such repair can be expected in hearts whose tissues have undergone degeneration.

In commenting on the case the writer said:—

"It seems to me possible that the first slight attacks (two and one half years before death) may have depended on atheromatous deposit beginning in the great vessels and coronary arteries; that the attack in Al-

bany, a fortnight before death, — of severity before unknown, and accompanied with marked rigor, — may have resulted from occlusion of the left coronary artery; that from that time degenerative action was set up in that part of the ventricle no longer nourished by this artery; and that rupture did not occur till just before death."

He quoted Dr. Ellis as saying: —

"I have seen one case in which, after such symptoms as are usually considered those of angina pectoris, the heart was ruptured, but I never saw or heard of one in which the pain and distress were mainly in the neck."

In conclusion, Dr. Winsor said: —

"I cannot see, any more than Dr. Ellis, how the diagnosis, prognosis, or treatment could have been improved on in the light of our present knowledge. The case, however, goes to increase one's distrust of the accuracy of physical examination of the chest."

Dr. Hodgdon, who opened the discussion on the case, said that he considered angina pectoris a symptom or group of symptoms, and not a disease. He agreed substantially with Dr. Winsor's views of the affection. He had a patient in whom, twenty years ago, at her climacteric period, angina pectoris developed in a remarkably well-defined form. The symptoms persisted several years, but disappeared when the menstrual function ceased, leaving her in her usual health. In this case no lesion was discovered in any organ.

Brown-Séquard has said that he has known many cases in which these symptoms have been well defined, and yet the most careful autopsy has revealed no lesion.

Dr. Hodgdon thought it "unscientific to dignify with the name of a disease some symptoms which, between 1763 and 1832, received fifteen different names, implying nearly as many different origins of the symptoms."

Dr. Wight said his experience with this disease was very limited; he relied chiefly upon morphia given subcutaneously. He had seen evil results follow the use of chloroform, and thought it should not be used in this affection.

Dr. W. S. Brown mentioned a case of angina pectoris in a physician, whose wife could always afford him relief during the paroxysms by making a sudden upward pressure of the hand placed just below the heart.

Dr. Warren had attended a lady who, during her menopause, suffered from the affection under consideration. She was very much debilitated, and had a very weak pulse. Amyl nitrite afforded her relief.

In a second case, also a female, the same drug was given without effect, while hypodermic morphia was more successful.

The application of ice-cold compresses always subdued the paroxysms.

In reply to a question concerning treatment, Dr. Winsor quoted Dr. T. Lander Branton substantially as follows: —

"If the pulse be feeble and associated with pallor, give amyl nitrite. The drug is supposed to cause dilatation of the capillaries and diminished arterial tension. It is not a safe remedy if there be flushed face, weak pulse, and oral pallor."

Dr. Abbott mentioned five cases of angina pectoris, four with autopsies. The first case was a robust and apparently healthy gentleman, about sixty years old,

who, while reading the morning paper, suddenly died. There was no history of previous disease, nor did the most careful autopsy reveal the cause of death. The second case was characterized by great distress in the chest and precordia. The last three died of rupture of the heart, after a few hours' illness, and in each there was a rent in the anterior wall of the left ventricle. Three of these cases were males, and all but the first one were seventy-five years old.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. ROICH, M. D., SECRETARY.

OCTOBER 11, 1880. DR. JAMES C. WHITE, permanent chairman, presided.

DEEP ABSCESS OF THE NECK.

DR. CHEEVER read a paper upon this subject, which appears in the first part of the present number of the JOURNAL.

DR. FIFIELD gave a detailed historical account of the subject treated by Dr. Cheever, and spoke of the possibility of the pus passing into the axilla, and of the great liability of mistaking the position of the original seat of the disease by an examination of the external appearances. He also cited cases to show that cellulitis or erysipelas of the neck is very closely allied in its symptoms to deep abscess, and that the two diseases have been confounded by some writers on this subject. Dr. Fifield also remarked that the pus which follows an alveolar abscess rarely perforates the bone, and that the perforation is caused by an otitis or periostitis rather than by pus in the cavity.

DR. J. C. WARREN said that he had had two cases of deep-seated abscess of the neck, one of which was at present under his care in the hospital. At first there was a contraction and board-like hardness of the muscles of the neck, the head being drawn over to one side; there was difficulty in deglutition, and for two days hoarseness; there was also an abundant expectoration of frothy mucus tinged with blood. The morning and evening temperature were above the normal. A poultice was applied, and the patient was kept under observation.

The difficulty in deglutition and the hardness have gradually subsided, but the temperature has remained about the same, and there are enlarged glands in the neck and axilla.

Dr. Warren also spoke of Billroth's interesting paper on this subject, and of the divisions of retro-pharyngeal abscess made by this author.

DR. WADSWORTH said: There are certain ocular symptoms occasionally seen with abscess of the neck which, though uncommon and not of importance as to diagnosis, may be worth mention. These are caused by irritation or paralysis of the cervical sympathetic. With irritation the pupil on the affected side is dilated, and such dilatation has been observed to pass off as the contents of the abscess were evacuated. With paralysis there is contraction of the pupil, owing to paralysis of the dilator fibres of the iris, and the pupillary contraction is usually associated with some drooping of the upper lid and higher temperature of the same side of head and neck. These paralytic symptoms may persist after the abscess has healed, but in this

event the higher temperature gives place after a time to lower temperature, with absence of sweating in the affected region.

DR. CUEVEER, in reply to Dr. Fifield's criticism, that in alveolar abscess the pus does not perforate the bone, said that he thought the pus did break through the bone, and in this opinion he was upheld by Drs. Boardman, Greenough, and Warren, the last two gentlemen citing cases in support of their position.

DR. WADSWORTH showed the bullet from an air-gun which he had removed from the orbit of a boy of about sixteen years. The missile consisted of a metallic part $\frac{3}{4}$ " long, pointed, to which was attached a thick tuft of woolen fibres $\frac{1}{4}$ " long. The gun had been discharged accidentally, only a few feet in front of the boy. The bullet had entered through the cornea, and passed backward completely through the eye into the orbital tissues. It was removed several weeks after the accident, having meanwhile set up purulent inflammation of the eye and orbital tissues, but having caused very little pain.

NERVE STRETCHING.

DR. J. J. PUTNAM reported a case of stretching of the facial nerve for clonic spasm of the facial muscles. The patient was a young man in good health; the affection had lasted almost without interruption for three years.

At the operation, which was performed under ether, with the assistance of Dr. A. T. Cabot, the nerve was raised on a hook, and moderately stretched for several minutes. Complete paralysis was found to have been induced, and the nerve and muscle soon exhibited the changes in electrical reaction characteristic of section or severe traumatism.

Recovery began at the end of two months, and was nearly complete at the end of three months, the twitching not having recurred. Dr. Putnam reviewed the literature of this operation, and spoke of the lack of precise indications for the requisite amount of stretching in a given case.

From experiments which he had made on a dog he thought the nerve might still recover rapidly after a steady pull under a tension of six to seven pounds, but advocated the method of first letting the patient recover sufficiently from the ether to permit of the obtaining of reflex movements (corneal), and using these as a guide.

Recent Literature.

The Microscopist. A Manual of Microscopy and Compendium of the Microscopic Sciences. Fourth edition. By J. H. WYTHE, A. M., M. D., of San Francisco. Philadelphia: Lindsay and Blakiston. 1889.

The object and character of this book are best expressed in the words of the author:—

"It is proposed in this treatise to give such a *résumé* of microscopy as shall enable the student in any department to pursue original investigations with a general knowledge of what has been accomplished by others. To this end a comprehensive view of . . . technology is first given, and then a brief account of the application of the microscope to various branches of science, especially considering the needs of physicians and students of medicine."

The fact that this is the fourth edition is the best evidence of the demand for a work of this sort, answering in the breadth of its range to some of the more comprehensive English books, such as Carpenter, and at the same time adapted more particularly to the requirements of medical men. But its production at the present day is attended by difficulties which the editors of the earlier works of the kind did not encounter. Twenty years ago the field of microscopical science was still small enough for one man to cover, if not with his experience, at least with his judgment. He could know enough of everything connected with a microscope to choose judiciously from the best authorities where he was not authority himself. But the subject has expanded so greatly since the first editions of Carpenter or Griffith and Hensley were published that the preparation at the present day of a work like this, which is meant to give concisely the essential points of a great variety of subjects, has become almost as difficult as would be rewriting Humboldt's *Cosmos*. The contents of this book range from systematic crystallography through the whole of normal and pathological histology and technique to the classification of ferns and diatoms. To state concisely even the elements of each of these subjects, avoiding superficiality or obscurity, is a task better adapted to twenty writers than one. In fact, it is to be doubted whether the world contains a single man sufficiently familiar with all the matters here treated to make even a judicious selection from the best authorities.

In short, the system on which this book is written is obsolete, and entails certain radical defects, which in the present work are only made more prominent by contrast with many good qualities. Excellent judgment has been shown in the choice of authorities, and the plates are in general well selected from the best English authors, or of those French and German writers familiar in this country through translations. It is to be regretted that so few names beside those of Rindfleisch and Beale are attached to the plates, where they would be valuable as references.

Among the points which might be advantageously revised in a future edition may be mentioned the following:—

Page 70: "Osmic acid, one tenth to one per cent. solution stains the medulla of nerves, etc., black."

A brief mention of the most important reagent for fats.

"Chloride of gold, 0.5 to 0.2 solution. Exposure to light stains nerves, etc., of a violet or red color."

This is rather short shrift for the most valuable reagent known for many tissues. No allusion is made to reduction by formic or acetic acid or lemon juice.

Page 135: Apropos of bacteria: "The researches of Mmc. Laders render it probable that the germs of fungi develop themselves into these bodies when sown in water containing animal matter, and into yeast in a saccharine solution. The universal diffusion of spores of fungi in the atmosphere readily accounts for their appearance in such fluids, and Pasteur's experiments are quite conclusive."

If there is any point on which Pasteur's experiments are conclusive it is that such "development" as that described by Mmc. Laders — whose name, by the way, is not very familiar — never occurs.

Page 218: "The terminations of the gustatory nerves of the tongue are as yet imperfectly known."

No mention is made of Ranvier's demonstration of

these terminations by means of chloride of gold reduced with lemon juice, and yet nothing can be more beautiful than these preparations.

Page 322: Under the head of Examination of Air, the following extraordinary recommendation is made: "Minute living particles of bioplasm, either ordinary pus, or what Dr. Beale calls 'disease germs,' should be diligently sought for under high objectives."

Diligent is certainly not too strong a word, if the search is to be successful.

Other citations might be made. Löstorfer's corpuscles are spoken of with as much consideration as Cohnheim's wandering cells, and under the head of Eosin Staining no mention is made of the reaction on the red corpuscles, which gives the reagent its chief value.

Defects of this sort, arising from imperfect revision, are inevitable in any book written on this plan, where one man attempts to do the work of twenty. Handicapped by an antiquated system, and overwhelmed by the mass of material to be sifted and arranged, the writer works at a great disadvantage, and is in the present instance to be congratulated on having succeeded as well as he has. The book contains a great deal of value, and can be studied with profit in many respects. The illustrations need no higher recommendation than the mention of their sources, and the general appearance of the work is highly creditable to author and publishers.

Atlas of Skin Diseases. By LOUIS A. DUHRING, M. D., etc. Part VII. Philadelphia: J. B. Lippincott & Co. 1880.

This number of Dr. Duhring's celebrated series of dermatological plates comprises representations of eczema (pustulosum); impetigo contagiosa; syphiloderma (papulosum); and lupus vulgaris. It is a work of supererogation to praise this atlas. Every practitioner of medicine in America should by this time be aware that, at great expense of time and even of health, as well as of money, the ex-president of the American Dermatological Association is giving to the world a collection of pictures of cutaneous diseases such as has never been equaled except by the very large and expensive plates of the late Professor Hebra. Dr. Duhring's are comparatively inexpensive, are much easier to handle from the small size of the sheet, while the relatively large proportions of the picture enable the diagnostic features of the morbid processes to be admirably preserved. This fasciculus maintains the supreme standard of the preceding ones, and every physician should possess the whole series. The text is on a par with the plates.

Hygienic and Sanative Measures for Chronic Catarrhal Inflammation of the Nose, Throat, and Ears. Part I. By THOMAS F. REMBOLD, M. D. St. Louis: Geo. O. Rumbold & Co. 1880.

Dr. Rumbold might be well called a "protectionist" in the case of the catarrhal subject. He covers him with from one to four suits of flannel underwear, and with a cap for the head at night; he coats his skin with oil or vaseline, and says that bathing should be rarely indulged in. Tranquillity of mind is said to be necessary in the treatment of nasal catarrh, inasmuch as the sinuses are situated directly under and in close connec-

tion with the mental portion of the brain. On page 153 use is made of statistics such as is worthy of a political stump speaker. We find there the following statement: "Of the 425 male patients 139 did not use tobacco, colds alone being the cause of their complaint, leaving 286 persons who used tobacco, and who would not have been patients had it not been for the effect of this narcotic" (!). This might be called a bad case of *post hoc propter hoc*, especially in view of the fact that in the same period when these 425 males presented themselves there were 721 females, very few of whom it is likely used the weed. Why not claim that less catarrh was found in men than in women of this period because they used tobacco. Dr. Rumbold, however, explains it by the less amount of clothing which the women wear.

A Manual of the Practice of Surgery. By W. FAIRLEE CLARKE, M. D. Oxon. F. R. C. S. No. 1. Republication by William Wood & Co., New York, 1879. No. 2. Republication by G. P. Putnam's Sons, New York, 1880.

Each volume has its advantages: that of the Messrs. Wood offers additional matter by an American editor upon a number of subjects, including antiseptic surgery, Pott's disease, ulcers, hip disease, club-foot, cancer, stone, transfusion, and anesthesia for the purpose of bringing them "up to date."

Illustrations of new instruments and apparatus are additions to its value.

The Putnam edition has the merit of small bulk, and can be carried easily in the pocket.

The owner of a manual of surgery may require of it, reasonably, a clear exposition of the practice of surgery at the time of its publication. Should any one possessing one of the volumes noticed desire to refresh his memory on, for instance, the subject of hip-joint dislocation, in order to treat a case intelligently, he will find on reference to either work a prescription for Widow Welch's pill, a useful and popular remedy for chlorosis and irregular menstruation, quotations from Don Quixote, Macbeth, *Midsummer Night's Dream*, and the writings of Celsus, Wordsworth, and Milton, but with the exception of anesthesia nothing later in the method of treating his patient than the teachings of Sir Astley Cooper, published fifty-five years ago, with plates showing the application of pulleys according to Dr. Clarke's manual. Having directed the use of *anesthesia* in this reduction, Dr. Clarke relies upon the relaxed *muscles* to restore the bone to its place, and offers this volume as a "safe and trustworthy guide to the practice of surgery." We must add that the book needs revision.

The Skin in Health and Disease. By L. DUNCAN BULKLEY, M. D. Philadelphia: Presley Blakiston. 1880. Pp. 148.

This little volume is the ninth of a series of twelve American Health Primers edited by Dr. W. W. Keen. Its object is the spread of needful knowledge in regard to the care of the body and the maintenance of health, and to diffuse the facts of preventive medicine rather than to assist in curing disease. It is purely American, our climate, sanitary legislation, and modes of life

varying materially from those of other nations. Dr. Bulkley has done good service in making his *Health Primer* a dictionary in matters pertaining to dermatology, the popular names bestowed by the laity upon diseases of the skin being as a rule as unintelligible to educated physicians as the scientific terms are to the general public. The book contains four chapters: upon (1) anatomy and physiology of the skin; (2) care of the skin in health; (3) diseases of the skin; (4) diet and hygiene in diseases of the skin, — and a particularly valuable and compendious index.

The first chapter is of course, compilation, but is well arranged, simple, and not too scientific. The second chapter treats of baths, soaps, and cosmetics. It is the chapter which should be read by every one, as it gives plain but very important information upon the simplest matters, of which, nevertheless, most people are ludicrously ignorant. While discussing the differences in soaps, however, a little more stress might well have been laid upon the difference in skins. The third chapter contains the bulk of the work, and good general descriptions of the principal maladies of the skin are briefly but judiciously summarized, simple domestic remedies being recommended for light cases easy of diagnosis. The special advantage of this chapter is that its facts are such in accordance with modern science, a circumstance not to be truthfully stated as to all dermatological works, even those of to-day. The drawback to the chapter is that it adds still another "classification of diseases of the skin" to the load under which the medical profession only too justly groans at present. The fourth chapter is like the second, sensible, true, valuable, and needed.

The book, as a whole, may well be recommended to every one, whether a physician or not. It furnishes in compact form, at the price of fifty cents, a trustworthy guide for the prevention of disease and the preservation of health and comeliness.

A Treatise on Common Forms of Functional Nervous Diseases. By L. PUTZEL, M. D., etc. New York: William Wood & Co. 1880. Pp. 249.

It is a glorious and a useful thing to have free speech and a free press, but from time to time one longs for the days of the *imprimatur*, in order that before an author should sit down to add another volume to our groaning shelves he might be compelled to explain to the satisfaction of some discreet person or persons in what respect he expected the community to be the gainer through his labor.

Were such a rule actually in force the present volume would never, we are sure, have been compiled, for it is original neither in form nor matter. It is smoothly and pleasantly written, and contains many illustrative cases of interest, some of which might, perhaps, have formed the basis for good monographs, but for the rest it is an old story, which for the most part has been as well or better told before.

The style is good, and if the matter was given originally as clinical lectures they must have been quite attractive to hear; but why publish them, especially as at best only four subjects are treated of, chorea, epilepsy, neuralgia, and the peripheral paralyses, — the latter, by the way, perhaps as good a type of *non-functional* nervous diseases as could be selected. We abstain from detailed criticisms, as they are of relatively little importance in comparison with the fact that the work

is not sufficiently complete for a standard systematic treatise, and does not contain original matter enough to stand as a collection of monographs.

The Eleventh Report of the State Board of Health of Massachusetts. For the six months ending June 30, 1879.

The Eleventh Report of the State Board of Health of Massachusetts is for the six months ending June 30, 1879, at which time the board was abolished and the new State Board of Health, Lunacy, and Charity was created. The general report consists mainly of the circulars issued by the board during the period covered by the report on matters pertaining to public health, and of a list of the subjects upon which special investigations and reports have been made and published during the ten previous years of the existence of the board. The larger part of this volume consists of a general index to the eleven reports of the board. This index was compiled by Dr. Francis H. Brown, of the Marine Hospital Service, and is very thorough and complete, titles, authors' names, and subjects being all represented. It opens the whole series of reports to the profession, increases their value greatly, and makes them practically useful. Any one having occasion to refer to these reports, — and few physicians do not have — will readily recognize the convenience of the key which the industry of Dr. Brown has put into our hands.

— The *Nashville Journal of Medicine and Surgery* contains a report of a case in which a man, evidently insane, introduced into the rectum a large-sized wine-glass. Forty-eight hours after its introduction an attempt was made to extract it, which was unsuccessful until the whole hand of the operator was introduced into the rectum, when the wine-glass was with difficulty removed. Examination showed that the posterior wall of the rectum was considerably lacerated at the point where the glass had lain, and a few hours later there was a severe hemorrhage. The motive for the insertion was probably furnished by a diarrhoea of a week's duration, and which proved fatal about a week after the operation. The wine-glass was five inches in circumference at the base and two and a half inches in height.

— The same journal quotes a case of M. Verneuil from the *Journal de Médecine et de Chirurgie Pratique*. An old soldier, tormented by a chronic dysentery, had adopted the habit of blocking up the rectum by a tampon, in the centre of which he placed a piece of wood. Having neglected on one occasion to envelop this foreign body in linen, it ascended into the rectum beyond his reach. Eleven days after the accident the piece of wood was out of reach of the finger in the rectum, but could be felt in the iliac fossa. To reach it laparotomy was performed. The foreign body was found fixed to the upper part of the rectum; it could be made to descend to within five centimetres of the anus. In order to remove it M. Verneuil was compelled to practice linear rectotomy. The operation was done after the method of Lister. Union took place by first intention. The patient is now well after the double operation.

Medical and Surgical Journal.

THURSDAY, OCTOBER 21, 1880.

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Remittances by mail should be sent by money-order, draft, or registered letter to HOUGHTON, MIFFLIN AND COMPANY, BOSTON, MASS.

SUPPLEMENTARY HEALTH REPORT OF THE STATE BOARD OF HEALTH, LUNACY, AND CHARITY.

THIS volume is the successor to the former annual report of the State Board of Health, and is published as a supplement to the first annual report of the newly organized complex Board of Health, Lunacy, and Charity. The papers on special subjects, which make up the bulk of the volume, are preceded by a short general report by the former secretary of the old board, Dr. Folsom. This general report gives a summary of the special reports, and closes with some timely and judicious remarks on typhoid fever, in which a discreet discrimination is made between what we know and what we only suspect as to the origin and modes of propagation of this disease. A few extracts from Dr. Folsom's remarks will bear repetition:—

"At the present time science has not yet gone far enough to say with precision what are all the factors in the production of typhoid fever. That filth, or something originating in filth, is a prominent factor is almost universally conceded."

"Admitting the existence of a specific poison, which may be so entirely eliminated from its filthy surroundings as not to lead to even a suspicion of its filth origin in the human intestine and its discharge with human excrement, the question remains, Is filth alone ever, under any circumstances or by any modifications, capable of producing typhoid fever independently of any matter derived from a previous case of the disease? At the start we must acknowledge that in discussing this problem there is an *x*, an unknown factor, of which we know as little as we know of the so-called 'germ' of any disease,—that is, we do not even yet know certainly that it exists. If we ignore this unknown factor, it must be admitted that the negative evidence enormously preponderates over the positive facts which tend to show that filth, independently of a specific poison, produces typhoid fever."

"Our investigations tend to show that it is essentially a filth disease, in that its origin is always in decomposing organic matter, generally in what is filthiest of filth, human excrement. It does not prevail most, however, in the filthiest towns, nor in the filthiest parts of towns, nor in the most stinking localities, nor necessarily in those years when stinks are most abundant or filth most accumulated; and in the sense of being an index of the degree of filthiness of places, except where all the other conditions are exactly alike, unknown factor and all, it is very far from being a typical filth disease."

We are glad to be assured that there has been a steady decline in the disease for the past ten years in the State of Massachusetts at large, the only exception being an increased prevalence in 1872 and 1873.

It is impossible to judge from the expenses of the health department for six months whether the economy claimed by the advocates of the abolition of the old board will be practically realized, but the figures given indicate that it will not be. In any case, the sum is too paltry, in comparison with the importance of the subject, to be worth consideration. The account by Professor Nichols of the accidental discharge into a brook of sulphuric acid illustrates forcibly the seemingly great amount of contamination which may be easily lost sight of in large volumes of water, and the alleged self-purification of streams. By a fire in chemical works, June 2, 1879, about fifty tons of oil of vitriol, together with salt-cake and other chemicals, found its way into a brook about three feet wide, close by. June 7th, A. M., the acidity was expressed by 1.74 parts of sulphuric acid in 100,000 parts of water, and by 0.37 three miles and a half below, disappearing so that the water reached its natural alkalinity June 15th, becoming slightly acid again June 19th, and remaining alkaline after June 30th. The acid was not observed at any time in Mystic Pond, from seven to eight miles below the works.

The paper by Mrs. Richards, giving the results of her chemical examinations of a number of staple groceries, purchased in various parts of the State, at all classes of retail stores, controverts, as far as it goes, the sensational articles which have appeared in some of the daily papers at different times during the past year.

Messrs. Bowditch's and Clarke's articles on country drainage and sewerage are timely contributions, and the papers of Dr. Abbott and of Drs. Amory and Sabine are illustrations of the necessity for emphasizing the instruction contained in them. It is plain that there is much work for the sanitary engineer even in some of our best governed towns. Professor Wood's careful survey of Fresh Pond and vicinity, and his investigations into the character of the water supply derived therefrom by the city of Cambridge, enforce the demand for an increased vigilance on this vital point in many parts of this thickly settled State; while, on the other hand, Professor Farlow's conclusions as to the properties of the vegetable growths observed upon the water in some of the ponds, streams, and basins which supply cities and towns will relieve the public mind of a source of anxiety which was being a good deal exaggerated.

VITAL STATISTICS OF PROVIDENCE, RHODE ISLAND.

THE twenty-fifth annual report upon the births, marriages, and deaths in the city of Providence for the year ending December 31, 1879, presents the usual evidences of care and thoroughness. This report is, moreover, of unusual value and interest, being the twenty-fifth annual report of the city, all of which have

been submitted by the present accomplished incumbent of the office of city registrar, Dr. Edwin M. Snow. These twenty-five reports give the statistics of 48,022 children born, of 41,432 persons married, and of 33,490 persons who have died in the city of Providence. This is a total of 122,941 names that are contained in the records, with very full and minute particulars relating to each. In regard to the city itself, Dr. Snow says, in his semi-annual review of the mortality for the first six months of the current year, the location is naturally healthy. The surface is quite uneven, and the surface-drainage is excellent; natural water-courses, ending into the bay give a free circulation of air into every part of the city. The population is not crowded, but generally the dwelling-houses are single and with unoccupied space about them. There is no under-ground population, and there are no large tenement houses. The population by the census of the present year (1880) is 104,862.

The estimated population upon which the present report is based was 103,000. For the whole period of twenty-five years, 1855-1879, inclusive, the daily average of births was 5.26; the highest daily average for any one month was 5.63 for June, the lowest was 4.88 for January. The proportion of males born to females during twenty-six years was 105.6 to 100.

The aggregate of children of American fathers in the whole city amounts to 48.69, or a little less than one half of the whole number; the children of purely American parentage in 1879 were 40.80 per cent. of all. The average number of children born to each mother during the twenty-five years was 3.45.

There were three women who bore children in Providence in 1879 who were fifty years old; one of whom had borne four children before, one five, and one seven. The number of women of forty years and over who bore children in 1879 was 115; they had borne 821 children, or an average of 7.14 children to each mother. These facts concerning the age of the mother have been recorded since July 1, 1863, a period of sixteen years and six months; in that time there have been 1669 women of forty years and over who have borne children; the number of children borne by them being 12,702, there is an average of 7.61 children to each mother.

During this period, since July 1, 1863, the whole number of children borne by mothers whose age was stated was 31,097. The number of children borne by mothers of each age during this time is as follows:—

Age of mother.	Children.	Age of mother.	Children.	Age of mother.	Children.
14.....	4	27.....	2,041	40.....	789
15.....	19	28.....	2,387	41.....	218
16.....	50	29.....	1,712	42.....	262
17.....	147	30.....	2,753	43.....	147
18.....	376	31.....	1,145	44.....	97
19.....	606	32.....	1,611	45.....	102
20.....	974	33.....	1,342	46.....	27
21.....	1,141	34.....	1,138	47.....	24
22.....	1,655	35.....	1,713	48.....	11
23.....	1,829	36.....	1,019	49.....	3
24.....	2,028	37.....	830	50.....	8
25.....	2,288	38.....	903		
26.....	2,114	39.....	584	All known ages.	31,077

Of these 31,097 children, 19,371 or 56.81 per cent. were borne by mothers less than thirty years old;

13,038 or 38.24 per cent. by mothers between thirty and forty years old; and 1688 or 4.95 per cent. by mothers forty years old, or more.

Proportion of children of plurality births:—

	Twins.	Triplets.
1855-1878.....	1 in 41.3.....	1 in 1587.9
1879.....	1 in 54.8.....	
1855-1879.....	1 in 41.8.....	1 in 1,778.6

Proportion of plurality births by parentage. The number of births in the twenty-five years, 1855-1879, inclusive, was 47,130. The following is a statement of the number of births of American, foreign, and mixed parentage, and the number and proportion of plurality births in each class:—

	Whole No. births.	Plurality cases.	1 in per cent.
American parents.....	19,028.....	192.....	99.10, or 1.01
Foreign parents.....	22,721.....	335.....	67.82, or 1.03
American and foreign.....	5,681.....	56.....	101.43, or .99
Total.....	47,430.....	583.....	81.36, or 1.23

Of the 583 cases of plurality births, the 192 cases of American parentage were 32.93 per cent.; the 335 cases of foreign parentage were 57.46 per cent.; and the 56 cases of mixed parentage were 9.61 per cent.

Touching the distribution of marriages in the different seasons of the year we learn that, taking the aggregate of marriages for twenty-five years, of each 100 about 25 occur in the winter months, December, January, and February; 22 in the spring months; 23 in the summer; and 30 in the autumn. The following figures show the number and percentage of marriages in each quarter of the year for the period of twenty-four years, 1855-1878, inclusive:—

	1855-1878. Marriages.	Per cent.
January-March.....	4,235.....	21.59
April-June.....	4,998.....	25.48
July-September.....	4,603.....	23.46
October-December.....	5,780.....	29.47
Total.....	19,616.....	100.00

The average age of the males married during twenty-four years was 28.56 years; of the females, 24.75 years.

The number and percentage of deaths in each quarter of the year in the aggregate for the twenty-four years were as follows:—

	24 years, 1855-1878. Deaths.	Per cent.
January-March.....	7,519.....	23.90
April-June.....	6,909.....	21.96
July-September.....	9,353.....	29.72
October-December.....	7,683.....	24.42
Total.....	31,464.....	100.00

The average difference in years between the average age of American and foreign decedents for the twenty-four years was 9.62 years in favor of those of American parentage. The number and proportion of decedents under five years of age of foreign parentage was much larger than of American parentage.

The mortality of the city of Providence for the year 1879 was affected by a very severe epidemic of scarlatina, which prevailed especially in the latter part of the year.

Dr. Snow's conclusions in regard to the colored population not being self-sustaining continue the same

as expressed in the last registration report of the State, which he edited, that for 1877.

We have extracted some of the interesting statistics resulting from an experience of twenty-five years with which this report is filled, in the hope that our readers may thereby be induced to refer to the original.

Vital statistics in general would have a greater value if compiled with Dr. Snow's painstaking accuracy and intelligent method.

MEDICAL NOTES.

—The death of Professor Buhl, of Munich, is announced. He made himself widely known through his researches into the pathology of tubercle.

—The Medical College of Virginia announces that its annual lecture course will now continue for nine months. It adopts the graded system also. A similar extension of time is to be adopted, it is said, by the Medical College of the University of Virginia.

—In *Brain*, quoted by the London Medical Record, Dr. Clarke has published some very suggestive tables of statistics. He finds it hard to avoid the conclusion that alcoholism in the parents is a predisposing cause of crime and epilepsy. Forty-four per cent. of the epileptic criminals were the children of drunken parents. With regard to the parents, he finds that epilepsy is more frequent in the mother than in the father, and that the percentage for both parents is higher with the women than it is with the men. In drunkenness the reverse holds good. The proportion of epileptic and insane relatives is found to be very much greater with criminals than with ordinary epileptics. It has been asserted by Taquet that "sexual desires show themselves early in the children of drunkards, and are associated with absence of moral sense." The author finds that the convictions for bastardy are three times as numerous among epileptics as among non-epileptics, a fact which strongly bears out his idea that epilepsy owes its origin to hereditary alcoholism. Other tables show that the amount of crime as indicated by the number of convictions is greater among the epileptics than among ordinary criminals.

—A writer in the Detroit *Lancet* claims to have discovered an unfailing sign, by means of which the diagnosis of pregnancy during the earlier months is made a positive certainty. He says: "I refer to the color of the mucous membrane of the vagina and cervix uteri. This I have always found of a purplish-blue, or rather deep violet hue, in pregnant women, and I have depended on this peculiar color in making a diagnosis of pregnancy in the first, second, and third month. I say it has never failed, and it is not produced by any pathological condition; the different colors produced by uterine diseases cannot be mistaken for this pathognomonic violet hue. I have often called the attention of students to this sign, and in dispensary practice it has repeatedly occurred that women under my treatment for uterine disease have not attended for six or eight weeks, and hastily plac-

ing them on a table, without inquiring about their last menstruation, I introduced a speculum, and was on the point of introducing a probe or making an application to the uterus, when, behold, there was the characteristic color. I desisted from further interference, and in every case which I could keep under observation the women were afterwards delivered at full term, or had a miscarriage."

—Mr. Spencer Wells has performed ovariectomy one thousand times, with seven hundred and sixty-eight recoveries and two hundred and thirty deaths. — *Boston Medical and Surgical Journal*.

And what became of the others? — *Exchange*.

The other two may have been left in the ink-stand or have fallen back into the font. But appearances indicate that they neither died nor recovered. For their probable fate we refer our inquisitive friend to the first clause of the fifth verse of the eleventh chapter of Paul's Epistle to the Hebrews.

—Drs. McIntire and Bauer recently used eucalyptol as spray in a modified form of Lister's dressing during an operation for mammary cancer, with the very best results. According to the *St. Louis Clinical Record*, this substance may prove to be the antiseptic of the future.

NEW YORK.

—There was no preliminary session at the Bellevue Hospital Medical College, and the lengthened winter session commenced on Wednesday, September 15th. An innovation was introduced, in the omission of the usual formal introductory address.

—The opening exercises of the seventy-fourth winter session at the College of Physicians and Surgeons took place on Friday evening, October 1st, and the introductory address was by Prof. Edward C. Seguin, M. D. His subject was The Cultivation of Specialties in Medicine.

—The introductory lecture of the course at the medical department of the University of the City of New York was delivered on Tuesday evening, September 28th, on The Importance of Clinical Study, and its Relation to Medical Progress. He showed that only when this had been the basis of investigation had there been any real progress in medical science, and that the new and more perfect modes of clinical study, by which discoveries had been made which had changed and entirely revolutionized this department, had now given to it a degree of certainty and exactness which at one time seemed altogether impossible of attainment.

—According to a paragraph in *La France médicale*, a woman, whose name and address are given, was several months pregnant when she was seized with colicky pains. Attributing them to ordinary causes, she went to her vineyard, and was profoundly astonished to discover presently that she had been confined. Dr. Watering, of Maregnac, was called to her, and found that she had given birth to eight children, perfectly formed. They were enclosed in a sac, and had apparently perished from mutual pressure during their growth. The mother did well. — *Michigan Medical News*.

—The Cincinnati *Medical News* allows itself to publish a letter from a student, whose object is a wholesale criticism upon the teachers of the medical school of that city. "Ancient bumptin," "juvenile milkop," etc., are some of the elegant expressions used by this young gentleman in application to certain of the lecturers. The matter and its publication require no comment.

EDUCATIONAL NOTES.

HOSPITAL INTERNES AND EXTERNES IN PARIS.

The *internes* and *externes* of the hospital are nominated by *concours* for four years, and receive 500 francs per annum for the first two years, 600 francs the third year, and 700 francs the fourth year. Some of them are also provided with lodging, fire, and light; others receive 400 francs yearly in lieu of lodging.

The *interne* is the most direct assistant of the hospital physician or surgeon; he accompanies him in his morning visit, and himself visits the patients in the evening. The *internes* remain on duty in turn, to attend to urgent accidents and cases of illness.

In November, the *internes* are invited to compete for prizes. To those of the first and second years are offered a silver medal, books, and two certificates of honor. Those of the third and fourth years compete for a gold medal, a silver medal, and two certificates of honor. The successful candidate for the gold medal is entitled to two additional years of *internat*.

Those candidates who are placed in the first list at the *concours*, but do not succeed in getting appointments, are termed provisional *internes*, and fill the places of those who are absent. They have, however, to compete again at the end of the year, if they desire to receive appointments.

The *externes*, who are appointed for three years, have to take records of cases, either alone or under the direction of the *internes*, to assist the latter in dressing difficult cases, and to dress the minor cases. The *externat*, well employed, is a safe road to the *internat*. The *externes* at the central hospitals are not paid; at those more distant from the centre of the city they receive 300 francs yearly.

The *concours* for the *externat* generally commences early in October and continues until the end of December. Candidates must not be under eighteen nor above twenty-five years of age. They must produce: (1) a register of birth; (2) a certificate of vaccination; (3) a certificate of good conduct signed by the mayor of the commune in which the candidate is domiciled; (4) a certificate of at least one inscription in the faculty of medicine. The examination consists in: (1) an oral description of some subject in descriptive anatomy; (2) a similar description of some elementary subject in pathology or minor surgery. For each five minutes are allowed, after five minutes of reflection. Twenty candidates are examined on each day. The maximum number of marks that can be gained by a candidate is twenty for each examination. The examination is conducted by four physicians and three surgeons of the central bureau, generally from those most recently appointed.

The *concours* for the *internat* takes place nearly at the same time as that for the *externat*. Candidates must not be more than twenty-eight years old, and must produce certificate of having performed the du-

ties of *externe* at least from the first day of the preceding January, without interruption (unless this have been unavoidable); also certificates from the physicians and surgeons and the directors of the hospitals in which they have performed the duties of *externe*, testifying to their punctuality, obedience, and good conduct. The examination commences with a written essay on some subject in anatomy and medical or surgical pathology, for which two hours are allowed. The question is drawn by lot from three chosen by the jury of examiners. The candidates read their competitions before the examiners, and receive a number of marks, generally varying from twenty to twenty-eight (the maximum being thirty). After this, the candidates are classified, and a certain number only (about three for each vacant place) are admitted to the second examination. In this, a question in anatomy and pathology is proposed; ten minutes are allowed for consideration, and ten minutes for the oral answer. The maximum number of marks for this examination is twenty. The examiners are selected in the same way as for the *externat*.

At the end of the *concours*, the candidates are classified according to the number of marks; and the thirty-five or forty first on the list are nominated *internes*.

REGULATIONS FOR THE GERMAN STAATS-EXAMEN.

The examination for the license to practice as a physician, surgeon, and accoucheur in any part of the German Empire may be passed either before the medical examination commission at Berlin, or before a medical examination committee at any German university.

The examinations commence every year in November, and are not continued beyond the middle of July in the following year.

The examination is divided into five parts, namely: (1.) Anatomical, physiological, and pathological. (2.) Surgical and ophthalmic. (3.) Medical. (4.) Gynecological. (5.) *Viva voce*. All candidates, without exception, must pass these examinations in the above order, and no regard is paid as to what branch of the profession the candidate will devote himself.

In the first portion, the candidate has to write essays on the various subjects, and also to demonstrate on the dead body, and reply to questions put to him.

In the second portion, the candidate has to undergo a clinical and a technical test. The clinical part is conducted in the surgical department of a large hospital, or in the clinic of a university, and usually lasts from seven to nine days, the candidate during this period taking charge of several patients, under the supervision of one of the examiners. During this period, also, the candidate may be required to satisfy the examiners that he can operate on the dead body, and is always required to give his diagnosis in an ophthalmic case.

The third portion of the examination is devoted to medicine, and is purely clinical. The candidate is examined in a hospital or in a clinic of a university, and is required to write prescriptions, and to give his opinion as to the doses of certain drugs given in certain cases of sickness.

The fourth portion consists in an examination conducted in the Charity Lying-In Hospital at Berlin, or in the Lying-In Hospital of a university. The candidate has to examine cases in the presence of an examiner, and to give the diagnosis, prognosis, and treatment. He is also required to attend a case of labor in the presence of an examiner, and to write down his opinion afterwards, stating the exact presentation, etc. He is also required to undertake the treatment of cases during seven days, under the superintendence of an examiner.

The fifth portion, the *viva voce* examination, is conducted publicly, under the superintendence of the president of the examination commission, by three examiners. To this examination only those candidates will be admitted who have satisfac-

torily passed the previous portions. This examination includes general and special pathology, therapeutics, surgery, midwifery, pharmacy, and hygiene. Any candidate who fails to pass these five portions of the examination twice will not be readmitted for fresh examination.

UNIVERSITY OF ZURICH.

The following are the regulations for the degree of doctor of medicine:—

(1.) In order to obtain the degree of doctor of medicine, the candidate must send to the dean a written memorial, accompanied by (a) evidence of attendance on lectures of physics, chemistry, botany, zoology, and medical subjects; (b) a dissertation on some subject in medical science, which, after approval, the candidate must have printed at his own expense.

(2.) The dissertation is delivered by the dean for examination to the teacher of the subject of which it treats, or to the member of the faculty at whose suggestion it has been composed. A recommendatory opinion of the first examiner decides its acceptance; in this case his name appears on the title when it is printed. If the first opinion be doubtful or unfavorable the thesis must be circulated among all the members of the faculty, and is only accepted if two thirds of them give their written votes in its favor.

(3.) When the dissertation is approved, the candidate is admitted to examination for the degree. The first part is written, and the candidate has to answer two questions drawn by lot: one on anatomy and physiology, the other on pathology and therapeutics, surgery, or midwifery. The answers are circulated among the members of the faculty, who, after examining them, express in writing their determination (by a simple majority) whether the candidate shall be admitted to the second (oral) examination. The oral examination comprises the above-named subjects, and also general anatomy, pathological anatomy, materia medica, and ophthalmic medicine. The votes of two thirds of the members of the faculty present are necessary for the passing of this examination.

(4.) After the examination has been passed and two hundred printed copies of the dissertation have been delivered, an official diploma is delivered in duplicate to the candidate; all other ceremonies are dispensed with.

(5.) The fee consists of three hundred and fifty francs (fourteen pounds), and fifteen francs to the bedell; it is paid before the oral examination (if this be remitted before graduation). There is no additional fee if it be necessary to repeat the examination. The fee is not returned if the candidate be definitely rejected. The sum of one hundred francs is remitted to candidates who already possess a recognized diploma; and, in such cases, the faculty may, by a majority of two thirds, agree to omit the oral examination.

(6.) The faculty has the power of granting the diploma of doctor *honoris causâ* for distinguished services to medicine.

The medical faculty consists of the following professors, with several docents. Ordinary professors: H. Meyer, human anatomy; H. Frey, comparative anatomy, zoology, histology, embryology; E. Rose, surgery and clinical surgery; L. Hermann, physiology; K. J. Eberth, morbid anatomy; G. Huguenin, practice and clinics of medicine; F. Horner, ophthalmology; O. Wyss, diseases of children; E. Frankenhäuser, obstetrics and gynecology; A. Ford, mental diseases. Extraordinary professor, H. Spöndly, obstetric

medicine. Lectures are given in the philosophical faculty by ordinary professors: V. Merz, chemistry; W. Weith, chemistry.

THE GENERAL HOSPITAL IN VIENNA.

The General Hospital (*Allgemeine Krankenhaus*) is capable of accommodating about 3000 patients. There are two medical clinics, under Professors Duchek and von Bamberger; two surgical clinics, under Professors von Dumreicher and Billroth; a clinic for Diseases of the Eye, under Professors von Arlt and Stellwag von Carion; and three clinics for Obstetrics, — two for students being under the charge of Professors Carl Braun-Fernwald and Späth, and one for midwives under Professor Gustav Braun. The clinics for Diseases of Women are under the charge of Professors Braun-Fernwald and Späth. There are also special clinics for Syphilis, under Professor Sigmund; for Laryngoscopy, under Professor Schrotter; for Diseases of Children, under Professor Widerhofer; for Psychology, under Professor Meynert; and for Otology, under Professor Grüber. A considerable portion of the school is situated within the hospital; thus there are at the General Hospital the Pathological Museum and post-mortem room, under the direction of Professor Heschl; the room for medico-legal necropsies, under Professor Hofmann; the Institute for Experimental Pathology, under the direction of Professor Stricker; and the Institute of Chemical Pathology, under Professor Ludwig. The Anatomical Institute and Dissecting Room, under the direction of Professor Langer; the Physiological Institute, where the practical physiology is carried on under Professor Brücke; the *Materia Medica* Museum and the Medical Library are outside the hospital, in the Alergrund.

HOSPITALS AND MEDICAL PERIODICALS IN JAPAN.

Hospitals. Before the coming of the Western war-vessels to Japan there were no hospitals here. If a patient desired more than ordinary attention from his physician he entered the home of the Chinese doctor, and became one of the family. The nobles and the higher officials had their household doctor. Little or no provision was made for the sick poor. In old Japan humanity was abundant and life was held cheap. The first hospital in Japan was established by the Shogunate in 1861, at Nagasaki, and placed in the charge of Matsumoto, then a student of Dutch medicine, but who has since become inspector-general of the army medical department. The hospitals were and are even now in some degree institutions in which only the paying classes can obtain attention and treatment. Since the Restoration of 1868, hospitals have been established by the Mikado's government in various cities and prefectures of the empire. The staff in these institutions include the best educated (in modern medicine) and most experienced physicians of their several sections. To these institutions come the sick of the higher classes, the official class, the paying classes, and the cases with which the ordinary practitioners cannot cope. At all the hospitals are a large number of young men pursuing their studies, and who also act as drug-clerks, dressers, and clinical clerks, until they are able to secure a proper certificate. Connected with the in-department is an extended out-patient department, where all are examined and prescribed for, but each one pays a small fee for the medicines; also a vaccination department and one for the periodic inspection of

the public women. (The "social evil" is not only admitted and recognized here, but it is regulated in a very efficient manner. Many features of the system here pursued are worthy the attention of the West.) In 1877 there were sixty-four public, seven general government, thirty-five private, and five lock hospitals. Since then there have been established new hospitals in several of the inland ken, two larges ones at Tokio, and one each at Kanagawa, Awamori, Sendai, and Fukushima, to my personal knowledge.

There are now six medical periodicals issued in Japan. They are largely made up of translations from the American and European medical press, for as yet little original work has been done here. The two having the ablest editors and the largest circulation are the *I-ji-Chinban* (weekly) and the *I-ji-Shinshi* (monthly), issued at Tokio. The following are a few of the topics treated in a recent issue of the *I-ji-Shinshi*: mercurial baths; injurious effects of wine on the general health; causes of intermittent fever; a case of difficult parturition; uses of jaborandi; government physicians *versus* private practice, etc.

Miscellany.

THE OPERATION OF OPTICO-CILIARY NEUROTOMY AT THE MILAN CONGRESS.

BY HASKET DERRY, M. D.

At one of the January meetings of the Medical Improvement Society¹ of Boston, a discussion took place with reference to the new operation of neurotomy, or division of the optic and ciliary nerves, as a substitute for enucleation of the eyeball in cases of threatened sympathetic ophthalmia. I alluded on that occasion, in the course of my remarks, to the possibility of reunion of the several nerve fibres, and cited certain cases in which the subsequent symptoms appeared to indicate this occurrence. And I claimed that the value of the new operation would be greatly diminished if this accident proved a frequent one.

The whole subject came up for discussion at the International Congress, held at Milan in the early part of September of the present year. No report of its proceedings has yet appeared, and I have therefore thought that a brief *résumé* of the notes I made at the time might be of interest.

Dr. Meyer brought the subject of optico-ciliary neurotomy forward, and described his method of performing the operation. He was in the habit of dividing and detaching all the conjunctiva in the immediate vicinity of the cornea, also of cutting both oblique muscles. He used ordinary sutures in preference to catgut, not finding the effect of the latter sufficiently durable. When symptoms of sympathetic ophthalmia were actually present he always performed enucleation.

Dr. Poncet had made examinations of dogs on whom neurotomy had been performed. He had found complete regeneration of the ciliary nerves at the end of two months. Drawings were exhibited, and the regeneration of the myelinc demonstrated. At the end of two months he found, moreover, that regeneration of the optic nerve was taking place, myelinc being formed.

It being claimed by a member of the congress that the removal of a piece of the nerve had, in his experi-

ence, prevented the reestablishment of corneal sensitiveness, which had returned after simple division of the nerve, Dr. Lainati reported a case in which he had cut off a piece of the optic nerve two centimetres in length. In thirteen days corneal sensitiveness was again present.

Dr. Liebrecht had seen all the symptoms return ten weeks after the operation of neurotomy. In one case he removed a piece of the nerve. Four months later there was no disturbance. In the performance of the operation he had been much troubled by the occurrence of hæmorrhage.

Dr. Dor had had a case where the cornea remained insensible for a year after the division of the optic nerve, and then began to regain its sensitiveness. The activity of the pupil also returned. In his opinion, neurotomy, or rather neurotomy (the excision of a portion of the nerve), would still remain applicable to a limited number of cases, and need not, therefore, be wholly abandoned. Enucleation, however, must invariably be performed where sympathetic ophthalmia is to be feared.

This statement was received with marked and general demonstrations of assent.

Dr. Boucheron admitted the possibility of regeneration of the ciliary nerves.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM OCTOBER 2, 1880, TO OCTOBER 15, 1880.

HATTERSETT, J. C. G., major and surgeon. Assigned to duty as post surgeon at Fort Brown, Texas, to enable Assistant Surgeon F. Meacham to comply with S. O. 190, C. S., A. G. O., in his case. S. O. 19, Department of Texas, September 29, 1880.

DICKSON, J. M., captain and assistant surgeon. Assigned to duty as post surgeon at Vancouver Barracks, W. T. S. O. 171, Department of the Columbia, September 24, 1880.

HELMANN, CHARLES L., captain and assistant surgeon. Granted leave of absence for one month, with permission to apply at division headquarters for an extension of one month, and to the adjutant general of the army for a further extension of two months. S. O. 170, Department of the Columbia, September 23, 1880. Leave of absence extended one month. S. O. 143, Division of the Pacific and Department of California, September 28, 1880.

BIART, V., first lieutenant and assistant surgeon. So much of S. O. 205, September 24, 1880, from A. G. O., as relates to him is suspended until May 1, 1881. S. O. 209, A. G. O., September 30, 1880.

GRAY, WILLIAM W., first lieutenant and assistant surgeon. When relieved by Assistant Surgeon Dickson to report to commanding officer, Fort Canby, W. T., for duty as post surgeon. S. O. 171, C. S., Department of the Columbia.

GORGAS, W. C., first lieutenant and assistant surgeon. Assigned to duty as post surgeon at Fort McIntosh, Texas, to enable Assistant Surgeon J. H. T. King to comply with S. O. 190, C. S., A. G. O., in his case. S. O. 199, C. S., Department of Texas.

MUNN, C. E., captain and assistant surgeon. To accompany the battalion of the fourth cavalry, which is relieved from duty with the Ute expedition, to Fort Garland, Col., and then proceed to and take post at Fort Hays, Kans. S. O. 210, Department of the Missouri, September 21, 1880.

BIART, V., first lieutenant and assistant surgeon. Relieved from duty in the Department of the Missouri, and to report in person, at the expiration of his present sick leave of absence, to the commanding general, Department of Dakota, for assignment to duty. S. O. 205, C. S., A. G. O.

BREWER, J. W., captain and assistant surgeon. Assigned to duty at McPherson Barracks, Atlanta, Ga. S. O. 117, Department of the South, October 7, 1880.

MATTHEWS, W., captain and assistant surgeon. Having reported at these headquarters, is assigned to duty at the cantonment on the Uncompaghe, Colo. S. O. 223, Department of the Missouri, October 8, 1880.

¹ Medical and Surgical Journal, vol. cii, No. 4.

LIPPINCOTT, H., captain and assistant surgeon. Granted leave of absence for six months. S. O. 218, A. G. O., October 12, 1880.

POPE, B. F., captain and assistant surgeon. Having reported at these headquarters, is assigned to duty at Fort Sully, D. T. S. O. 122, Department of Dakota, October 9, 1880.

CROSKRITTE, H., captain and assistant surgeon. Assigned to duty as post surgeon at Camp Sheridan, Nebr. S. O. 94, Department of the Platte, October 5, 1880.

WILSON, WILLIAM J., captain and assistant surgeon. Having

reported at these headquarters, is assigned to duty at Fort Meade, D. T. S. O. 121, Department of Dakota, October 6, 1880.

WEISEL, D., captain and assistant surgeon. Assigned to duty as post surgeon at Fort Warren, Mass. S. O. 181, Department of the East, October 8, 1880.

SEMGIE, B. G., captain and assistant surgeon. Fort Fred. Steele, Wyo. T. Granted leave of absence for one month. S. O. 93, Department of the Platte, October 9, 1880.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 2, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from					
				The Principal "Zymotic" Diseases.	Diphtheria and Croup.	Diarrhoeal Diseases.	Lung Diseases.	Typhoid Fever.	
New York.....	1,209,561	529	227	28.54	8.88	11.15	11.72	2.08	
Philadelphia.....	901,380	273	105	12.45	2.56	2.20	2.56	2.93	
Brooklyn.....	564,400	225	109	33.11	20.89	7.56	9.78	.44	
Chicago.....	503,298	159	78	41.51	20.75	6.29	6.29	4.40	
St. Louis.....	—	130	51	24.62	13.08	4.62	2.31	4.62	
Baltimore.....	393,796	133	50	28.57	8.27	6.02	8.27	6.77	
Boston.....	363,958	177	74	26.55	11.30	12.43	4.52	1.13	
Cincinnati.....	280,000	—	—	—	—	—	—	—	
New Orleans.....	210,000	103	34	29.13	.97	7.77	3.88	.97	
District of Columbia.....	180,000	96	30	22.92	7.29	7.29	5.21	1.04	
Buffalo.....	—	55	25	23.64	9.09	5.45	5.45	5.45	
Cleveland.....	160,000	—	—	—	—	—	—	—	
Pittsburgh.....	156,649	46	20	43.48	17.39	6.52	4.35	4.35	
Milwaukee.....	127,000	51	28	19.61	9.81	—	5.88	—	
Providence.....	104,862	35	13	28.57	8.57	5.71	5.71	5.71	
New Haven.....	63,000	9	3	55.56	33.33	—	11.11	11.11	
Charleston.....	57,000	27	12	11.11	—	7.41	3.70	3.70	
Nashville.....	42,543	16	3	18.75	—	12.50	—	6.25	
Lowell.....	59,340	27	16	51.85	—	37.04	3.70	3.70	
Worcester.....	58,040	27	13	44.44	11.11	18.52	11.11	7.41	
Cambridge.....	52,860	18	8	16.67	5.56	11.11	27.78	—	
Fall River.....	48,626	14	9	14.29	—	—	—	—	
Lawrence.....	39,068	20	11	15.00	—	15.00	15.00	—	
Lynn.....	38,376	15	4	26.67	6.67	13.33	—	6.67	
Springfield.....	33,536	12	4	—	—	—	—	—	
Salem.....	27,347	15	8	33.33	20.00	6.67	—	6.67	
New Bedford.....	27,268	14	6	28.57	—	21.43	7.14	—	
Somerville.....	24,964	7	2	14.29	—	—	—	—	
Holyoke.....	21,961	7	2	42.86	—	—	—	28.57	
Chelsea.....	21,750	8	2	19.00	37.50	—	—	—	
Taunton.....	21,145	10	3	30.00	—	10.00	—	—	
Gloucester.....	19,288	5	3	20.00	20.00	—	—	—	
Haverhill.....	18,478	10	3	10.00	—	10.00	—	—	
Newton.....	16,994	—	—	—	—	—	—	—	
Newburyport.....	13,470	3	2	33.33	—	—	—	—	
Fitchburg.....	12,270	5	0	20.00	20.00	—	—	—	
Twenty Massachusetts towns.....	156,515	41	13	24.39	2.44	14.63	—	4.88	

Deaths reported, 2322; 971 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 632, consumption 333, diphtheria and croup 212, diarrhoeal diseases 189, lung diseases 157, malarial fevers 82, typhoid fever 65, scarlet fever 44, whooping-cough 21, cerebro-spinal meningitis six, erysipelas six, small-pox five, measles two. From malarial fevers, New Orleans 19, St. Louis 17, New York 13, Brooklyn 10, District of Columbia seven, Philadelphia and Milwaukee four, Chicago and Baltimore three, Boston and New Haven one. From scarlet fever, Chicago 11, New York 10, Brooklyn, Baltimore, and Pittsburgh four, Providence three, Fall River two, Philadelphia, Milwaukee, Lowell, New Bedford, Somerville, and Newburyport one. From whooping-cough, New York eight, Baltimore three, Philadelphia, Boston, and Buffalo two, St. Louis, Pittsburgh, Lowell, and Holyoke one. From cerebro-spinal meningitis, New York and Pittsburgh two, Philadelphia and Worcester one. From erysipelas, Chicago two, New York, St. Louis, New Orleans, and Lowell one. From small-pox, Philadelphia five. From measles, Worcester and Nantucket one.

Eighty-eight cases of diphtheria, 24 of scarlet fever, four of typhoid fever, one of small-pox, one of measles, and one of whooping-cough were reported in Brooklyn; small-pox, two in

Chicago; diphtheria 38, scarlet fever eight, in Boston; scarlet fever 29, diphtheria 11, in Milwaukee; diphtheria 11, scarlet fever five, typhoid fever three, measles one, diarrhoeal diseases one, in Providence; scarlet fever 14, diphtheria four, in New Bedford.

In 38 cities and towns of Massachusetts, with a population of 1,058,270 (population of the State 1,783,812), the total death-rate for the week was 21.49 against 21.51 and 22.05 for the previous two weeks.

Total deaths, deaths under five years, and deaths from diarrhoeal diseases all diminished.

For the week ending September 11th, in 150 German cities and towns, with an estimated population of 7,725,065, the death-rate was 30.7. Deaths reported, 5366; 2876 under five; pulmonary consumption 425, acute diseases of the respiratory organs 189, diphtheria and croup 112, typhoid fever 82, scarlet fever 78, whooping-cough 46, measles and rubella 23, purpura fever 16, small-pox (Königsberg three, Königsbütte two), typhus fever (Dortmund two), cholera (Rentlingen, Gotha) two. The death-rates ranged from 14.2 in Erfurt to 46.6 in Götting; Königsberg 34.3; Breslau 31.3; Munich 29.6; Dresden 32.3; Berlin 33.6; Leipzig 28.6; Hamburg 28.4; Hanover 26; Bremen 27.2; Cologne 39.3; Frankfurt 16; Strasburg 26.6.

For the week ending September 18th, in the 20 English cities,

with an estimated population of 7,499,468, the death-rate was 25. Deaths reported, 3591: diarrhoea 818, acute diseases of the respiratory organs 153, scarlet fever 94, whooping-cough 59, fever 58, measles 19, diphtheria 18, small-pox (London) three. The death-rates ranged from 17 in Plymouth to 37 in Leicester; London 20; Bristol 20; Manchester 27; Birmingham 27; Sheffield 28; Leeds 30; Liverpool 34. In Edinburgh 19; Glasgow 21; Dublin 39.

In the 20 chief towns in Switzerland for the same week, population 522,856, there were 36 deaths from diarrhoeal diseases, acute diseases of the respiratory organs 13, diphtheria and croup seven, scarlet fever five, measles three. The death-rates of the principal cities were: Geneva 14; Zurich 28.5; Basle 18.4; Berne 20.9.

The meteorological record for the week in Boston was as follows:—

Date.	Barometer.		Thermometer.		Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Maxim.	Minim.		7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
1880.																			
Sept. 26	30.135	65	77	55	76	56	83	72	SW	S	S	3	11	8	C	F	C	—	—
" 27	29.923	70	79	60	94	65	90	83	S	S	S	4	17	9	G	O	R	—	—
" 28	29.672	65	79	55	94	73	82	83	SE	S	W	5	18	14	G	F	P	—	.07
" 29	29.850	61	74	49	81	33	59	58	SW	SW	W	9	11	9	C	F	C	—	—
" 30	30.106	54	68	45	70	30	41	47	W	W	W	5	14	20	C	F	C	—	—
Oct. 1	30.352	50	65	40	66	24	45	45	W	SE	S	10	6	2	C	F	C	—	—
" 2	30.323	53	66	44	63	43	61	56	SW	E	SE	4	14	8	C	C	F	—	—
Week.	30.052	60	79	40				63	SW	S	W							3.25	.07

¹ O, cloudy; C, clear; F, fair; G, fog; H, hazy; R, rain; S, smoky; T, threatening.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 9, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal Zymotic Diseases.	Diphtheria and Croup.	Lung Diseases.	Diarrhoeal Diseases.	Typhoid Fever.
New York	1,209,561	588	237	25.51	11.05	11.90	9.01	1.02
Philadelphia	901,380	268	79	—	3.36	4.10	—	4.85
Brooklyn	564,400	277	126	32.85	19.50	7.94	8.50	1.08
Chicago	503,298	175	80	35.43	20.57	6.29	9.14	2.86
St. Louis	—	118	37	20.34	4.24	5.08	6.78	2.54
Baltimore	393,796	135	59	33.33	8.89	5.93	5.19	2.21
Boston	363,938	158	51	23.80	8.23	7.60	11.40	1.90
Cincinnati	280,000	91	50	17.58	1.10	8.79	7.69	6.60
New Orleans	210,000	107	32	14.95	1.87	4.67	2.80	—
District of Columbia	180,000	94	46	31.91	14.89	7.45	3.19	4.26
Cleveland	160,000	—	—	—	—	—	—	—
Pittsburgh	156,649	63	25	44.44	15.89	1.59	4.77	7.84
Buffalo	153,159	46	13	41.39	13.04	4.35	6.52	4.35
Milwaukee	127,000	47	26	27.66	6.38	2.13	8.51	2.13
Providence	104,862	49	9	27.59	3.45	3.45	10.34	6.89
New Haven	65,000	18	4	11.11	5.56	11.11	—	—
Charleston	43,543	36	15	5.56	2.78	5.56	2.78	—
Nashville	59,340	23	8	26.10	—	17.39	4.35	13.05
Lowell	58,040	22	8	9.09	—	13.64	9.09	—
Worcester	52,860	22	7	22.73	4.54	4.54	13.64	—
Cambridge	48,626	—	—	—	—	—	—	—
Fall River	39,068	—	—	—	—	—	—	—
Lawrence	38,376	8	4	25.00	12.50	—	—	12.50
Lynn	33,536	10	1	20.00	10.00	—	—	10.00
Springfield	27,347	16	8	25.00	6.25	6.25	12.50	6.25
Salem	27,268	12	6	50.00	8.33	8.33	25.00	8.33
New Bedford	24,964	13	4	23.00	7.69	7.69	15.38	—
Somerville	21,961	11	7	27.27	—	9.09	18.18	—
Holyoke	21,780	16	8	25.00	12.50	6.25	16.67	16.67
Celsea	21,145	6	2	33.33	—	27.27	—	—
Taunton	19,288	11	2	9.09	—	—	9.09	—
Gloucester	18,478	11	5	45.45	36.36	—	—	—
Haverhill	16,994	—	—	—	—	—	—	—
Newton	13,470	7	2	28.7	14.29	—	14.29	—
Newburyport	12,270	6	6	16.67	—	—	—	—
Pitchburg	12,270	6	6	16.67	—	—	—	—
Nineteen Massachusetts towns	142,732	57	15	29.82	7.62	5.26	15.79	7.92

Deaths reported 2519; 969 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria, and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 653, consumption 385, diphtheria and croup 251, lung diseases 189, diarrhoeal diseases 184, typhoid fever 68, malarial fevers 52, scarlet fever 45, whooping-cough 20, cerebro-spinal meningitis 14, small-pox 10, measles four, erysipelas four, yellow fever one. From *malarial fevers*, New York 11, New Orleans 10, Brooklyn, St. Louis, and District of Columbia seven, Baltimore more and Buffalo four, Chicago and New Haven one. From *scarlet fever*, Baltimore 12, Pittsburgh nine, New York and Philadelphia five, Chicago, Buffalo, and Milwaukee three, Cincinnati, District of Columbia, Providence, Lowell, and New Bedford one. From *whooping-cough*, Baltimore six, New York five, Philadelphia and Brooklyn three, Boston two, Fitchburg one. From *cerebro-spinal meningitis*, New York three, Philadelphia two, St. Louis, Baltimore, Cincinnati, Buffalo, Milwaukee, Providence, Lowell, Holyoke, and Chelsea one. From *small-pox*, Philadelphia nine, Chicago one. From *measles*, New York, Brooklyn, Pittsburgh, and Gloucester one. From *erysipelas*, New York, District of Columbia, Milwaukee, and Cambridge one. From *yellow fever*, New Orleans one.

Eighty-five cases of diphtheria, 14 of scarlet fever, seven of typhoid fever, three of measles, one of whooping cough, and one of small-pox were reported in Brooklyn; diphtheria 25, scarlet fever 15, small-pox one (convalescent when reported), in Boston; scarlet fever 19, diphtheria 16, in Milwaukee; diphtheria 14, typhoid fever five, scarlet fever two, whooping-cough two, in Providence; scarlet fever nine, in New Bedford.

In 35 cities and towns of Massachusetts, with a population of 956,793 (population of the State 1,783,818), the total death-rate for the week was 22.35, against 21.49 and 21.51 for the previous two weeks.

Total deaths increased; deaths under five years and deaths from diarrhoeal diseases about the same as for the previous week.

For the week ending September 18th, in 149 German cities and towns, with an estimated population of 7,713,572, the death-rate was 27.9. Deaths reported 5337; 2574 under five: pulmonary consumption 399, acute diseases of the respiratory organs 164, diphtheria and croup 131, scarlet fever 96, typhoid fever 72, whooping-cough 58, puerperal fever 18, measles and röteln 17, cholera (Rentlingen, Aachen) two, small-pox (Königsberg) one. The death-rates ranged from 12.7 in Darmstadt to 52.3 in Aachen; Königsberg 28.9; Breslau 26.2; Munich 30; Dresden 25; Berlin 33.2; Leipzig 22.4; Hamburg 24.7; Hanover 26.4; Bremen 20.9; Cologne 28.3; Frankfurt 20.8; Strasburg 22.1.

For the week ending September 25th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 24.1. Deaths reported 3466: diarrhoea 611, acute diseases of the respiratory organs 174, scarlet fever 119, fever 72, whooping-cough 55, diphtheria 22, measles 18, small-pox (London) five. The death-rates ranged from 21 in London to 38 in Norwich; Birmingham 22; Bristol 24; Manchester 26; Leeds 27; Liverpool 33. In Edinburgh 21; Glasgow 18; Dublin 38.

In the 20 chief towns in Switzerland for the same week, population 522,856, there were 51 deaths from diarrhoeal diseases, diphtheria and croup 10, acute diseases of the respiratory organs eight, typhoid fever six, whooping cough three, puerperal fever two. The death-rates of the principal cities were: Geneva 17.1; Zurich 27; Basle 27.6; Berne 22.1.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
		Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
1880.																				
Oct. 3	30.207	57	70	47	73	67	75	72	SW	E	S	2	6	5	C	C	C	.20	—	
" 4	29.984	65	74	54	94	59	79	77	S	SW	SW	8	17	14	O	O	O	5.30	—	
" 5	29.976	52	65	51	79	80	80	80	W	W	SW	4	5	8	R	O	F	—	—	
" 6	29.880	55	70	46	100	31	35	55	W	W	W	10	14	7	G	C	C	—	—	
" 7	30.138	50	61	43	62	38	43	48	W	NW	NW	8	13	12	C	F	C	—	—	
" 8	30.326	49	61	38	65	56	65	62	W	E	SW	7	8	6	C	C	C	—	—	
" 9	30.302	58	72	43	77	36	70	61	W	S	SW	5	7	9	C	C	C	—	—	
Week.	30.116	56	74	38					W	W	SW							5.50	.15	

¹ O, cloudy; C, clear; F, fair; G, fog; H, hazy; R, rain; S, smoky; T, threatening.

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The Indications for Treatment in Fractures of the Elbow. By Louis S. Pulcher, M. D. (Reprint.)

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Perinephritis. Fifteen Additional Cases in Children, completing a Total of Twenty-Eight. Remarks on Diagnosis and Prognosis. By V. P. Gibney, M. D. (Reprint.)

Hernia in Children: Based on a Study of Five Hundred Cases under Personal Observation. By Edward Swasey, M. D. (Reprint.)

Litholapaxy and Lithotomy. A Report of Eight Cases of Removal of Stone from the Bladder by these Methods. By H. O. Walker, M. D. (Reprint.)

Rectures.

CLINICAL LECTURE AT BELLEVUE HOSPITAL, NEW YORK.¹

BY J. W. S. GOULEY, M. D.,

Professor of Genito-Urinary Diseases in the Medical Department of the University of the City of New York.

ORGANIC STRICTURE, PRODUCING RETENTION OF URINE, OF UNUSUALLY RAPID DEVELOPMENT; PHIMOSIS.

GENTLEMEN,—This patient, twenty-six years of age, is at present suffering from retention of urine, and he has of late been troubled a good deal with this difficulty. It occurs, he says, two or three times every week. Three years ago he had his first attack of gonorrhoea, and since then he has had several others. As there has been no history of traumatism here, it is certainly very remarkable that an ordinary stricture should have contracted sufficiently to produce retention of urine in the short space of three years. The process must have been extraordinarily rapid, since a stricture as narrow as this probably is usually of from five to twenty years' standing.

It is now 2.45 P. M., and the patient tells me that he has not passed his urine to-day. I shall therefore prepare to explore his urethra in order to find the stricture giving rise to the trouble, and at the same time discover whether there is more than one present, which is very probable. The first thing about the genito-urinary organs that attracts our attention here is the fact that the man has a well-marked congenital phimosis, but, not interfering with this for the present, I endeavor to pass a No. 10 bulbous rubber bougie, when I find that there is a stricture in the fossa navicularis which arrests it, and which bleeds when the effort to introduce it is continued. On substituting a No. 8 for it, however, it is found to be admitted by this stricture. Before proceeding any further, I think it best to get rid of the phimosis, and by slitting up but little more than the mucous membrane of the prepuce, I am now enabled completely to expose the glans. The next thing that we discover is that the man has an enormous meatus urinarius, the opening amounting almost to hypospadias. He says that this is entirely natural, the part never having been cut, and yet, notwithstanding this huge meatus, a narrow stricture has occurred, as we have seen, in the back part of the fossa navicularis.

Now let us continue our exploration of the urethra. On attempting to pass a No. 8 into the bladder, we find that it is arrested at a point two inches and five eighths from the meatus, and we conclude, therefore, that there are at least two strictures. A No. 6 passes both of these, but is impeded at a point still deeper than the second, and then goes into the bladder. This point of obstruction is evidently a third stricture, and it is situated about the sinus of the bulb or at the bulbo-membranous juncture. This is the narrow stricture which produces the retention, and which yet is of only three years' growth. It is, I find, three quarters of an inch in width, its posterior border being six and a half inches from the meatus, and its anterior border three quarters of an inch nearer that orifice.

Now is there any way of getting through this third stricture with an instrument of larger size than No. 6 without cutting? There is; and I will next proceed

to show you the method. We have seen that a No. 8 was at first arrested by the second stricture, but, although it is greatly impeded by it, I can by a little manoeuvring succeed in passing it through that. I then stretch the second stricture by means of a No. 9, when, on reintroducing the No. 8, I find that I can now pass it with ease into the bladder. This shows that the third stricture will bear division, and that it can, no doubt, be entirely cured by that method.

I now introduce a rubber catheter, and evacuate the urine, which, you see, is quite clear, and contains no pus. From the way the stream comes, however, I judge that this bladder has but little power. I do not hesitate to draw off all the urine in this case, as it is within the quart. The largest quantity which I think I ever saw removed in this hospital was about eight pints, but this is by no means as great an amount as has been noted in some of the cases on record. The most remarkable of all was that of a woman about the close of the last century, who went from one hospital in Europe to another, it being supposed by some that she had an ovarian tumor, and various other diagnoses being made by different authorities. At length an old Russian surgeon concluded to catheterize her, when several gallons of urine were withdrawn, and the "tumor" disappeared.

I do not propose to practice division of the stricture here on this occasion, as the patient is not at present in a sufficiently good general condition, but I hope to do so as soon as this is the case. After the division has been made, however, the case should by no means be left to nature, for if this is done the trouble will return the same as before. In all such instances you should continue the dilatation for a considerable period by passing an appropriate instrument from time to time. This is a good case in which to effect a permanent cure, and this is to be accomplished, after the division has been resorted to, simply by introducing a sound once a week for a period of from one to two years. I have had patients who had been cured in this way under observation for ten or twelve years, and there has been no return of the difficulty. But no man ever permanently cured an organic stricture in a few months; for if we discontinue the dilatation after such a period as that, the stricture will be sure to come back. In the present case it will be advisable to pass a No. 8 or 9 until the patient gets stronger, and then to cut the second stricture. The inner one, as I said, I think I can cure without this.

I find now that by pulling the prepuce back behind the glans we have succeeded in setting up a paraphimosis, and in order that this may not occur in the future, and perhaps subject the patient to the danger of losing the end of his penis from a strangulation produced in this way, it will be necessary to slit the prepuce up a little further. By putting in a few sutures I have now converted this longitudinal incision into a transverse one, and it is only in loose tissues like the prepuce that we can succeed in accomplishing this. In four days the sutures should be removed, and it will then be found that the man has a very good-looking organ, with only a little transverse scar where the cut was made.

—M. Désiré Charney contributes the third of his valuable illustrated papers on the Ruins of Central America to the *North American Review* for November.

¹ Reported for the JOURNAL.

Original Articles.

ON THE INAPTNESS OF THE PERITONEUM TO INFLAME, AND ON THE IMPORTANCE, FOR MEDICAL, SURGICAL, AND DIAGNOSTIC PURPOSES, OF HAVING FREE ACCESS TO THE ABDOMINAL CAVITY.

BY T. H. BUCKLER, M. D.

THE danger of opening the peritoneal cavity and of producing thereby fatal peritonitis has always been a cherished dogma taught in the medical schools of every country, and our present object is to show that the duty of the schools is to teach directly the opposite doctrine: that the risk is so very small as to amount to almost nothing, that there is no such thing as an idiopathic peritonitis, that the peritoneum is less liable to become inflamed than any other tissue or structure of the body, and that when inflammation does occur in this membrane it is invariably symptomatic, and depends, without exception, on some foregone mischief or preëxisting cause introduced or applied. M. Chomel said, over forty years ago, that he had never seen a case of idiopathic peritonitis. I have published somewhere the case of Colonel S. A., the anterior walls of whose belly were torn open, and a part of them irretrievably lost, from being struck with a flying fragment of shell. When he fell the intestines rolled out into a heap of gravel and fine sand, with which they, together with the omentum and mesentery, were covered. The surgeon, whose name I have forgotten, after carefully rinsing out the cavity of the peritoneum, and washing the sand from the mesentery, intestines, and omentum, returned them to their places, drew together the irregular wound as best he could, applied a compress and bandage, and his grateful patient, with the aid of an abdominal supporter, is now an active man in the enjoyment of perfect health. I have examined thirteen cases of fatal peritonitis, and found they all, without exception, confirmed the opinion expressed by M. Chomel; in every case, without exception, the inflammation having been caused by tubercle or some other foregone mischief. Two of these, but for bare accident, would have been set down as idiopathic. They are interesting; I will briefly relate them:—

A young man entered the Baltimore City and County Almshouse Hospital, suffering from acute peritonitis, of which he died next day. The following morning a very searching examination was made, requiring much time, because the intestines were all agglutinated together by recently secreted lymph, but no cause for the inflammation could be discovered. I told the students that here was a manifest case of idiopathic peritonitis which was very rare, and the first one I had ever met with. As we were leaving the dead-house a frivolous young doctor—the students were all graduates—took up a scalpel and threw it, point foremost, at the left psoas muscle, into and through which it passed, and out ran a quantity of pus. Further examination revealed caries in the last dorsal vertebra. My first decision was reversed, and the case entered as symptomatic peritonitis.

A youth, seventeen years of age, only son of the late W. H. DeC. W., consulted me for deeply marked jaundice. After carefully examining the boy, the father was informed that the jaundice could be relieved, but that he was also suffering from an abscess

of the liver, and that the recovery from it depended on the disposal nature might make of the contained pus. If it found its way through the lung or into the stomach or gullet he would recover, but if it discharged into the cavity of the belly the case would be fatal. The youth not only recovered from the jaundice, but looked in such high health that I began to regret having said anything about an abscess. Finally, some two months having elapsed, I was sent for at three o'clock in the morning to see this boy, who had been seized in the night with pain in his abdomen. Suffering myself from an attack of corbature, I sent the messenger to the late Professor Power to request that he would pay the visit. In less than two hours Dr. Power came to inform me that the boy had acute peritonitis, and would not, in his opinion, live more than three days. At the end of that time he died, and at my desire the late Professors Power and Roby, of the University of Maryland, and Dr. Tilghman went to make a post mortem. Having deeply incised, at various points, the liver *in situ*, and not finding an abscess, the thing they were looking for, they searched for other possible causes of inflammation; but finding none, they came to the conclusion that the case was one of idiopathic peritonitis, caused by exposure to cold. Having replaced the organs and sewed up the cavity of the abdomen, just as Dr. Tilghman was going to wash the instruments, Professor Roby took up a scalpel, and finding on it a globule of pus said, "Where did this pus come from? We must reopen the abdomen, remove the liver, and search for its source;" this was done, with the discovery at the very summit of the liver, where it rests against the diaphragm, of an abscess with indurated walls, about the size of a small custard cup, the pus from which had found its way into the peritoneal cavity. They of course reversed their decision, and pronounced the case one of symptomatic peritonitis.

Like every other practitioner, it has been my lot to see cases diagnosticated as, and treated for, peritonitis which were nothing but inflammatory rheumatism or gout in the fibrous tissues connected with the abdominal muscles. Two cases of this sort in men who had during inclement weather slept on wet ground are particularly remembered, and all know that exposure to cold, wet, and dampness, and especially sleeping in wet clothes, are peculiarly the producing causes of acute rheumatism. All these cases of so-called peritonitis, but rheumatism in fact, without exception, recovered. Neither is the peritoneum likely to become inflamed from traumatic injury of any sort, as is proved by the way in which the peritoneal cavity has been pigeonholed by operators for hernia,—femoral, inguinal, and umbilical,—to say nothing about the way in which the peritoneum has been clipped and gouged, and large portions of the omentum cut away by ovariologists without exciting inflammation of any sort. And more provocative of inflammation than all this was the rude taxis—brutal assaults they should rather be called—practiced by some with the view of avoiding the necessity of using the knife. I have never witnessed, in or out of hospitals, these barbarous procedures for the reduction of femoral or inguinal hernia without saying to myself, Oh, that the brute would stop that most injurious torture, and do the almost painless operation of opening the skin and peritoneal sac, and cut with an Astley Cooper bistoury the crescentic margin of Poupert's ligament, and in inguinal hernia relieve the

strangulation by cutting directly upwards, as advised by Darrah! And where these operations for hernia have proved fatal the failure has very rarely been from supervening peritonitis, but rather from antecedent rude attempts at taxis, or gangrene of the intestine from not operating in time.

The only emergency believed at one time to justify a resort to free opening of the peritoneal cavity was a necessity for making the cesarean section. In these rare cases of hysterectomy the incision into the uterus should always be made at the very centre of the top of its dome and in an antero-posterior direction, so as to avoid the circular muscles of Meckel surrounding the openings into the tubes of Fallopius, and at the same time the hazard of dividing any of the longitudinal fibres. But if the placenta happens to be attached to the fundus, then the incision should be made lower down in front or on either side, and in a course corresponding with the lines of longitude on a globe; but the incision should never be carried so far down as to divide the circular fibres of the cæstus circularis muscle. Ovariectomy having so minimized the risk of opening the peritoneal cavity, it would not be surprising to see obstetricians substitute for craniotomy the cesarean section, thereby saving both child and mother. After the child and placenta have been removed, an assistant should compress the uterine artery so as completely to arrest hæmorrhage, and thereby give the surgeon time to wash out any blood which may have gotten into the cavity of the abdomen or that of the small pelvis. The compression being for a moment relaxed to show the bleeding arteries, he might apply to them torsion, and close the wound in the walls of the uterus by passing through its lips four or five sutures, the best description of which, from the tendon in the tail of the kangaroo, will soon be brought in abundance from Australia.

The day is likely to come when the views in regard to the danger of opening the dome of the gravid uterus from the cavity of the abdomen are to undergo the same change of opinion that has already taken place as to the risk of opening the cavity of the peritoneum. Observing due caution, there is no reason why either operation should be regarded as exceptionally hazardous. Dr. McDowell, in opening the abdominal cavity with the object of ovariectomy, went not only boldly against the dogmatic teaching of the schools, but directly in the face of arbiters of the medical and surgical opinions of his day; as men of McDowell's rare perceptions and moral courage are seldom to be found, it is to be hoped that the medical and surgical umpires of what is right and proper to be done will not raise their voices against opening the cavity of the peritoneum, on the line of the linea alba, for the purpose of tying the uterine artery, with the object of remedying the deplorable consequences of incomplete involution. If the objections to opening the cavity of the abdomen are found insuperable, the ischiatic artery should be taken up, and if that fails to accomplish the object, then the pubic should be tied, from which the uterine artery sometimes takes its origin. And this step having been taken, would it not be well for the journals and all other vehicles of advanced medical thought and opinion to go still farther, cancel every objection, and declare the cavity of the peritoneum as free to the general practitioner of medicine and surgery as it has been for a very long time to the obstetrician and ovariectomist? With the understanding that, having a scalpel for the key, the

cavity of the abdomen is always accessible and may be opened by linear incision at any time required, not only for the performance of operations, but for purposes of diagnosis, *a new field is open to both the physician and surgeon.* Times without number in cases of ileus¹ have physicians and surgeons been seen palpating a meteorized abdomen, with the ostensible object of diagnosing the cause and locating the seat of obstructions. As well might they have felt all over the top of a hair trunk with the view of ascertaining its contents. To obtain true information, the former, like the latter, has to be opened and its contained holdings laid bare. I saw recently a case of ileus in a gentleman about sixty. He was attended by two eminent practitioners of the Paris school, a distinguished professor of surgery and member of the medical faculty, and a noted electrician. There were several surmises as to the origin of the attack, and as many conjectures with respect to the probable seat and exact nature of the obstruction. He was awakened on a Wednesday morning at four o'clock with pain in the bowels and sick stomach, and threw up undigested string beans and other articles he had eaten at seven o'clock the evening previous. Tuesday morning, the day before, he had eaten muscles, — bivalves from the French coast. On Thursday particles brought away by enemata were of a pale slate color, but early on Friday morning he passed about two quarts of fluid tinged with recent bile, which latter had come from beyond any supposed point of obstruction. The pulse on Thursday was 108 and on Friday had gone down to 76. There was during Wednesday, Thursday, and Friday great tenderness on pressure over the entire abdomen, but especially about the right iliac region, and on the last-named day the tympanitic distention was excessive. The attending physician, whilst palpating the abdomen, was heard to say, Oh, if we could only look in and see where the trouble is!" The upshot of the matter was recovery from what must have been at first a furious attack of indigestion, incited probably by the muscles eaten on Tuesday, supervening crebism of the intestinal mucous membrane, fever of the simple inflammatory type, and a tendency to typhloenteritis, all of which was sufficient to account for the paresis of nerves presiding over peristaltic movements.

I can recall three cases of obstructed bowels where, by timely opening of the abdomen, the lives of the patients might have been saved. — one, a Mr. C., who had been treated by two leading physicians and an eminent surgeon. A post mortem in the case revealed the fact that a coil of the ileum had passed into the left pleural cavity through an opening on the left side of the diaphragm, in which it had become strangulated. It then came to the memory of a friend of the deceased, who happened to be present, that as a boy the now unfortunate victim of blind practice and concealed trouble had had with another boy a fight with knives, during which he was stabbed in the left side, the scar on which was still very apparent; and the presumption now was that the knife must have passed upwards through the diaphragm, and have made the opening into which the coil of intestine had at last found its way.

¹ The ancient term "ileus" and the modern one "intestine" are altogether too general in their signification, and convey no exact meaning, such as the specialist is supposed to require; the former is used without furnishing a hint as to the nature or precise seat of the obstruction, and the latter without throwing a ray of light on the character and functions of the structures divided by the knife. For the sake of precision and perspicuity, each of these unmeaning terms, serving only to mislead, should be expunged at once from the medical and surgical vocabulary.

Six years ago the writer was asked to see, with Dr. Milten Berger, a boy about five years old, who six days before, while playing with other children, was suddenly seized with pain in the belly. All other means having failed, it was advised that the lineal opening be made into the peritoneal cavity and the cause of obstruction searched for. Prof. Milten Berger having a scalpel in his pocket case, I made an incision into the abdominal cavity about three inches long, commencing an inch below the umbilicus, and at once a coil of intestine as black as soot came into view. A diverticulum about three inches long, and attached at its end by a shred of fibrous tissue to the mesentery where it joins the gut, formed, with the ileum from which it sprang, a loop or link, through which the coil of intestine had slipped and become strangulated. The portion of intestine confined was released by simply dividing the fibrous band and setting free the end of the diverticulum, but death of the strangulated portion of the gut had already taken place. Three days earlier this operation might have been a success.

In the third case the post mortem discovered the obstruction to be owing to a mass of cholesterine blocking up the jejunum where it joined the duodenum. Intraperitoneal inspection would have told that this plug could be nothing else than cholesterine, and ether or chloroform given by the stomach would have speedily dissolved it. Lineal section of the peritoneum should in these cases be resorted to before meteorism takes place. Mechanical obstruction of the bowels must not be confounded with obstinate constipation, sometimes depending on and exclusively caused by erethism or pointed injection in the white tissues or substance of the brain giving rise to a reversal of peristaltic action. In a case of this sort, where all the usual cathartics and enemata had been given for days without effect, the patient, a woman, after the third dose was relieved by taking every four hours fifteen drops of a fluid extract of podophyllum peltatum. Constipation from brain trouble is the only condition in which I ever give, and fluid extract the only form in which I have ever used, this very drastic agent. In cases *unattended with fever or inflammation*, twelve or at most fifteen hours are sufficient to tell whether the obstruction is likely to be removed by enemata, black draught, or electricity. These failing, the abdomen should be opened and the cause of obstruction looked for. If it is ileo-caecal invagination or intussusception in the small intestines or colon, pull out the intussuscepted portion as you would draw out the turned-in finger of a glove. Some twenty-one other twists, kinks, and tangles of the bowels have been discovered after death and described, most of which might have been set to rights by timely lineal section, exploration, and rectification. With free access to the cavity of the peritoneum, untrammelled by popular prejudice or hostile professional opinion, the average surgeon would, when required, with confidence and without hesitation or delay, make the lineal section and search for the cause of obstruction.

But there are other objects for which lineal section of the peritoneal cavity may be required. In a case of aneurism of the mesenteric branch of the iliac artery, when the abdomen should have been opened and the artery tied, I was counseled against an attempt at ligature because of the danger of exposing the peritoneal surfaces and the risk of provoking a fatal peritonitis. When the young man died, from rupture of the

aneurismal walls and hemorrhage into the peritoneal sac, a post mortem disclosed the fact that there was an inch of the artery whereon a ligature might have been placed. Seeing the very small risk of opening the peritoneal cavity, it becomes a question whether it would not be far better, where the external and especially the internal iliac artery is in question, to make the lineal section and operate from within, rather than cut outside and behind the peritoneum, according to the usual custom. I have seen from secondary hemorrhage two fatal cases of attempted ligature of the external iliac, the internal coats of which, being in both instances only partially divided by the ligatures. At the bottom of the deep cut required to reach the artery from the outside, it is extremely difficult to pull with force the opposite ends of the ligature in a right line with each other, so as to give the loop formed by the tie sufficient incisive force to divide clearly the arterial coats, without which secondary hemorrhage is sure to supervene.

Access to the peritoneal cavity should be had whenever a foreign body exists, or, from the symptoms, is gravely suspected to exist, in the appendix vermiformis. I have seen two cases of this sort, both of which were fatal. In one a small fragment of bone, supposed to have been swallowed in beef soup, was lodged half an inch within the mouth of the appendix, and in the other a duck-shot, which had passed down to the very end of the blind cul-de-sac, were removed from the appendix after death. In the former the symptoms were tenderness over the right iliac region, constipation, pain coming on in paroxysms, and in fact all the signs of a local peritonitis which finally proved fatal. The other case had been treated for typhoid fever by the late Dr. Bull, who asked me to see it on the twenty-sixth day, when the patient had meteorism and carphologia with sub-sultus action of the tendons about the wrists and ankles. The movements of his arms were at one time volitant, and at another like those of a weaver at his loom. These nervous symptoms had existed in greater or less degree for ten days. There had been very little evidence of pain or tenderness about the abdomen, which was slightly convex. No previous history bearing on the case could be had, except that a week before the attack he had gone to shoot ducks on Back River. The prescription of Dr. Graves, of Dublin, for insomnia was ordered for him, and the next morning, having slept, he seemed better, but that night he died. As the case was evidently not typhoid fever, and I was curious to know what it might be, a post mortem was asked and after some trouble obtained. Having laid open and examined the alimentary canal throughout its entire length without discovering anything, I then, with probe-pointed scissors over a basin of water, opened the appendix, and on getting to the end of it heard something, which on examination proved to be a duck-shot, drop into the basin beneath. The shot had, by compression and absorption, bored its way through the mucous membrane, and was held, when the blunt point of the scissors touched it, only by the peritoneal coat, on the outside of which, at the extreme point of the appendix, was a thin plate of semi-organized lymph about a line in diameter. All the membranes and organs were everywhere else perfectly sound and healthy. If at any time during his illness the end of the appendix could have been held up, the shot must have rolled down and out into the intestine. A Peyer's patch, generally regarded

as belonging only to the ileum, or in other words aggregated glands, not only lines throughout the appendix on its inside, but covers continuously to a greater or less extent the mucous membrane outside of its mouth. Taken in connection with the anatomical structure of the appendix, what occurs in some ataxic cases of typhoid fever, and remembering that this young man, aged about twenty-two, died from nervous delirium, insomnia, and exhaustion, the peculiar position of this shot and the very slight lesion its presence occasioned, become extremely interesting in a physiologic-pathological point of view. I had aforetime noticed in typhoid disease attended with grave ataxic symptoms that the fatal cases occurring from long-continued nervous agitation and final exhaustion, always gave post-mortem evidence of more or less ulceration in the patch lining the appendix, and from this shot case we are led to believe that the distressing symptoms in question are due not to a peculiar type of typhoid disease, but rather to ulceration in the aggregated glands lining the appendix, which is probably extensively provided with these bodies because it is at a point where much lubrication is needed; and physiologists say that one function of these and of the isolated glands is debiscient.

Dr. I. Howard gave me the particulars connected with the case of a consin of his, — a clerk in a coffee warehouse, who died in his twentieth year, after symptoms very similar to those in the beef-bone case described. A flat half grain of coffee found lodged near the mouth of the appendix had nearly worked its way by ulceration into the cavity of the peritoneum. It should be noticed that in two of these cases the victims had swallowed bodies which they had been daily in the habit of handling, a point in the history of other cases worth inquiring about. By careful analysis of the signs and symptoms, and by exclusion, the presence of a foreign body in the appendix vermiformis ought to be diagnosed sufficiently early and with sufficient certainty to justify the operation for its relief. This would consist in making the lumbar section, and, having ascertained the presence of a foreign body, taking the end of the appendix between the thumb and forefinger of the left hand, and with the thumb and forefinger of the right hand pressing against and stripping it out into the colon, just as a marble or other body might be pressed out from a finger into the hand part of a glove.

Let it no longer be said that perforation of the ileum in typhoid fever is of necessity fatal, or that its occurrence is not only a death-warrant, but an execution of the sentence as well. About forty years ago I spent a part of several days at the Boston Pathological Museum with that model of incomparable human excellences, the late Dr. Jackson, who, then in the golden hours of his prime, zealous in the pursuit of pathological anatomy, and perfectly happy in his daily vocation, gave to his friends a mingled look of consolation and encouragement, as though he would say to one and all of them, *Beati possidentes*. After exhibiting a number of interesting pathological specimens and descending on them most knowingly, he (Dr. Jackson) showed me, preserved in spirits, a perforated intestine taken from the body of Mr. A., medical student, who had died a short time previously of this accident in typhoid fever, the attack being so mild that his medical friends looked on it as a mere morbid probation; and as proof that they were right in regarding it as a mild case there was found in the whole line of the ileum but one single ulcer about the size of a pea, and situated about three

inches above the cæcum; it had bored its way through the mucous, muscular, connective, and peritoneal layers into the cavity of the peritoneum. Since that day it has been discovered that bits of skin applied to the surfaces of chronic ulcers take root. It is also known that from the end of the prodrome and commencing with the chill ushering in typhoid fever, or more properly typhoid disease, which often goes through its course without any fever, Peyer's patches and the isolated glands undergo softening for about seven days, at the end of which time sloughing takes place; then for seven more days the patches are open ulcers, this being the suppurative stage; and finally that during seven additional days, making in all twenty-one, the process of cicatrization goes on, and being completed, as it is usually, at the end of the twenty-first day, convalescence commences. During the last seven days abundant reparative lymph is poured out on the surfaces of the ulcers. If my memory is not at fault it was between the fourteenth and twenty-second day, or during the period of cicatrization, that complete perforation in this case of Mr. A. happened. It is important to mark the period at which perforation takes place; for while it may be difficult or impossible to repair the damage done to the wall of the ileum during the stages of softening and suppuration, it may be perfectly possible to patch and mend the intestine during the last seven days, when Peyer's patches are cicatrizing and abundant lymph is being poured out on their surfaces. In one other case that came under my observation in consultation, but too late for surgical interference, perforation happened on the seventeenth day. The intestines, on post-mortem examination, were found so soldered together by coagulable lymph that the opening, about six inches above the lower end of the ileum, was only found on looking for it from within the calibre of the intestine. The sides of the ulcer were related with the intestine, nearly perpendicular to its walls, and the opening looked as though it had been formed with the punch of a harness maker.

With free access to the peritoneal cavity, it would therefore appear that the medical attendant, unless he be competent to operate, ought as soon as perforation takes place to hand his case over at once to a surgeon, whose duty it would be to make the lumbar section, and having found the perforation to get an assistant to close it between his thumb and forefinger, while with a soft sponge and distilled water he carefully washes out from between folds of the peritoneum fecal or other matter that may have already escaped. He should then cut from one side of the lumbar section a bit of peritoneum with as good a backing of cellular tissue as he can find, and form it into a plug to fit into the perforation pretty tightly, but not so tight as to wrinkle its peritoneal head, which should be exactly adjusted so as to form with the peritoneal covering of the ileum a perfectly smooth surface, as though there were only a crack or narrow crevice between them. Having previously armed six fine catgut or stretched horsehair threads with the most delicate needles, pass them through the edges of the peritoneal covering of the plug and of the intestine at six hexagonal points, and on tying them so arrange the knots that they may help to fill up the outer openings made by the needles. Clip off close to the knot the short end of each thread, leaving the longest ones to be used as presently directed. Having made a hexagonal pad out of the peritoneum of a cat or rabbit, previously prepared in chlorinated water,

and dried, but moistened when used, let its six sides be nicked at their centres, so as to admit the threads which are now to be carried across the compress and tied on top of it.

This operation, performed at any time during the last days of typhoid disease, while Peyer's patches are cicatrizing and reparative lymph is being abundantly provided, would no doubt succeed in a large majority of instances. Coagulable lymph is so rapidly poured out from inflamed or wounded serous membranes that the peritoneal lining of the plug and that of the intestine would, without question, be soldered together in a few hours. Some surgeons might prefer to graft the borders of the perforation to the peritoneum lining the anterior abdominal walls. Two or three hours before the operation the alimentary canal should be flushed or washed out with Rochelle salts or some other form of wet purge. And after the operation is over, at least three grains of powdered opium should be given to the patient if an adult. Dr. Jackson did not place his specimen in the museum as a mere unmeaning gnomon, or simply to alleviate gaping curiosity, but because he thought that with the advance of knowledge it might be turned to useful and practical account; and should the proposed operation ever succeed, it will be an instance in which life has been preserved as the direct sequence of his pathological work; and that prolonged life will come out of other seed he has sown is not to be doubted.

With free access to the cavity of the peritoneum conceded, the most important question of all is yet to be decided; this has to do with ovarian cysts which exist within reach of the gynaecologist in the cavity of the small pelvis, or when, emerging therefrom and undergoing evolution, growth, and final development in the cavity of the abdomen, they become ripe fruit for the ovariotomist. Shall these cysts, while yet in the cavity of the pelvis, be excised by penetrating the walls of the vagina, or shall the lineal section be made, the ovary be lifted out from the pelvic cavity, and the cysts be hipped in the bud by being clipped from the ovarian stem with scissors? Or, rather than destroy these cysts in their incipency by either of the above methods, shall it be deemed more expedient to advise that the abdomen of the female be made a sort of truck-patch wherein to cultivate cysts until they become formidable ovarian tumors, to be tapped and gathered like watermelons by the ovariotomist? These questions can best be answered by inquiring into the aetiology of ovarian cysts, their growth and mode of production. An ovarian cyst, however small, is a sort of siphon, drawing to itself an afflux of blood from which it derives the materials of its rapid growth and development. As the cyst enlarges, this siphonic power becomes greater and greater, and having attained a considerable size its hydraulic performance, through exosmosis from the arteries on the one hand, and endosmosis through the veins on the other, is like that of a double-action pump. By means of this hydraulic power the cyst or cysts are lifted or forced up from the cavity of the small pelvis into that of the abdomen. Let any one who doubts the movements of fluid into and out of these cysts, and the power thus derived, feel the ovarian artery before and after the contained fluid has been drawn off from them, and his opinion on this point will no longer waver. The amnion is also a membrane endowed with this hydraulic power, by which, mainly, the uterus at the time of quickening

passes from the cavity of the small pelvis into that of the abdomen; in other words, the new being is carried from the lower to the upper house in an *ascenseur*, or hydraulic lift. And thus, too, the fluid contained in the amnion is renewed and kept from becoming stagnant. It must be seen, therefore, that through these siphonic acts the development of ovarian cysts takes place, and that cutting off their tops or through their centres — a bloodless operation when they are small, thereby destroying hydraulic power — arrests at once their growth, and they wilt and fade away, thus rendering amputation of the pedicle or ligation of the ovarian artery needless. As the presence of these cysts in the small pelvis can be determined when they are not larger than a hen's egg, it would seem best, after the system of the woman has been prepared for the operation, to make the lineal incision, lift up the stem of the ovary, and crop off the tops of the cysts with scissors, rather than tax her health and strength in cultivating the mature fruit which, with added risks from dividing the pedicle, has at last to be extirpated.

Having shown in the beginning that there is no such thing as idiopathic peritonitis, and that the peritoneum may be hacked, torn, and portions of it cut away without exciting inflammation, it now becomes a duty to say, in conclusion, that there are several hurtful but preventable influences which are as a rule most obnoxious to all serous surfaces, and that, with a view of successful surgery within the cavity of the abdomen, these causes of peritoneal inflammation have with the strictest care to be avoided.

First on the list of causes likely to excite fatal peritonitis must be placed the morbid animal poisons, and of these most especially that of erysipelas, simple, phlegmonous, and puerperal.¹ On three several occasions, during nine years, a single case of erysipelas admitted to the wards of the Baltimore City and County Almshouse Hospitals was the starting-point for the spread of its poison to all the medical and surgical wards to such a degree that the most trivial operations had to be avoided, and even the slightest scratch on the skin was likely to take on erysipelas, followed in some instances by phlebitis and pyæmia. At last the poison reached a lying-in ward, more remote than the others from the sources of infection, with invasion so fatal that after a time for a woman to be delivered there was certain death, the chill ushering in the fever occurring in every instance within eight hours after the birth of the child. Lineal sections of the abdomen made for any object in an erysipelatous atmosphere of this sort would without exception prove fatal. Finally, the expectant women were all sent away and none others admitted for three months, during which period the wards were thoroughly cleaned, ventilated, scoured, and white-washed, and the weather being mild, so that the windows could be kept open, all the wards were at the end of ninety days perfectly freed from every trace of poison, so that surgical operations were again resumed and conducted, with results not less successful than before the toxical invasions occurred. In many insalubrious locations it is inhuman and barbarous to admit a case of erysipelas, diphtheria, or other morbid poisons, but most of all erysipelas, into a hospital filled with benign cases. Far better let loose in the wards a number of vipers, copperheads, or rattlesnakes, for there is a chance that these venomous reptiles might become

¹ See pamphlet on the Poison of Puerperal Fever, by Dr. Oliver W. Holmes.

tamed; but the poisons in question are untamable, subtle, virulent, and deadly; under different phases, they are the arrows by day and the pestilence that walketh in darkness, and all the more alarming for being unseen.

The next irritant most obnoxious to the serous membranes and walls of the abdomen within, and not less to the synovial coverings lining the cartilages on the inside of the joints, and to be avoided in both, is any sort of insoluble dust or grit,¹ such as fine particles from the disintegration of rock or stone, and likely to be blown from a paved or macadamized street or road. If the day is windy, with any of these particles in the air, the windows of the room in which the cavity of the abdomen is exposed in one case, or of a joint in the other, should be kept closed. The apartment in which the cavity of the peritoneum is opened for any object should be without carpet or curtains, and have a waxed floor; but whether this latter is obtainable or not, shortly before operating the floor should be sprinkled with moist tea leaves and brushed. The surgeon and his assistants should, before entering the room, remove their coats, lest these should contain particles of dust. A stout, healthy young man had blown into his right ankle-joint, exposed from compound dislocation, a small quantity of dust from the York turnpike road, near York, Pennsylvania. Dr. Holler, surgeon of the place, reduced the dislocation. Two days after, acute gangrene set in. Blebs containing bloody serum, and preceded by the usual pink zone, extended to the upper third of the thigh, where a fatal amputation was performed by me. On the surface of the synovial membrane covering the ankle-joint was found some fine, gritty dust. Great care should also be taken that the sponges used contain no grit, and that every particle of sand shall have been washed out of them. As few instruments are required in lineal section of the abdomen, it is best to have new ones for each operation. If the case occurs in the country, and there is any pollen from the flowers or other dust in the air, the windows of the operating room should be closed. The surgeon should go to work with clean hands, and antecedent to the operation it is essential that both he and his assistants shall not have been near a case of erysipelas, hospital gangrene, puerperal fever, scarlatina, or diphtheria for at least a period of one month. The seventy-three continuously successful cases of ovariectomy by Keith, and a very large number besides equally successful, performed by him and others, and largely due to the operations having been done outside of hospital atmosphere, so minimize the risk of opening the cavity of the peritoneum that with due care the lineal abdominal section can no longer be regarded as exceptionally dangerous.

After what has been said, would it be wrong to indulge an expectation that the schools will not only teach the cautions to be observed in opening the peritoneal cavity, but that they will also advocate a resort to the lineal section for the objects and under the circumstances herein specified; and that they will instruct their students, when occasion requires, to open the cavity of the abdomen with the ease and composure exhibited by the exciser when he exposes the contents of an imported trunk? It is not desirable that the character of the surgeon should be "altogether lovely," since he might be imposed upon by the curious, who in their eagerness to witness the operations, and coming with

unbrushed clothes, might in their struggle to catch a glimpse raise a very pernicious, dangerous, and perhaps fatal dust. Neither is it important that the head of the surgeon should "go before him," on a charger or otherwise; nor indispensable that he should be a "great and good man." This phenomenon not having appeared during the Christian era, the world might with these requirements have to go forever without an ovariologist. It is, however, essential that the gynecologist should be a pure, upright, and highly honorable man, since his pursuit is one that could so effectually cover up and conceal from the eye of the law the mean, diabolical, and most cowardly crime of procuring abortion, unless done to save the life of the mother. Therefore, to prevent incursions of the vulgar and invasions of this department by unprincipled vandals, he should seek, by improving his very imperfect art and rendering it as much of a science as possible, to place it beyond the intellectual reach of this order of human vultures.

2 RUE DE PRESBOURG, PARIS, June 15, 1880.

RECENT PROGRESS IN ORTHOPEDIC SURGERY.

BY E. H. BRADFORD, M. D.

LATERAL CURVATURE.

MR. ADAMS, of London, in an excellent paper, read before the Royal Medical and Surgical Society,² states his opinion as to the value of the treatment of this affection by plaster-of-Paris jackets, as follows: that it is as "useless and injurious" to treat lateral curvature in this way as it is beneficial in caries of the spine. Lateral curvatures are classed: (1) as physiological curves; (2) confirmed structural curves; (3) commencing structural curves. In making a diagnosis a stooping position is of importance for the purpose of determining the amount or existence of rotation, attention being paid not to the spinous processes, but to the angles of the ribs in the dorsal and the transverse processes in the lumbar region. In commencing structural curves, where the intervertebral cartilages in all probability are alone affected, the curvature is more apparent in the standing than in the stooping position, although it does not entirely disappear in the stooping posture, as is the case in the physiological curves. In treating the physiological curves no mechanical restraint by any form of support should be allowed, reliance being placed entirely on physiological means, such as gymnastic exercises, partial recumbency, and attention to the general health. In some cases an elastic brace attached to stays might be used.

In confirmed structural curves mechanical support of some kind is necessary and needed, during the period of growth, to prevent an increase and to obtain some improvement, but a cure cannot be expected. Mr. Adams considers the most efficient retentive support an instrument made with a pelvic band and spring plates attached to vertical bars at the back. Steel plates fastened to levers and adjusted by a rack-and-pinion movement may sometimes be of advantage, but not always. Plaster-of-Paris jackets, the writer thinks, fail as a curative agent; the gain in height by extension is quickly lost; the spinal muscles are weakened, and gymnastic exercise impossible; respiratory move-

¹ See Professor Tyndall on Dust.

² Medical Times and Gazette, June 5, 1880, page 624.

ments are restrained, and active exercise prevented; the treatment is unnecessary at night, and bathing is interfered with. Poroplastic jackets, being removable, are free from the disadvantages of plaster, and in many cases of incurable curvature serve as a light retentive support.

Commencing structural curves are to be considered curable, and for these a combination of mechanical support, gymnastic exercises, and partial recumbency forms the treatment.

Busch¹ classes lateral curvature, scoliosis, as among the deformities induced by the effect of unequally imposed weight upon growing bone (*ungleichmässige Belastung*). The writer rejects the theory of causation, advocated by Hueter, namely, that the deformity is due to an unequal growth of the ribs; also that attributing the disease to a destruction of the balance between antagonistic muscles; which combine to hold the spine straight. He explains the deformity in all cases as due to a faulty position assumed through fatigue or the unequal distribution of weight, which position in time becomes permanent.

Volkman² criticises Busch's conclusions in regard to treatment. The latter believes that myotomy should never be done, but Volkman mentions having twice cut the sacro-lumbalis muscles in a severe case of deformity, caused by the cicatricial contraction of the muscles of the back, with a good result. He has never seen a case where this is needed in a pure lateral curvature, but he can imagine such a one as possible. He recommends the employment of the poroplastic felt jacket as preferable to the plaster jacket, apparently using it even in what Mr. Adams would term commencing structural curves. He, however, admits that as yet we do not know with certainty whether confinement of the trunk by the plaster or felt jackets for a long period do not injure the development of the chest and cause an unhealthy condition of the bone and an atrophy of the muscles, and that an apparent cure may not relapse rapidly after such treatment.

INTERMITTENT HYDROPS ARTICULORUM.

Seeligmüller³ has collected thirteen cases of a rare intermittent articular affection. In healthy patients without prodromata an extreme swelling of one or both knees appears, without inflammatory symptoms and without fever. The swelling soon reaches its maximum, remains a short time stationary, and disappears completely. In the majority of the cases the symptoms recur at certain intervals with regularity, the interval being from eight days to two weeks, and lasts from four to six days. The knees are the most frequent site for the swelling; more rarely the hip is affected at the same time. Little is gained by treatment, though in two cases quinine and arsenic were said to be of some use. The pathology is not understood, but any connection with the ordinary poison of intermittent fever has not been shown, and is not probable, as in only two of the patients could any other symptoms of intermittent fever be determined. The observer publishes one case, which continued through the greater part of the patient's life-time.

CLUB-FOOT.

The subject of the treatment of aggravated cases of club-foot by a section of the bone has already been referred to in the JOURNAL.

Ried contributes an article on this procedure.⁴ He considers the operation as indicated not only in the severe cases, but also where, from any cause, through trauma or otherwise, an ankylosis of the tarsal bones has taken place, leaving the foot in a deformed position. He mentions two such cases successfully operated upon. The first was a patient forty-three years old, with an acquired equinus and a slight varus, where treatment by milder measures did not promise success. An incision was made on each side of the foot, over the malleoli. Both bones were bored through, a half centimetre above and parallel to the line of the joint, in a direction from the outside to the inside. A key-hole saw was inserted, and the bones sawn through both in front and behind. The astragalus was then bored through from below the lower end of the internal malleolus, and a saw inserted, and the bone sawn through in such a way that a wedge-shaped piece was cut and removed. In four weeks the wound was healed; in three weeks the patient was able to walk on crutches, and is reported later to have entirely recovered. The second was a similar case, also successful. Three cases are also reported of section of bone in congenital club-foot. The patients were all children, being four, five, and fourteen years of age. The astragalus was removed, with a portion of the calcaneus from the foot of the first patient, with perfect recovery from the operation, and with a perfectly useful foot. The second patient was operated upon by making a wedge-shaped section of the tarsus with a saw. The result was entirely satisfactory. In the third case the astragalus was dissected out, and was also successful. The writer believes that enough facts have not yet been collected to demonstrate which procedure is the better, the section of the tarsus or the removal of the astragalus, but he believes that a dissecting out the cuboid will not be sufficient in an aggravated deformity, since this is due to an abnormal shape of the astragalus. Removal of the cuboid, scaphoid, and astragalus, performed by We-1, deprives the foot of too much bone, and diminishes its strength. Whether taking away of a wedge-shaped portion of the tarsus will eventually injure the strength of the arch cannot be definitely determined, as the operation is as yet too young to permit definite facts as to the final results of the operation. Removal of the astragalus with section of the fibula is not open to these objections. In either procedure a section of the tendo-Achillis may or may not be needed.

König⁵ reports three patients operated upon by excision of a wedge-shaped portion of bone from the tarsus; the ages were twelve, thirteen, and nineteen years, and the deformity was in all equino-varus. This was double in one of the cases, and both feet were operated on with a month's interval. The patient recovered from the operation, and at the end of four months was able to walk about well. Death followed ten days after the operation on the second patient. At the autopsy, extensive valvular disease, with signs of ulcerative endocarditis, was found, with changes in the lung. The third operation was successful. König believes the operation of the excision of a wedge-shaped portion of bone is the surest and safest way to treat neglected club-foot, being safer and surer than forcible stretching.

Rupprecht⁶ reports five resections of a wedge shaped portion of bone from the tarsus. The operation was successful in all. The enthusiasm of the operator is so

¹ Berliner klin. Wochenschr., 1880, i, 106.

² Centralblatt für Chirurgie, No. 36, page 483.

³ Deutsches med. Wochenschr., 1880, 5 and 6.

⁴ Vide Deutsches Zeitschrift für Chirurgie, 1880, xiii., 114.

⁵ Centralblatt für Chirurgie, No. 13, 1880.

⁶ Centralblatt für Chirurgie, March 13, 1880.

great that he advises resection of the tarsus in all cases of congenital club-foot neglected in the first year of growth, and treated unsuccessfully for a year or so, in preference to relying upon tenotomy, which he regards as of little use in such cases.

Mensel¹ is said to have been the first surgeon who performed this operation in Germany. He has operated five times successfully.

Yost² mentions an unusual spontaneous cure of a congenital talipes varus of one foot. A child was born with well-marked talipes varus, with prominence of the tibialis anticus tendon. Three months after birth the deformity had entirely corrected itself without any attempt at treatment.

CAUSATION OF RACHITIS.³

To combat the theory that in rickets there is a waste of the lime salts, the writer examined the urine of rachitic and non-rachitic children. He found that in the former there was less lime excreted than in the latter. The poverty in lime salts which rachitic children suffer from must therefore be due to a want of the supply. But the poorest food has been found to be sufficiently rich in lime to supply the economy. Hence the defect in this disease must be in the digestion or assimilation of food. A lack of hydrochloric acid is supposed by Seemann to cause this, and on theoretical grounds he advises in treating rickets to supply the system with chloride of sodium in as large quantities as possible, given either in the food or in salt baths, as chloride of sodium has been found to yield its chlorine readily.

Boeckel⁴ has published his opinion on osteotomy, after a considerable personal experience. He has collected the statistics of one hundred and eighty-two cases. In none of these was the result fatal, and in all the deformity was entirely corrected. He considers that the operation is entirely free from danger. In lighter cases treatment by means of apparatus may suffice; where locomotion is interfered with by the deformity, operative interference is decidedly preferable. Operative interference by manual force alone is rarely of service; and the author is not an advocate of the osteoclast, as he considers it dangerous. Boeckel does not remove a wedge-shaped portion of bone except in bad antero-posterior curves. He claims that the chisel is a neater instrument than the saw. The chisel is to be driven through the bone, and not partially through, as in straightening there is in this way no danger of splintering. The limb should be immediately straightened and fastened in a plaster-of-Paris splint. In a month, as a rule, the bones are sufficiently firm to permit the removal of splints. The patients may be allowed to go about six or eight weeks after the operation. Antiseptic precautions are essential. In one of the operations reported by Boeckel he operated for deformity from badly united fracture of the thigh. The greater part of his operations were for rachitic deformity.

Volkman⁵ has performed the operation of chiseling through the femur below the trochanter twelve

times, with perfect success. If anything is needed to demonstrate that a lack of boldness is not a defect of the German school of surgery, this would be supplied by Volkman's article, in which he advises, where it is desirable to obtain a movable joint in ankylosis at the hip-joint in a faulty position, not only to chisel through the femur just below the tip of the greater trochanter, but to form an artificial acetabulum by removing, by means of a chisel, the head of the femur ankylosed with the ileum. This he says is a tiresome procedure, requiring care, but he claims that it is well borne by patients, and if antiseptic precautions are thoroughly used the wound heals by first intention without suppuration. Extension is to be applied, else an ankylosed joint will result. Where this is expected, as in simple sub-trochanteric resection, a stiff bandage, and not extension, should be applied. The writer claims that chiseling the hip-joint, in distinction from resection below the trochanter, should only be done on selected cases. He has operated in this way six times, with recovery in all, apparently with motion at the new joint. Simple osteotomy of the femur is the preferable operation in the majority of cases; but chiseling out the head of the femur in addition to the section of the femur⁶ is indicated where double ankylosis exists. If there remains any active process at the hip, resection is preferable to osteotomy. The incision in either operation is the ordinary straight cut used by Langenbeck for ordinary excision of the hip.

Mensel⁷ reports a case operated on successfully by him for ankylosis of the hip-joint in a faulty position. The result was such that the child, a girl of fourteen, was able to walk about firmly and in a straight position. Mensel removed a wedge-shaped piece of bone from the femur below the trochanter, using an osteotome in place of a chisel, which he thinks is apt to splinter the bone.

CARIES OF THE ANKLE.

Dr. V. P. Gibney⁸ draws conclusions from the study of thirty cases, as follows:—

(1.) Many children undergo amputation where by conservatism the member could have been saved. (2.) Excision, as a rule, is not attended with as good results in children as authorities have led us to expect, and is rarely ever justifiable. (3.) Partial excisions, etc., offer no advantages over the expectant plan. (4.) Nature herself, unaided by art, gets useful limbs, but as a rule with ankylosis. (5.) The expectant plan, fully carried out, assures us of results more perfect, and more limbs that are useful without the aid of support than does any other plan known to the profession.

Dr. Gibney states that thirty-four amputations were performed in England alone, in one year, for caries of the ankle. The expectant plan, as defined by Dr. Gibney, consists of abstention from radical operative interference, but not from incision. If an abscess form it is to be opened, and if any loose bone is found it is to be removed. The subject has been further inquired into by the Therapeutical Society of New York,⁹ and the committee of this society indorses Dr. Gibney's views. The duration of treatment in sixteen cases averaged two and one half years; fourteen useful joints

¹ Centralblatt für Chirurgie, No. 11, 1880.

² Medical and Surgical Reporter, Philadelphia, March 27, 1880, page 283.

³ Seemann. Virchow's Archiv, Bd. lxxvii, p. 269.

⁴ Nouvelles Considérations sur l'Ostéotomie dans les Incurvations rachitiques des Membres.

⁵ Osteotomie subtrochanterica. Centralblatt für Chirurgie, 1880, No. 5, page 65.

⁶ Meissel. Resection des Hüftgelenks.

⁷ Centralblatt f. Chir., 1880, No. 8, page 123.

⁸ American Journal of Obstetrics, vol. xiii, ii., April, 1889.

⁹ Satterthwaite, New York Medical Record, August 21, 1889.

were obtained, and there were two failures. In each of these the child died of prolonged suppuration. Gouging and chiseling were practiced in five cases in conjunction with other methods, and gave a useful foot in three; in one this occurred in five months. The writer thinks that the expectant method is capable of saving in almost every instance the foot from amputation in patients under fifteen years of age, and also, he thinks, from excision.

OPENING AND DRAINAGE OF JOINTS.

John Morgan¹ urges the advantages of antiseptic precautions, and claims that operations which were formerly believed to be unjustifiable are now recognized as almost without danger. During the years from 1865 to 1876, inclusive, twelve cases of loose cartilage of the knee-joint were admitted at St. George's Hospital. Of these only five were operated on, and one died from suppuration. Larrey published one hundred and sixty-seven cases, with twenty-eight deaths from the direct operation, and thirty-nine indirect operations, with fifteen failures and five deaths. Mr. Morgan has collected eighteen cases where the knee-joint was opened antiseptically; all were successful.

Bonnet, in his *Maladies des Articulations*, speaking of operative measures in hydropses of joints, states that suppuration necessarily follows an opening, citing four cases, three of which resulted in a stiff joint, and one necessitated amputation. In contrast to this Morgan quotes Mr. Lister's case of fracture of the patella, where the joint was incised, a drainage tube inserted, and the patella wired. The patient recovered in eight weeks so as to be able to walk, bending his knee and flexing his leg to an angle of forty-five degrees. Cases are cited of successful direct incision in acutely swollen joints.

THE HYSTERICAL ELEMENT IN ORTHOPÆDIC SURGERY.

Dr. Shaffer calls attention to the importance of the emotional factor in the course of many affections which come to the attention of the surgeon in orthopædic practice. This monograph has already been reviewed in the JOURNAL.

HALLUX VALGUS.

Dr. Blodgett² reports a case affecting both feet, operated upon by him successfully. No antiseptic precautions were found necessary, the wound healing by first intention. The section was made by a thin watch-spring saw.

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—A late report states that more than twenty thousand persons were killed during the last year in India by wild bees and venomous snakes.

¹ St. George's Hospital Reports, vol. ix. 77-78.

² New York Medical Record, July 10, 1880.

Reports of Societies.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

HOT-WATER INJECTIONS IN POST-PARTUM HÆMORRHAGE.

NOVEMBER 8, 1879. DR. C. E. STEDMAN, referring to the fact that injections of hot water have been advocated for the relief of post partum hæmorrhage, said he wished to warn the society, from the records of his own experience, that the method is not to be relied upon. His patient, a young lady in her third confinement, very stout, had had a normal labor through the first stage. She lay upon her left side, and, contrary to his usual custom, Dr. Stedman could not follow down the uterus with the hand, on account of her great size, but hooked out the placenta with his fingers. Considerable hæmorrhage followed and went on from bad to worse, affecting the pulse and causing the patient to faint. The uterus was at once thoroughly emptied of clots. Ice carried into the uterine cavity was of no service. An injection of hot water (117° to 120° F.) was then made into the uterus, and, as no contraction followed, the injection was repeated, the tube being carried to the very fundus. There was no effect. A wad of cotton was next soaked in a dilution of the liquor ferri persulphatis, one part to four of water, and carried by the hand into the uterine cavity. Contraction immediately ensued, and there was no further hæmorrhage. The patient made a remarkably good recovery. Vaginal injections were used, but none intra-uterine. Dr. Stedman remarked that hot-water injections are of service in a large number of cases, but it would not do to rely upon them. He regretted that he did not try vinegar. In the case reported ether had been used, as in all but one of his cases of hæmorrhage, and subcutaneous injections of brandy and ergot had been made into the thighs. Dr. Peters, of Dorchester, had also reported failure with hot water.

DR. ABBOT said he had understood that the injections should be as hot as could be born, at least 120° F.

DR. MIXOT asked if any gentleman present had seen many cases of post-partum hæmorrhage. Setting aside cases of placenta prævia, he thought that death from it was extremely rare, and he could recollect but a single instance of such termination in his own practice. He thought the hæmorrhage tended to cease spontaneously, and that the effect of treatment in arresting it was overestimated.

DR. INGALLS said that a few years ago he had reported one case of post-partum hæmorrhage which resulted fatally. The after-birth came with the child, and withal a torrent of blood. In this case Dr. Arnold assisted, but the woman was practically dead in three minutes from the commencement of the hæmorrhage.

Dr. Ingalls stated that during the past year he had used water, hot as his own hands would cleverly bear, freely after large surgical operations as a means of arresting the flow of blood. It serves to glaze the surface previous to the application of the Lister dressing; and when applied very hot to the stump it will arrest the oozing. Dr. Ingalls added that he had used it in six or eight cases this year, but that he was unprepared to say as yet that it was superior to any other applica-

tion. Two per cent. of carbolic acid had been added to the hot water in his own cases.

DR. BOARDMAN exhibited a copper and zinc stem pessary which he had removed from the virgin uterus, and remarked that the incrustations of salts which had formed upon the rod had produced an endometritis, namely, a pathological condition, and, *pro tanto*, an objection to the use of the instrument. Dr. Boardman, in reply to remarks by Dr. Chadwick, said that the result was pathological, and such a result once started cannot always be controlled by arresting the cause. In the case reported the effect upon the catamenia appears to have been unsatisfactory, for although at the first period the flow continued for three days, there was a return to the former scanty condition in the next two periods.

DR. BIXBY stated that he had had some experience with galvanic pessaries, generally in young women whose menstruation had been very tardy. He had frequently removed these pessaries covered with a crust of salts. He had had excellent results, and had never noticed from this mode of treatment anything like acute or chronic endometritis. Dr. Bixby remarked that it was difficult to keep the pessary in place, even with the aid of a tampon. If the uterine malposition, if any exist, be first reduced, the stem will be more easily retained *in situ*. In a case where the patient habitually menstruated by the nose, and the cavity of the uterus was less than two inches deep, the patient was treated for several months by the stem pessary aided by electricity. The menstruation finally became normal and has remained so.

DR. BOARDMAN said that he wished it to be understood that he made no protest against the action of galvanism as such in the cases under consideration, but that he objected to the pathological effect of the incrustations.

DR. SINCLAIR said that he did not think the mere combination of copper and zinc amounted to much in the result, and when the pessary is made of copper alone the incrustations are avoided. The effect in amenorrhœa, he said, was, certainly very remarkable; sometimes even too severe a flow is excited, but he had never seen any harm to result from the use of the stem pessary in his own practice.

DR. BIXBY stated that in addition to the other means detailed he has used as adjuvants in such cases hot mustard foot-baths, mustard plasters on the inside of the thighs, vaginal injections of aq. ammonia fort. (a drachm to the pint), and also electricity; the treatment being carried on for four or five days previous to the expected menstruation.

FOLLICULAR VULVITIS AS A COMPLICATION OF PREGNANCY.

DR. DRAPER reported the case. The patient was a primipara, thirty years of age, and in the eighth month of pregnancy when first seen. Her first symptom was intolerable pruritus vulvæ; this was followed by a herpetic eruption upon the mucous surfaces of the vulva in patches, which gradually enlarged, ruptured, and made ulcerous, cup-shaped excavations. The patient suffered extreme discomfort. All sorts of remedies were tried without avail. With the approval of Dr. Sinclair, who saw the patient in consultation, iodoform was applied, with partial relief. Labor occurred two weeks in advance of term, under the care of another physician. The presentation was normal; the

child, which weighed ten pounds, was delivered, still, by forceps, the patient being etherized. Peritonitis declared itself twenty-four hours after the labor, and the patient died on the fourth day. The vulvitis had gradually disappeared after the birth of the child. An analysis of the urine made before labor gave negative results.

DR. RICHARDSON stated that he had seen a very similar case, which was traced to gonorrhoea in the husband.

DR. DRAPER replied that he was certain that no such case existed in the case he had reported.

DR. RICHARDSON showed *Braun's new cephalotribe*. He also showed a case of *ectopia abdominalis*. The specimen was a five months' fetus, and the abdominal sac was unruptured. He alluded to the mistake which might occur if attempts were made to rupture the abdominal sac, the physician taking it to be the bag of waters.

DR. RICHARDSON reported a *fatal case of acute puerperal septicaemia*. The patient was a married woman in good physical but very poor mental condition. Deserted by her husband, she entered the Lying-In Hospital, and was delivered of her second child after a rapid and easy labor of only an hour and a half duration. Within twenty hours the temperature rose to 104° F. Vomiting set in and persisted, accompanied by tympanites and some abdominal pain, until her death, which occurred on the fourth day. At the autopsy there was found gangrene of both ovaries, a broken-down condition of the body of the uterus, and peritonitis.

A member remarked that the case reported by Dr. Richardson shows the influence of mind in the production of puerperal fever.

DR. RICHARDSON said that he was glad this point had been touched upon. In the Lying-In Hospital twenty-three out of twenty-six fatal cases of puerperal septicaemia were in single women with mental trouble.

DR. BIXBY stated that he had performed ovariotomy upon a woman who, while in possession of the tumor, had conceived and had a normal labor, the abdomen measuring at least thirty-six inches after the labor. The tumor had been pushed up by the pregnancy.

OFFENSIVE VAGINAL DISCHARGE.

DR. STEDMAN reported the case of a spinster, thirty to forty years of age, who was subject to an offensive discharge from the vagina, becoming more and more offensive towards menstruation. He had tried various means without avail, including the sponging out of the interior of the uterus with strong carbolic acid.

DR. LYMAN mentioned the case of an otherwise perfectly healthy woman in whom an offensive vaginal odor occurred habitually on the first and second days of menstruation.

DR. ARNOT suggested that a wash of chloral hydrate, one part to a hundred of water, might be of service, as it had been in the case of fetid feet.

DR. LYMAN stated that a strong solution of ammonia had been efficient in the case of fetid feet.

EPITHELIOMA OF VAGINA.

DR. LYMAN reported a case of epithelial disease occurring in an isolated position upon the middle of the posterior wall of the vagina, had as large as a turkey's egg, bleeding freely when meddled with, and separated from the rectum by a thin layer of mucous membrane

only. Dr. Lyman reported it only as being in an uncommon locality, the disease usually commencing in the cervix and extending thence to the vaginal walls.

DR. BIXBY said that he had seen a case of epithelioma of the posterior vaginal wall, of the size of half a dollar, and entirely confined to the mucous membrane. The growth was entirely removed, and the parts sutured together. The disease returned, and the patient died.

DR. SIXCLAIR spoke of the use of a ring of copper wire covered with soft rubber, which, when twisted into the form of a Zwancke pessary, he found useful in a case of prolapsus uteri in which previous treatment had failed. His attention was directed to this way of making a large Zwancke pessary by Professor Erich, of Baltimore, who gave him one of the instruments for trial. The copper wire is one cm. in circumference, and the ring may range from ten to fourteen and a half cm. (four to five and a half inches). He regretted that he had not a specimen to show, but the ring and the plan may be seen at Messrs. Leach and Greene's.

PROCEEDINGS OF THE NORFOLK DISTRICT MEDICAL SOCIETY.

WALTER CHANNING, M. D., SECRETARY.

THIS society held its first meeting of the present year at the Medical Library Hall on the 21st of September, at two p. m. The number of members present was small, partly owing, no doubt, to the early date of the meeting. Dr. Robert Amory, the president of the society, occupied the chair. The society was favored by the presence of Dr. H. W. Williams, president of the state society.

After the usual business was transacted, Dr. Edward Mead, of Roxbury, read a paper on "The Management of the Insane; the Status of the American Method," of which the following is a brief summary:—

Management of the insane means more than treatment. The general practitioner has nothing authoritatively to do with the *control* of the insane patient; he prescribes medicine, but does little more. The psychiatrist has more to do; he is substantially the guardian of the insane patient. The agencies to be employed in treatment embrace a wide range of moral means beyond the needs of the sick person.

Fifty years ago there were many serious defects in the management of the insane, but though we have seen these remedied, and to-day have excellent insane hospitals, many people make as much complaint as if nothing had been done. When Dr. Brigham left the Hartford Retreat (more than thirty years ago) to take charge of the New York State Asylum, a pamphlet was published against him, illustrated by wood-cuts, in which he and his employees were caricatured in acts of brutality. Complaints usually come from un-cured patients, whose brains are morbidly sensitive, discharged attendants, and disaffected friends of patients. That there is sometimes ground for suspecting wrong-doing cannot be denied. Hence it is not surprising that a want of confidence should be felt by persons only partially familiar with asylum management.

A superintendent should be possessed of the highest moral and scientific qualifications for his work. Sometimes men are appointed for political or personal considerations. In such cases there is no safeguard against

negligence, or the worst abuse, except that mean motive, *policy*. Dr. Ray has said, "Our progress in this branch of the healing art would have been much greater had not so many been appointed to the charge of hospitals whose merits consisted of everything rather than of high professional attainments."

Loss of confidence in asylums has also been occasioned by exaggerated statistics, amount of restraint employed, etc. Occasional irregularities have taken place in various institutions in this country, which cannot be excused, but the Massachusetts asylums, of which there are ten, public and private, are well conducted.

The belief has been expressed that superintendents of institutions are liable to find insanity where there is none, because of their supposed sharpness in the detection of symptoms which others overlook. On this account the legislature of Massachusetts has taken away from them the poor privilege of signing certificates of insanity. This is a curious metamorphosis of logic. The postulate is that the more a man knows of insanity the less trustworthy he is to declare an opinion. There is sufficient protection in the law without this enactment. The tendency of the new law is to lower rather than to raise the standard of physicians who will be called on to sign certificates. Superintendents are as moral and intellectual as other men, and their faithfulness to their duties should elevate them in the estimation of other men.

Non-restraint is faithfully adhered to as a principle in this country. In England it is claimed that they have gone further in this direction than we, but it must be remembered that there is a so-called American type of insanity. Abroad there is an obedience to authority, here a disposition on the part of the individual to be a law unto himself.

"The Association of Superintendents has been denounced as a close corporation, but according to my knowledge of its doings this is not true. Like any other organization, a politician or an adventurer is liable to get in, but taken as a body it is composed of men of fine minds and liberal attainments."

The treatment of the insane should combine all forms of work, instruction, or recreation which can be used separately or in combination. Any means should be adopted which may for the time withdraw the patient's thoughts from himself.

Dr. Henry A. Martin said, I have listened with interest and profit to Dr. Mead's paper. Although most of us have very little to do with the treatment of the dangerously insane, we must, both as physicians and human beings, feel a lively and anxious interest in the proper and humane treatment of this truly unfortunate class. Although I disapprove of that clause of the new law which, under severe penalties, deprives all in charge of asylums, whether public or private, of the power to sign certificates of insanity, both because it cuts off general practitioners and patients from aid and counsel, which, in doubtful cases, might often be extremely valuable, and because it seems to cast a stigma or imputation on a class of most worthy physicians; still, I do not believe that any mistakes have been made, or that sane people have been deprived of their liberty or been put in the slightest danger of such deprivation, because the physicians signing their certificates were not experts in insanity. I believe the whole matter of complaint of this sort to be a big bear, without any foundation whatever in fact. Charges

against the cultivated men who, whether as superintending or assistant physicians, have care of the inmates of insane and other hospitals might and should generally, doubtless, be dismissed as mutterings of the "idle wind." When any real ground for such charges existed, it was hardly possible that it could long exist without discovery and remedy, as proved by a recent and notorious instance.

I know that many, very many keepers, nurses, and policemen have much to bear, much to irritate and exasperate them, and, in spite of all this, are humane and forbearing; but *all* are not so. Both in our hospitals and in our police force are men, and in the former women, too, irritable, quick, and hot-tempered, and therefore constitutionally unfit for such positions.

I fully believe that many, most, of the immediate attendants of the sick and insane are forbearing, patient, attentive, and merciful, but I am *sure* that *all* are not; and if at any time there should be but *one* exception it is reason enough — a thousand times more than enough — that efficient methods of detecting, and *not* punishing, but utterly getting rid of, him or her should exist and prevail.

"*Quis custodiet ipsos custodes?*" (Who will guard the guardians?) Are the very best means enforced to ferret out negligent, brutal, and cruel nurses and keepers? I do not know; perhaps so. It is, however, a popular suspicion that there is room for reform and improvement in this direction. I fully participate in this popular feeling and suspicion. When one thinks of the vast sum of physical and mental misery and humiliation that may result from the neglect, brutality, and cruelty of a single nurse or keeper, one cannot help feeling the most anxious solicitude that every keeper and nurse *shall* be exactly what such attendants *should* be. If necessary, elevate the calling; spend a few thousands of the very many now wasted in absurd, pompous, pretensions architectural adornment and magnificence, in increasing the salaries and raising the standard of attainment of nurses; offer inducements for the best instead of for the worst material; reward merit and fidelity; purge the class of all unworthiness; and, by that step alone, you will do much to elevate the profession of personal attendance on the sick and insane.

In conclusion, Mr. President, I hope that this discussion, however desultory, may lead to something tending to secure for our poor, suffering brethren the best possible care, not only from the physician, — that I believe they already have, — but from their nurses and keepers also. However learned and skillful the physician, however admirable and accurate his diagnosis and prescriptions, matters very little if those prescriptions are carelessly administered or totally neglected, and such maladministration and neglect are not only possible but extremely probable, nay certain, if nurses and keepers are unreliable in any way.

Dr. Hazleton remarked that under the new law the amount of labor performed by the physician was often greatly out of proportion to the maximum fee allowed for a certificate of insanity; and related a case where he had spent the entire day in performing the various duties required by the new law. After a patient has been examined and found to be insane, the next duty is to decide where to send the him.

Generally speaking, all patients require to be removed from home and sent to some hospital for treatment. In the case of insane minors, they can almost

always be treated at home with good results, if they are properly secluded. With adults, however, the rule is that they must at once be removed from home and home influences. Now of all the patients of the wealthy class that are usually sent to the large hospitals, at least one third can be more successfully treated in some private hospital, because they then become members of small families, and the physician has them more directly under his personal supervision. In the large hospitals, with a small medical staff, it is utterly impossible to give the requisite attention to all of the recent cases.

In regard to mechanical restraint, there is very little doubt that a maniacal patient will become quiet much sooner where such mechanical means are used as will thoroughly restrain his movements, without injury to his body, than where the attempt is made to control him by attendants. In the first case, he sees that it is useless to struggle, and soon becomes quiet; in the second case, the least relaxation of the hand of one of the attendants only stimulates him to continue his efforts to free himself from his supposed enemies. Dr. Hazeltan related a case where a man treated by the non-restraint system grew worse every day, but became quiet in four days under the use of bed straps.

Dr. Dearing thought the subject of Dr. Mead's paper was not only interesting, but of much importance to the members of the society, and that the management of the insane in our asylums is reflected back upon the medical men who certify to their commitment.

In some institutions the mismanagement on the part of some attendants has been such as to make a bad impression upon the patients and friends, and in some cases has been so great as to excite in home friends and their community strong sympathy for the patients, and lead to severe censure of the physicians who filled the certificates. So that, as a matter of *policy*, the physician might be tempted to forego his duty, and decline to prepare committal papers. A case of this kind had recently occurred in his vicinity. In his judgment great care is needed in selecting attendants. He was of the opinion that generally the superintendents and their chief assistants were careful men, but thought any one who had been obliged to visit insane asylums must be satisfied that many of the attendants were unsuitable persons for their duties.

Dr. Cushing believed the new law to be an improvement on the old one. Certificates of insanity are sometimes given too readily, and need the criticism of competent authority. The new law does not constitute the judge of probate an expert on the question of insanity, but does give some guarantee that the men who sign the certificates are experts. We are in need of some proper place for detention of insane patients who are waiting examination. It is sometimes necessary to confine such persons for a considerable time before they can be legally committed, and at present we have only the various lock-ups in the city. These, especially the "tombs," are not fit places for the detention of the unconvicted sane, much less for the unfortunate insane. Dr. Cushing spoke of a patient who was confined in the tombs a day and a night, with the effect of making him much worse. He had known of several cases of death, the direct consequence of imprisonment in lock-ups in Norfolk County.

Dr. Channing spoke of the looseness of the laws regulating asylum commitments in some States, and

thought the recent new laws on this subject in Massachusetts a step in the right direction. He believed it unnecessary to declare insane-hospital superintendents from signing insanity certificates; the English law which prevents a physician from committing a patient to an insane institution in which he may be in any way interested he considered quite sufficient. Asylum physicians stand in the relation of family physicians to their patients, and certainly should not be put to the inconvenience of calling in outside physicians to testify to their insanity, when it becomes necessary to transfer them to some other hospital. If an asylum physician can pass judgment on a patient's sanity, why not also on his insanity? The former condition is often more difficult to determine than the latter, and the responsibility involves far more serious consideration.

Concerning the matter of abuse of patients, no doubt patients were sometimes abused by their attendants. There were three reasons to explain these unfortunate instances: First, the lack of sufficient supervision by the medical officers, owing to the small number of them in proportion to the patients. Second, the character of the superintendent and the moral influence emanating from him which pervades the whole management of the institution. And, third, the quality of the attendants themselves. A superintendent of a kind and amiable disposition will at once infuse a spirit of good feeling and sympathy throughout his whole asylum, and if with these qualities be combined good judgment and strength of will, he will select and drill attendants so that there can be almost no cause for complaint. If, on the other hand, attendants are chosen without discrimination, are not properly disciplined, and have the example of a morally weak or inefficient man before them, they soon become demoralized, and it is no cause for surprise if the patients are the sufferers.

Dr. Channing had inspected the cells at the tombs, to which many patients were sent before transferral to an asylum. He regarded them as entirely unfit for the detention of an insane and therefore diseased person. They were not properly ventilated; they were too small; they contained vermin; they were underground, and only received light and air from the room into which their doors opened. The keepers were men only, though female as well as male patients were liable to occupy these cells. He had known of one instance where a woman had stripped off all her clothing, and had to be dressed by the man on duty. The same woman was obliged to lose her hair, which was infested with vermin from the tombs. Some better place of detention is necessary, and Dr. Channing had already twice suggested the need of a special ward or building, on the City Hospital grounds, where persons could be sent for detention and observation. By so doing much trouble, expense, and injury to the patient might be avoided.

It was the feeling of the meeting that better care and accommodations should be provided for insane persons who were waiting commitment to a lunatic hospital or asylum, and the following motion was finally carried unanimously: *Resolved*, That in the opinion of this district society the present condition of the treatment of the insane, prior to their legal commitment to an insane asylum, deserves a very searching investigation, and the society would report the subject as worthy the consideration of the Massachusetts Medical Society, either in the corporate capacity, or by some competent committee to be appointed by its council.

ESSEX NORTH DISTRICT MEDICAL SOCIETY.

REPORTED BY E. P. HURD, M. D., CORRESPONDING SECRETARY.

THE quarterly meeting of the Essex North District Medical Society was held in Haverhill, October 13th; Dr. John Crowell, president, in the chair. Resolutions were passed expressive of regret at the recent death of Dr. Jeremiah Spofford, of Groveland, for many years the oldest Fellow of the Essex North Society, whose ready tongue and pen had contributed so much to the usefulness of the society and to the interest of its meetings.

An interesting paper was read by Dr. J. C. Pennington, of Andover, on Reflex Symptoms of Irritation of the Genital Organs, of which the following is a brief abstract: Dr. L. A. Sayre, of New York, has within a few years, by lectures and publications, called the attention of the profession to the coincidence of spinal anemia, manifested by partial paralysis and want of co-ordination, and other nervous disturbances, with adherent and elongated prepuce. Several striking cases, reported by Dr. Sayre, were cited by the reader.

Dr. F. D. Otis, of New York, has repeatedly directed attention to the fact that obscure urinary as well as grave reflex disturbances often arise from a contracted meatus urinarius. Civiale has recognized this as a cause of neuralgia of the testicle, cystitis, orchitis, and gleet. Both Dr. Otis and Sir Henry Thompson have cured such cases by division of the meatus.

Stricture of the pendulous portion of the urethra often occurs as a consequence of gonorrhœa; this by reflex irritation causes spasm of the deeper urethral muscles, simulating stricture; after treatment by division or internal urethrotomy of the stricture near the meatus, the deeper stricture disappears.

Dr. Pennington related a few instances in his own practice where dilatation of the urethra by sounds and bougies had relieved patients of severe reflex troubles.

Dr. E. P. Hurd referred to several cases occurring under his own observation illustrative of the evils following phimosis with elongated and adherent foreskin, and read notes of a case published by him in the JOURNAL in January, 1877, where there was incoordination or ataxia of movement, with partial paralysis and convulsions, permanently cured by circumcision.

Dr. F. A. Howe, of Newburyport, spoke of two cases of chorea occurring among his patients, referred by him to irritation of the genitals: the one that of a boy, cured by circumcision; the other that of a girl, whose chorea seemed determined by irritation of the genitals by certain *postural attitudes*, which faulty habits, provocative of genital excitement, being broken up, the girl recovered.

Dr. Manley, of Lawrence, denied that phimosis in children was either very uncommon, or generally, when occurring, attended with serious results. In fact, phimosis with adherent prepuce, he said, was the normal and physiological condition the first year of infantile life; the gradual development of the penis after birth producing retraction and separation of the foreskin from the glans. This opinion was supported and corroborated by Dr. Roberts, of Lawrence. Dr. Pennington, of Andover, ridiculed this view, and affirmed the truthfulness of the observations recorded by Dr. Sayre and others.

Dr. Groeland, of Lawrence, related two cases of patients of his which bore a striking resemblance to some of those noted by Dr. Sayre; cured by circumcision.

Dr. Huse, of Georgetown, called attention to the fact that in his experience straight catheters enter the bladder more easily than curved, and quoted Dr. Bigelow as authority that in enlarged prostate a straight catheter goes in more easily than a curved. Might it not always be so?

Dr. Douglass, of Amesbury, referred to a remedy for chorea often prescribed by the late Dr. Perkins, of Newburyport: it was *cherry rum*, and had often been successful in the practice of Dr. Douglass, when other remedies had failed. A favorite mode of prescribing it by Dr. Perkins was to bruise and macerate the cherry stones — obtained from the cherry-rum cask — in *hot* [?] water, and direct the infusion to be taken freely during the day. This treatment seemed sometimes to be immediately beneficial. (It could not be from the sedative effects of hydrocyanic acid in the infusion, as this agent must have been dissipated in the heating.)

Dr. Roberts had seen as good results in this disease from the use of whisky as from any other remedy.

The president remarked that this, as well as other functional disorders, seemed sometimes to get well under almost any treatment, and even expectant treatment. Some of the cases cited as relieved of partial paralysis, etc., by removal of redundant prepuce might have been as much benefited by the *moral* effect of the operation as by the operation itself.

Recent Literature.

Management of Children. By AMIE M. HALE, M. D. Philadelphia: Presley Blakiston, 1012 Walnut Street. 1880.

This little book of about one hundred pages is addressed particularly to young mothers. The first half is concerned with the management of children in health, with special reference to their care immediately after birth, — dress, food, sleep, exercise, air, sunshine, and bathing. The advice here given is for the most part sensible, and has been carefully arranged in a readable and interesting manner.

The latter half of the book is devoted to the description of a variety of diseases to which children are peculiarly liable, with rules for their management. The main purposes of these chapters, as given by the writer, are "to teach the intelligent mother to discriminate between those dangerous diseases which require the best skill of the physician to conduct them to a safe issue and those light ailments which disappear spontaneously or with slight treatment."

This latter task which the writer has assigned herself, and which she has, without doubt, faithfully attempted to carry out, is a difficult one, and the question suggests itself if it is not one from which it is unreasonable to expect any practical good, owing to the necessary lack of preliminary training which such instruction, to be useful, presupposes. We cannot, for instance, see any advantage a young mother could derive from reading a description of the differential symptoms of true and false croup, or of ordinary sore throat, diphtheria, and the angina of scarlet fever. The writer wisely advises the mother, "if not able with a certainty to recognize the diphtheritic exudation from a common sore throat, to send for the doctor." It is certainly stating the case mildly to say that "true croup is not always easy to differentially

diagnose from diphtheria," and that "the former is always fatal if not early recognized and treated." Nor would an acquaintance with the descriptions of the differential symptoms of these diseases be ordinarily necessary to teach her that "the earlier symptoms should have excited alarm," and that "hoarseness growing worse at night and difficult breathing when the child is asleep should put the mother on her guard." The statement that "true croup is now considered a zymotic disease" would not be likely to convey any intelligible meaning.

Take again, further to illustrate our meaning, the instructions for the treatment of bronchitis. Is it likely to be of any use to the average mother to be told "not to stop a cough when indicating mucus or phlegm, but only so far to control it with opiates that it shall not become of itself a cause of irritation, and for this purpose opium, or some other sedative, in suitable doses, may be combined with an appropriate expectorant"?

These objections hold particularly good with reference to the employment of formulated prescriptions, several of which are given in the book, with directions how and when to use them.

A chapter devoted to Miscellaneous Diseases includes constipation; prolapsus of the rectum; nocturnal incontinence of urine; inflammation of the breasts; abdominal hernia; leucorrhœa; rickets. In the chapter following, under Accidents, are given directions what to do in cases of suffocation of the new-born; foreign bodies in the œsophagus, nose, windpipe, and ear; inflammation of the eyes; burns and scalds; bruises and wounds; sprains; chilblains; bleeding of the nose; and accidental poisoning. The direction, "if a child has been overdosed with paregoric or laudanum, send for the doctor," is a good one, but we fail to see why the same does not equally well apply in all cases of poisoning.

In the last chapter but one in the book there are given a large number of aphorisms, mostly self-evident propositions. The last one suggests a useful end to which art museums may contribute, and reads as follows:—

"The common people of Italy are remarkable for beauty of face and symmetry of form. This has been attributed to the pre-natal influence exercised upon the development of the child by the constant presence before the eyes of the mother of the pictures of the great masters and the noble sculptures of antiquity."

At the end of the book we find eight formulated prescriptions for ready use under as many different indications. The minuteness of the doses would satisfy the most skeptical, and there would be no objection to their employment on the score of safety. Such matters, however, we think, should be left entirely to the physician, and few mothers would be willing or able profitably to meddle with them.

While there is much that commends itself in these pages, we see no reasons to change our conviction that the class of books to which this belongs is poorly calculated to accomplish the objects for which such volumes are claimed to be written.

The Student's Guide to Diseases of the Eye. By EDWARD NETTLESHIP, F. R. C. S. Philadelphia: Henry C. Lea. 1880. Pp. 369.

"The aim of this little book is to supply students with the information they most need on diseases of the eye during their hospital course."

For the purpose intended and the modest size of the manual, it seems to us decidedly better than anything yet published in English. The style is concise and generally very clear; otherwise unavoidable repetitions are escaped by reference to other pages of the book. The subject is divided into three parts: I. Means of diagnosis; comprising leading symptoms, external examination of the eye, and examination of the eye by artificial light with use of the ophthalmoscope. II. Clinical division; the main part of the work, and containing an account of the various diseases, arranged according to the anatomical structures involved. III. A rather brief but important section on diseases of the eye in relation to general diseases.

This arrangement of material seems a very appropriate one for the class of readers for whom the book was written.

We find little to which to object. The only serious error we have noticed is on page 31, where it is stated that No. 1½ of Snellen's types at 18" "is seen under an angle of five minutes; that is, without effort of accommodation." This involves two mistakes. It implies, at least, that seeing an object under an angle of five minutes is the same thing as seeing it without accommodation, which is wholly wrong. And again, to see an object clearly at 18" (emmetropia being assumed, as it is in the instance quoted) demands a very considerable amount of accommodation. In the American addition there are quite a number of typographical errors, but they are seldom such as to impair the clearness of the author's meaning. For the general practitioner unfamiliar with diseases of the eye, as well as the student, the book is to be recommended.

A Manual of Minor Surgery and Bandaging. By CHRISTOPHER HEATH, F. R. C. S., Surgeon to University College Hospital, etc., etc. Sixth Edition, revised and enlarged, with one hundred and fifteen illustrations. Philadelphia: Lindsay and Blakiston. 1880. Pp. 312.

The best manual for the use of hospital internes, and young practitioners who have not had the advantages of hospital experiences, in print. Every house-officer should be familiar with its contents before entering upon his duties. In the preparation of this edition the work has been thoroughly revised to meet the demands of modern surgery, and fully sustains the well-earned reputation gained by the earlier editions. It would be advantageous in making the American reprint to substitute the customs of America in medico-legal cases and in the regulation of fees, since a rigid adherence to those of England would be likely to subject the claimant to untold annoyance.

— Dr. Skene, at a recent meeting of the New York Obstetrical Society, referred to the use of the root of the common slippery-elm for probes and dilators in gynaecological cases. His attention had first been directed to their use by Dr. Tuckerman, of Ohio, who had employed them successfully. If a piece of the length desired, rounded at the end, the bark being left on, were dipped in warm water for a few minutes, its flexibility and mucilaginous covering would enable the operator to dilate the urethra or the cervical canal, or explore cavities, with more facility and less damage to the mucous membrane than with any dilator he had ever employed. — *New York Medical Record.*

Medical and Surgical Journal.

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THE MANAGEMENT OF THE INSANE.

THE interesting report of the Proceedings of the Seventh Annual Conference of Charities and Corrections, held at Cleveland in June and July, 1880, which has recently come to our notice, contains some significant papers on the subject of the management of asylums for the insane, to which we would call our readers' attention.

To most persons, whether lay or medical, who have cared to interest themselves in the matter, it has long been very evident that reforms in the customary management of the insane were urgently needed. There is, however, good reason to believe that the necessity for such reforms has not even yet presented itself to the majority of boards of trustees and superintendents with sufficient force to insure the changes which must be made before this department of medicine can claim to have kept pace with others in the "advance along the whole line" which the past few years have witnessed.

All sides are abundantly willing to listen and be convinced, but nothing comes of it. Speaking plainly and to the point, there is no doubt that in certain important respects most of our asylums are far below the best of those of England and Germany; that sufficient pains is not taken to invite scientific criticism of their methods, and to bring their officers into close union with the body of the profession; that while, in fact, the study of insanity and the cure of the insane call for the highest general and special training, such training is not habitually made a necessary qualification for appointment either as assistant physician, or even as superintendent, in some of our best asylums; that the plan of abandoning mechanical restraint and allowing a wider liberty, so vitally important, as most authorities abroad believe, for the happiness and even for the cure of the insane, has, with rare though significant exceptions, not been tried with the thoroughness and under the conditions which foreign experience shows to be essential for its success.

For justification of these criticisms the reader is referred, amongst others, to occasional articles in the JOURNAL; to discussions in medical societies, of which one on this very subject appears in this number; to the State Board of Health reports; to the writings of Dr. Bucknill, of London; to a recent series of papers in the *Archives of Medicine*, published by Dr. E. C. Seguin, of New York; and to the report of the Conference of Charities, now before us.

When such criticisms are presented, the answer which is made — and it is the same which rises to the

lips of all of us when foreign visitors to our asylums call attention to these same too obvious facts — is that a more intelligent, zealous, and conscientious body of men than our superintendents and trustees is nowhere to be found; that the appointments are the result of long deliberation, and are the best which can be made, that non-restraint has been thoroughly studied, and is practiced so far as seems advisable, — less to be sure, than in Europe, but only because our insane are more violent than theirs and the attendants less numerous; that our patients are given many comforts and luxuries which are there wanting; that after all there is so little to be done, medicinally, in these cases that good sense and administrative ability are qualities which tell more than scientific knowledge in making a good superintendent.

The last statement is, to be sure, one rarely made in words, but, although unexpressed, it must certainly and very materially have had great weight with lay boards of trustees, who, whatever they may say and think to the contrary, are still secretly swayed by the old, strong belief, from which even physicians can hardly shake themselves quite free: that an insane person is one possessed with an evil spirit, whose case pathology can never unravel, — one who is to be treated with the utmost kindness indeed, but to be spoken about beneath the breath, like a friend in disgrace, and secluded until the demon is exorcised or takes it into his own head to depart.

To meet this unexpressed feeling we can only urge investigation still more thoroughly; spend, not a week or a month, but a year or two, in acquainting yourselves with the best German, English, and French authorities on this subject; and make yourselves, not superficially, but intimately, masters of the working of their asylum systems, and you will find that science is not so utterly incompetent to deal with this subject as is generally thought; and you will, moreover, grant that if it is to be handled at all there is no branch of medicine which calls for such wide and close scientific training, such thorough familiarity with all instruments for scientific research.

It may well be that common sense will still remain the most important qualification for a superintendent, but there is this difference between common sense and a scientific training; that whereas the former is a rare quality, and not always to be found even by long searching, the latter may usually be superadded at the cost of a few dollars and cents.

Even in Germany this has sometimes to be done. Thus, Dr. Flechsig, of Leipzig, until now assistant professor (we believe) in the Anatomical Institute, has recently been called to an asylum, with the opportunity of preparing himself by something like two years' special study before entering on his duties.

Is it more difficult to cure German than American insane? Or, in this matter, which the public has so much at heart, shall we yield the palm to them in attempting to do the best that can be done?

A community like ours, that spares no cost to increase the material comfort of its insane, would certainly never begrudge one or two thousand dollars to

secure for them first-rate medical care, and to insure that the experience won through the observation of their misfortunes should not be lost to the world through the lack of trained observers to record it, were the importance of these things but once authoritatively made known and widely understood.

An even more important requisite than an opportunity for preliminary study, as an inducement to men of first-rate scientific ability to assume the medical duties of an asylum, is that they should be insured a time and facilities for subsequent research.

It is hard to see how any one with a full appreciation of and love for scientific study could consent to take charge of an asylum with the knowledge that his time must be given, almost to the last moment, to routine hospital and commissariat duties, not to speak of the burden of an endless, almost routine correspondence.

As a matter of fact the contributions of American superintendents to the scientific study of diseases of the nervous system have been but small.

With regard to the question of the applicability of the non-restraint methods, under the conditions existing in this country, we consider this to have been definitely settled in the affirmative by the experience of Dr. J. C. Shaw, of King's County Asylum, at Brooklyn, N. Y., which was presented in a short and modest but highly interesting paper at the Cleveland Conference. Coming to the asylum some two years since, he found a large number of patients in restraint jackets, straps, and seclusion, but succeeded, by judicious management, and not without having to face obstacles and prejudices, in restricting the use of mechanical restraint, first to five patients, then in stopping it entirely; and finally he burnt all the old restraint apparatus of the place, which aggregated some three hundred sets. When a like course was adopted at the Charité in Berlin, by Professor Westphal (in 1856?), it was found necessary to turn away almost all the old attendants, and replace them by new ones not wedded to the old system. It is therefore the more creditable to Dr. Shaw that he accomplished the change without this, by simply shifting patients and nurses, so as to bring new faces together, at the same time enforcing a stringent discipline; and that, too with a proportion of attendants only about one fifth of that now employed in Berlin, namely, only one to fifteen patients.

Hand in hand with this reform the patients were given out-of-door employment to the utmost extent of the conveniences for so doing, which, indeed, were limited, and the result of the two measures together was more than satisfactory.

To make light of such an experience as this would be, for any one knowing Dr. Shaw's fidelity and conscientiousness as an observer, simply to shut the eyes to the truth. Restraint may, no doubt, be occasionally, perhaps very often, advisable and necessary, but to maintain in face of these facts that it cannot be safely dispensed with in America, as it has so often been in European asylums, is to assume a position which is no longer tenable.

We would quote in conclusion a single one of the resolutions adopted by the Cleveland Conference: "Resolved, that the conference recommends to boards of trustees of insane hospitals a careful consideration of the question whether the interests of the insane would not be promoted by the appointment of consulting medical boards in communities where such boards are practicable."

OBSOLESCENT SURGERY.

OUR latest English exchanges contain an account of another death from chloroform. This in itself is a disaster of so frequent occurrence that we should hardly feel called upon to notice it were it not that the surgeon's choice of an operative procedure for his patient taken together with his selection of an anæsthetic combine to make a picture of surgical practice which is now rapidly becoming obsolete. At the request the surgeon stated that the "deceased was suffering from stone in the bladder. It was necessary to remove the stone to make his life bearable, as he was suffering terrific pain on account of it, and was incapacitated from his work as long as it lasted. There were two operations by which this could be effected: one was by cutting and taking the stone out, and the other was by crushing the stone, an operation known as lithotomy. The operation of cutting was a dangerous one for men as old as deceased was, and for this and other causes witness determined upon using the lithotrite. It was found necessary to administer chloroform to the deceased, previous to which an examination was made of the heart, pulse, and lungs, the result being that witness thought him a safe subject for the administration of chloroform." It is hardly necessary for us to give the particulars of the circumstances attending the death. It could be but a reproduction of an oft-repeated tale. The jury found that deceased died "from the administration of chloroform and weakness of the heart; that the chloroform was administered with all due precaution, and that the operation was conducted in a skillful manner."

MEDICAL NOTES.

—Replications recently filed in Court of Common Pleas, No. 3, to answers submitted by the "Eclectic Medical College of Pennsylvania" and the "American University of Philadelphia," aver that the above corporations have forfeited their charters, because of, first, the conferring of degrees upon persons not possessing the qualifications such as are prescribed by their charters; second, the sale of diplomas; third, the granting of degrees of doctor of medicine, and antedating such diplomas in order to make it appear that the recipients had the right to practice medicine; and, fourth, the issuing of diplomas with forged signatures. After the replications were filed, counsel for both of the defendants confessed judgment of ouster in favor of the commonwealth, and filed as a part of the record a letter from Dr. Buchanan authorizing him to do so. — *Philadelphia Medical Times*.

— We have received the Physicians' Visiting List, for 1880, published by Lindsay and Blakiston. This is the thirtieth year of its publication. Its contents are familiar to most of our readers. Beside blanks for every possible kind of memorandum a busy doctor may wish to make, we find a posological table, poisons and antidotes, table for calculating the period of utero-gestation, Marshall Hall's ready method in asphyxia, and a number of other items of useful information, among which we need hardly say is the — metric system.

— It is a fact useful to be noted, in the cause of higher education, that in the competitions for the hospitals — competitions in which the best men of all the colleges enter — those who have had a previous academic training almost uniformly come out ahead. Five sixths of the house-staffs on the large city hospitals are bachelors or masters of arts. In these days, when the practical value of a classical education is so often doubted, I for one am glad to furnish a little evidence in its favor. — *New York letter to Chicago Medical Journal and Examiner.*

— Paul Broca, who was a capital *raconteur*, says the *American Practitioner*, told the following anecdote of himself: He was in Seville, and wishing to be shaved he applied to a barber whom he chanced to know. After the conclusion of the operation the barber declined to accept any pay, on the ground that *confères* should not accept fees of one another.

NEW YORK.

— The first meeting of the County Society after the summer recess was held on the 27th of September, when Dr. Albert H. Buck read a paper on fractures of the temporal bone.

— The first meeting of the Academy of Medicine was held October 7th. The corresponding secretary presented, on the part of the contributors, a portrait of the late Dr. H. B. Bulkley, who was president of the Academy during the years 1870 and 1871, and the paper of the evening, entitled *Some Facts in regard to heating the Air we breathe as affecting Health*, was by Francis V. White. At this meeting the following resolutions, preceded by an appropriate preamble, which were offered by Prof. Alfred C. Post, were unanimously adopted:—

Resolved, That this Academy believes that the establishment of the night medical service in the city of New York is a boon to the community, and that by its means much good will accrue to both patients and physicians, inasmuch as it places by the side of the suffering patient skilled medical attendance at the shortest notice, and on the other hand gives the assurance to the physician that his merited remuneration will be duly received.

Resolved, Believing the law to be a benefit, and recognizing the fact that it is due to the earnest and well-directed efforts of Dr. Henri Nachtel, a stranger among us, that we owe its establishment, we therefore desire to testify our appreciation, and to extend our cordial thanks for his disinterested zeal in accomplishing so much good for the welfare of the community, including the medical profession.

Resolved, That the above resolutions, signed by the president and secretary, be engrossed and forwarded to Dr. Nachtel in Paris.

Between the 5th of September, when the night medical service was put into operation, and the 30th of the month, twenty-five visits were made by fifteen physicians of the service, and of the patients visited three paid fees. At the last meeting of the board of health, Dr. W. A. Ewing, the executive officer of the service, reported as follows: "I have investigated the majority of these cases, and have found them, without exception, cases of sudden illness or emergencies occurring in the night-time among the poor, and there appears to be no attempt on the part of any one to take undue advantage of the charity." In his report Dr. Ewing mentioned the case of one poor woman who, in consequence of an unusually hard day's work, was suddenly taken in the night with premature labor. The husband returning from an unsuccessful search for a physician met a policeman, who sent him to the nearest station-house, where a physician of the night service was summoned just in time.

— Considerable dissatisfaction is felt at the contemplated reduction of ten per cent. in the salaries of medical men in the service of the board of health for the year 1881, as it is thought that the present rates of remuneration are already too low, while the force of inspectors is too small for the work expected of them.

— Two apparently genuine cases of hydrophobia have lately been reported: one from Elizabethport, New Jersey, and the other from Elmira, New York. About the same time two homeopathic practitioners of Jersey City claimed to have had a case also, but as the dog-bite from which the disease is alleged to have originated was received no less than eleven years ago, there appears to be some reasonable ground for questioning the correctness of the diagnosis in this instance.

— The trustees of the New York Orthopaedic Dispensary and Hospital announce that Dr. Newton M. Shaffer, attending surgeon, will give a course of practical clinical instruction in orthopaedic surgery at the institution on Friday afternoon, at two o'clock, from October 15th to December 17th inclusive, which will be free to members of the profession and medical students. The subjects treated will be as follows: ankle, knee, and hip joint disease; Pott's disease in the cervical, dorsal, and lumbar regions; club-foot, knock-knee, and bow-legs; and lateral curvature of the spine.

ST. LOUIS.

— Medical education in St. Louis is taking a forward step with the commencement of the scholastic year. The Missouri Medical College has advanced its fees to eighty dollars per term; the faculty encourage scholars to pursue a three years' course, but still give diplomas upon two years' work. The St. Louis Medical College now insists upon a three years' graded course, as was stated in a former issue of the JOURNAL, and the number of matriculates is greater this year than it was last.

Dr. John McDowell's death vacated the chair of

anatomy, which will be filled by Dr. H. H. Mudd, a graduate of the college, and for some years associated in practice with Dr. J. T. Hodgson; during the last eight years he has been demonstrator of anatomy in the college, which position he still holds.

—The St. Louis Medical Society, having taken a vacation during the warm weather, began its session again on the 18th of September, with renewed interest and increased attendance. At the meeting of September 25th Dr. Bernays reported a case of chronic tendosynovitis involving the flexor tendons of the fore-arm, which was mistaken for an abscess of the little finger, and was opened. When the nature of the case was discovered the lemon-seed bodies were pressed out, and the incision closed in the hope of getting union by first intention; this failed, and pyemia set in, threatening the life of the patient. A number of abscesses formed, which were opened, and ultimately the patient recovered. At the time when he reported the case there was still some stiffness at the wrist, which yielding to passive motion.

—During the summer months the Medico-Chirurgical Society has continued its meetings, which have been interesting and well attended. The last regular paper read before the society was by Dr. G. Baumgarten on the pulse, and was illustrated by a number of sphygmographic tracings.

—In the City Hospital there have been a number of important changes during the last two or three months. Heretofore the blacks have been separated from the whites; but this has been done away with, and they are now scattered indiscriminately through the wards, making the classification solely a medical one; as far as we can state this arrangement is giving satisfaction. Another important change is the substitution of women for the male nurses, who have had charge of the men's wards, except in the venereal wards, where a male nurse is still employed.

The only place where we have been able to observe the workings of this plan has been among the eye patients, and there it seems to be doing well. — in some respects better than the former plan. In the surgical wards we must say that we should prefer to have male nurses. When the patients are men from off the streets, and the nurses are women who work for twenty dollars a month, we should think the intimate relations existing between patient and nurse would inevitably lead to bad results, both medical and moral.

Two reasons for this change have been given: one that women are naturally better nurses than men; another that as the city allows only twenty dollars a month for the wages of each nurse, and as that is not enough to obtain men of sufficient intelligence to act as nurses, it becomes necessary to employ women.

—Litholapaxy has been introduced into St. Louis by Dr. H. H. Mudd. Thus far he is the only one here who has practiced it. Two cases have been treated in this way, and both have resulted favorably.

The first operation was performed August 8, 1880, on a young man twenty-six years of age, who had suffered with symptoms of stone for about six months. After he had been anesthetized, five ounces of warm

water were injected into the bladder; the stone was crushed with the ordinary lithotrite, and was evacuated by means of Bigelow's evacuator. The operation occupied about fifteen minutes; the stone weighed about a gram; no unpleasant symptoms followed. During the succeeding twenty-four hours the patient urinated only twice, and upon the second day was able to resume his work, and seems to have made a perfect recovery.

The second operation was performed September 26, 1880. The patient, John R., sixty-four years old, weighed two hundred pounds, and had suffered with symptoms of stone for about three months. Dr. David Prince, of Jacksonville, Ill., had found a stone in his bladder some days previous to the operation. At ten A. M. the patient was anesthetized; by means of a bull-syringe the bladder was filled with warm water, but even this produced bleeding from the urethra, and the blood continued to flow freely during the whole of the operation. Bigelow's evacuator was again used, and four and a half grams of fragments were removed in twenty-five minutes. It was necessary to refill the bladder and reintroduce the lithotrite twice in order to reduce the stone to fragments small enough to be removed.

On the following day there was a slight rigor, followed by a temperature of 103.5° F. He complained of some pain in the perineum. The urine contained mucus, but no blood, and was passed but once every hour and a half. On the morning of the second day the temperature was normal, but in the afternoon it rose to 101.5° F. He was able to go four hours without passing water.

September 29th he was up, walking about the room and feeling comfortable.

October 1st he went home, there being still a little soreness about the rectum.

During the winter of 1879-80 Dr. Mudd made a number of experiments on the cadaver in regard to the best position for litholapaxy, and as a result of his experiments attaches much importance to elevating the pelvis while the stone is being crushed, and depressing the pelvis while the fragments are being evacuated.

Miscellany.

KANSAS CITY.

MR. EDITOR, — Kansas city is situated on the great bend of the Missouri River, two hundred and eighty miles west of St. Louis, and is the largest railroad centre between that city and the Pacific Ocean. Thirteen different lines of railroad give it the largest commercial importance in an area of country three or four times larger than New England. There are two hundred names of practitioners of medicine in the city directory, and of these, a large number come under the names "homeopathic," "magnetic," "vitalistic," and "eclectic." The surgical institutions are numerous and flourishing.

On a pleasant evening, the peripatetic practitioner may be seen selling his panaceas on the street corners and surrounded by an admiring crowd; occasionally

varying his performance in the healing art (when the crowd shows evidences of *ennui*) by singing sentimental ballads and accompanying himself on the guitar.

A large class of physicians exists, little known in the East, who might be named the "tramp" doctors. There is a small army of these men, traveling westward, who settle in town after town, following civilization, remaining a few weeks in one place, then moving on to pastures new, and finally reaching the Lead-villes, etc., of frontier life. Many of these are members of the regular profession, while others are mere pretenders. In the regular profession all grades of attainments and honor are represented, from the young practitioner who has recently been seated at the feet of the European Gamaliels of medicine, to the plain, unornate, but practically useful older men, who have been educated by necessity to the demands of their lives, and who represent the rapidly disappearing pioneer element. Among both classes, harmony and good-will exist. The young practitioner, fresh from the Eastern university, is received with unmistakable appreciation, but soon discovers that these unassuming men can teach him many a lesson in practical medicine. He finds that many of them are hard readers, logical thinkers, and are quite as well acquainted with the miscellaneous professional literature as he.

He sees modest men who do not hesitate to perform any operation in surgery, and who have good results. In short, he soon discovers that the wonderful progressiveness of the West can be seen as much in medicine as in commerce. So, the young graduate, who has made his *début* on the Western stage, thinking his Eastern education should give him an immediate position, may be somewhat disappointed at finding the competition more energetic than he had expected. But he soon learns to respect his professional brethren and their liberal, chivalrous competition.

Kansas city is now in a nascent state. Combinations are being formed. Society is crystallizing. Hospitals are about to be erected. The various questions of sanitation are being gradually approached. All the possibilities of growth and development are here, and are sufficient to excite the enthusiasm of the profession. We already have good city and county societies.

The code of ethics is rigidly enforced. The young College of Physicians and Surgeons is doing good work. It is a member of the American Medical College Association, and has some good teachers. Dr. Schanfler, the professor of general medicine, is well known as one of the translators of Ziemssen's Cyclopaedia.

Dr. Tremaine, U. S. A., who occupies an enviable position as consulting surgeon throughout Kansas, has been secured to fill the chair of surgery for the ensuing winter. The college is to be congratulated on having associated with it a gentleman of such general and professional culture. The faculty aim at a high standard. The dissecting room has an abundance of material, and the large clinical advantages of our city are being wisely utilized. No apology is needed for the existence of this institution.

In closing this communication it may be well to offer a few suggestions to the young aspirants to Western medicine. These new cities, with their social and sanitary problems, present opportunities for noble work; opportunities worthy the enthusiasm and devotion of earnest men. In the deep-chested, brainy, Western-

educated young physician, the more polished scion of New England stock is apt to find a dangerous rival. And, perhaps, the aesthetic refinements of New England education rather unfit one for the crude and practical necessities of Western life. But, before deciding so important a question, let the young graduate visit some of the Western cities; let him search for the meaning, for the soul, of Western life; let him study its professional aspects and phases, and then he may be able to decide wisely.

R. P. L.

TENDON LIGATURES.

MR. EDITOR,—A year ago last winter I read in No. 77 of *Brithwaite's Retrospect*, page 128, the article No. 43, on Tendon Ligatures, and noticed that Mr. Callender, the president of the Clinical Society, regretted that it was so hard to obtain tendons. Having seen whale's tendons while I was in a whaler in the Pacific, in 1845, I wrote to him that there was an unlimited supply of tendons in whales. March 24, 1879, he wrote to me as follows: "Dear Sir: Thanks for your suggestions respecting tendon ligatures, I will try to get some here, and have written to Aberdeen respecting them. If you come across any please send me a sample. I shall, I hope, be in Boston in September or October, and will call on you."

Fortunately I obtained the tendons of a whale killed at Provincetown at that time, and sent him some. May 20th he answered: "I am much obliged to you, Mr. Gilman, for so promptly and kindly obtaining for me the whale's tendons. I have used some of the fibres for arteries, and they will, I think, answer well, having more endurance than the catgut. Of course further experience is necessary," etc. I gave some of the tendons to Dr. Robert White at the time, and showed him the letters. I had a business acquaintance with Dr. Cowles, of the City Hospital, so I took some to the hospital, but found that Dr. Rowe was in his place. I therefore left them with him, and called afterwards to see what he thought of them. He said that he gave them to his surgeons, but they had not used any, and did not think there was any need of the article. This was more than a year ago, and I have not been there since, so that I don't know that any have been used. I inquired of Messrs. Colman & Shurleff's whether they could not be made up as catgut ligatures are, so they could be put upon the market, but could not find any one who could do so. On learning that whalers had beaten the fibres soft and twisted them into ropes, I suggested that they might be spun like silk. But knowing that the material was so plenty and cheap, and that it was not necessary to prepare it in any way, but to simply strip it with the fingers and select such pieces for use as would be suitable for the occasion, I concluded to do nothing about it. My rebuff at the City Hospital discouraged me, and it was time and money out. In the mean time I was waiting to see Mr. Callender; but of course you are aware that he was taken sick in Philadelphia, and died on his way home on the steamship *Gallia*, on the 20th of last October, and I never did anything more about it. But finally, having some curiosity as to whether or not he had said anything to the Clinical Society concerning the tendons, I wrote to the new president of that society about three weeks ago. Now had I known that any one else had been using the tendons I should have hesitated

before doing so. I think it quite natural for some one in Japan to think of whale's tendons after the Melbourne surgeon (Dr. Girdlestone) had used kangaroo tendons; for when I was in the Pacific I saw a coat made by the natives of Kamtschatka of whale's intestines, sewed with the tendons, and this use of the tendons was probably well known in Japan. Still I think I was the first to suggest the use of whale's tendons for surgical purposes, although it is possible that Dr. Lealand, of Tokio, might have seen the *Lancet* of February, 1878, before I read the article in the *Retrospect*. Still, if he did see it before I did, I should think the fact would have reached you earlier.

Mr. Callender seemed so well pleased that I supposed he would make mention of it before the Clinical Society, at some of its meetings. This was the height of my ambition, so I wrote him that I should do nothing about the matter till I saw him, intending afterward to follow his advice. After his death I thought of taking some of the tendons to Dr. Bigelow, but neglected to do so, and have thus lost the opportunity of first calling your attention to the matter. Respectfully yours,

J. T. GILMAN.

BOSTON, October 1, 1880.

7 QUEEN ANNE STREET, May 20, 1879.

I am much obliged to you, Mr. Gilman, for so promptly and kindly obtaining for me the whale tendons. I have tried some of the fibres for sutures, and they will, I think, answer well, having more endurance than the catgut. Of course further experience is necessary. No doubt Dr. Bigelow would give the material a trial. It will be necessary, if you care to go into the matter, to get some practiced man to split the fibres into fine threads, and when split, and roughness or angularity taken off, they should be kept in carbolized oil, just as the catgut is. If you find it worth while to send any over here I should advise you to do so through Kröhne and Srinman, of Dike Street, Manchester Square, or through Arnold & Son, St. Bartholomew's Hospital. I am yours faithfully,

JOSEPH CALLENDER.

RODENT ULCER; LIGATURE OF PAROTID ARTERY, ETC.

MR. EDITOR, — In the JOURNAL bearing date September 16, 1880, which I have just seen, I find a most extraordinary attack upon myself by Dr. Michel, of this city.

I regret to refer again to a subject of such little interest, but the attack is so unjust and uncalled for that in justice to myself I deem it necessary to make a true statement of the case.

The patient was admitted to the Marine Hospital ward at his own request, and his previous history was obtained from himself and the resident physician of the hospital. I was informed that he had taken very little medicine, and no iodide of potassium at all. That the ulcer had by no means healed is proved by the dimensions given in my article on the subject, and which were taken personally. The case was not published until nearly eight months after the patient entered the marine ward, during which period Dr. Michel had ample time to publish the case if he desired. Moreover, the resident physician of the hospital, at my request, saw Dr. Michel and asked him for any notes he might have of the case, and he informed him that he

had none; this does not look as if he ever intended to publish the case at all. The statement that remedies are impotent in this disease is, to say the least, *old fashioned*, it being well known that even epithelioma has been arrested by iodide of potassium.

Again, the statement that the marine ward rarely contains over five or six patients is grossly incorrect, as the books show an average of at least twenty. In conclusion, I am quite willing to leave to those of the profession who know us both the determination as to whom the term ethical obliquity best applies.

Very respectfully,

FAIRFAX IRWIN.

CHARLESTON, S. C.

BOSTON DISPENSARY.

The following are the statistics of this institution for the year ending September 30, 1880. The number of new patients treated at the central office is 18,331, classified as follows: —

MEDICAL DEPARTMENT.

	Men.	Women.	Children.	Total.
First quarter	812	1377	98	3170
Second quarter	902	2226	982	4110
Third quarter	760	1568	873	3301
Fourth quarter	682	1142	798	2622
Total	3156	6313	3634	13,103

SURGICAL DEPARTMENT.

	Men.	Women.	Children.	Total.
First quarter	367	192	92	651
Second quarter	339	148	98	585
Third quarter	322	183	97	602
Fourth quarter	333	195	135	663
Total	1361	718	422	2501

DENTAL DEPARTMENT.

	Men.	Women.	Children.	Total.
First quarter	100	162	183	445
Second quarter	111	153	199	463
Third quarter	79	129	200	408
Fourth quarter	57	112	137	306
Total	347	556	719	1622

SKIN DEPARTMENT.

	Men.	Women.	Children.	Total.
First quarter	109	74	50	233
Second quarter	144	68	51	263
Third quarter	113	114	65	292
Fourth quarter	162	71	45	278
Total	528	327	211	1066

DEPARTMENT FOR DISEASES OF THE NERVOUS SYSTEM.

	Men.	Women.	Children.	Total.
First quarter	8	9	1	18
Second quarter	10	1	0	11
Third quarter	4	1	0	5
Fourth quarter	2	1	1	4
Total	24	12	2	38

The number of visits made by patients, old and new, at the central office, 38,109, classified as follows: —

	Medical.	Surgical.	Total.
First quarter	9118	1688	10,806
Second quarter	8842	1735	10,577
Third quarter	7606	1803	9409
Fourth quarter	5598	1719	7317
Total	31,164	6945	38,109

The number of new patients treated in the districts is 13,647, classified as follows: —

	Men.	Women.	Children.	Total.
First quarter	544	1304	1516	3364
Second quarter	711	1438	1886	4125
Third quarter	504	1091	1200	2795
Fourth quarter	495	1163	1505	3163
Total	2244	4996	6407	13,647

The results of treatment in the districts are as follows:—

Discharged cured or relieved	12,682
Sent to hospitals or removed from the districts	544
Died	443
Remaining under treatment	83
	13,752
Remaining under treatment at last annual report	105
	13,647
Number of new patients treated at the central office	18,331
Total number of new patients treated at the central office and in the districts	31,978
Number of cases of midwifery attended during the year	186
Number of cases of midwifery attended since July, 1858	3,437
Whole number of patients since October, 1796	762,094
Whole number of patients since July, 1856	643,292
Average daily attendance at the central office during the year	124
Largest number present any one day, November 10th	263
Smallest number present any one day, January 13th	32
Number of recipes put up at the central office during the year	54,808
Number of house recipes	37,600
Number of district recipes	17,208
Largest number put up in one day, November 10th	390

Smallest number put up in one day, July 3d	61
Daily average	183

Surgeons: Thomas Waterman, M. D., Charles E. Inghes, M. D., Edward H. Bradford, M. D., John F. Bush, M. D.
Physicians: Robert Disbrow, M. D., Reginald H. Fitz, M. D., Josiah L. Hale, M. D., William H. Baker, M. D., Joseph P. Oliver, M. D., Robert M. Lawrence, M. D., John Dixwell, M. D., Francis H. Davenport, M. D., Abner Post, M. D., Thomas M. Rotch, M. D., Mairice H. Richardson, M. D., Arthur T. Cabot, M. D., Claudius M. Jones, M. D., William F. Whitney, M. D., Henry C. Haven, M. D., Charles M. Green, M. D.

DEPARTMENT FOR DISEASES OF THE NERVOUS SYSTEM.

Physicians: Frederick W. Vogel, M. D., Charles F. Folsom, M. D.

DEPARTMENT FOR DISEASES OF THE SKIN.

Physician: Francis B. Greenough, M. D.

DENTAL DEPARTMENT.

Dentist: James E. Riley.

District Physicians: No. 1, George E. Copeland, M. D. No. 2, Frank H. Hooper, M. D. No. 3, William W. Gannett, M. D. No. 4, Harold Williams, M. D. No. 5, Henry W. Broughton, M. D. No. 6, Francis H. Williams, M. D. No. 7, Charles P. Bancroft, M. D. No. 8, James J. Miuot, M. D. No. 9, John W. Elliot.

Frank H. Clark, apothecary; John F. Macleachlan, assistant apothecary; Arthur H. Dupac, second assistant apothecary.
WILLIAM H. H. HASTINGS, M. D., superintendent.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 16, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diphtheria and Croup.	Lung Diseases.	Diarrhoeal Diseases.	Typhoid Fever.
New York	1,209,561	609	252	27.75	12.64	11.33	8.54	1.30
Philadelphia	901,380	284	87	—	3.17	3.87	—	3.87
Brooklyn	564,400	—	—	—	—	—	—	—
Chicago	503,298	193	93	43.00	24.87	7.25	7.77	4.66
St. Louis	—	115	38	26.09	6.09	3.48	9.57	3.48
Baltimore	393,796	127	52	11.02	1.58	—	—	3.15
Boston	363,938	159	72	23.78	10.69	8.18	8.84	3.14
Cincinnati	280,000	—	—	—	—	—	—	—
New Orleans	210,000	96	31	25.00	11.46	2.08	7.29	2.08
District of Columbia	180,000	—	—	—	—	—	—	—
Cleveland	160,000	—	—	—	—	—	—	—
Pittsburgh	156,649	911	32	28.57	13.19	6.59	1.10	2.20
Buffalo	155,159	59	21	33.90	8.47	3.39	1.69	10.17
Milwaukee	127,000	38	25	21.05	5.26	5.26	2.63	5.26
Providence	104,862	36	8	22.22	11.11	13.89	—	11.11
New Haven	63,000	19	8	42.11	21.05	15.79	15.79	—
Charleston	57,000	35	12	5.71	—	2.86	—	2.86
Nashville	43,543	15	7	53.33	—	—	13.33	13.33
Lowell	59,310	20	11	35.00	10.00	10.00	10.00	5.00
Worcester	58,040	18	11	38.89	—	16.67	27.78	5.56
Cambridge	52,860	24	12	29.17	20.83	8.33	4.17	—
Fall River	48,626	—	—	—	—	—	—	—
Lawrence	39,068	23	7	8.70	4.35	4.35	—	4.35
Lynn	38,376	13	5	38.46	7.69	7.69	15.38	15.38
Springfield	33,536	12	3	—	—	—	—	—
Salem	27,347	12	4	41.67	—	—	8.33	16.67
New Bedford	27,268	9	1	11.11	—	—	—	11.11
Somerville	24,964	7	2	71.43	14.28	28.57	28.57	28.57
Holyoke	21,961	10	3	30.00	—	30.00	30.00	—
Chelsea	21,780	13	7	30.77	15.39	—	7.69	7.69
Taunton	21,145	7	—	—	—	—	—	—
Gloucester	19,288	4	2	—	—	—	—	—
Haverhill	18,478	5	5	20.00	20.00	20.00	—	—
Newton	16,994	—	—	—	—	—	—	—
Newburyport	13,470	5	2	40.00	20.00	—	20.00	—
Fitchburg	12,270	3	—	66.67	33.33	—	33.33	—
Nineteen Massachusetts towns	149,017	63	17	22.22	9.52	7.94	7.94	1.59

¹ Twenty-nine of these deaths were the result of a railroad accident.

Deaths reported 2124 (no returns from Brooklyn, Cincinnati, or District of Columbia); 828 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 363, consumption 320, diphtheria and croup 220, lung diseases 143, diarrheal diseases 131, typhoid fever 72, scarlet fever 50, malarial fevers 38, small-pox 17, whooping-cough 16, cerebro-spinal meningitis 11, measles two, typhus fever two, erysipelas one.

From *scarlet fever*, New York 11, Pittsburgh 10, Baltimore eight, Chicago seven, Philadelphia four, Buffalo and Milwaukee three, St. Louis, Boston, Worcester, and Cambridge one.

From *malarial fevers*, New York 12, New Orleans 11, St. Louis five, Buffalo four, Chicago and Baltimore two, New Haven and Charleston one. From *small-pox*, Philadelphia 13, Salem two, New York and Boston one. From *whooping-cough*, Baltimore four, New York and Boston three, Philadelphia, Chicago, St. Louis, Pittsburgh, Lowell, and Bridgewater one. From *cerebro-spinal meningitis*, New York five, Philadelphia, Chicago, St. Louis, Baltimore, New Orleans, and Quincy one. From *measles*, Philadelphia and Lowell one. From *typhus fever*, Baltimore and Nashville one. From *erysipelas*, Buffalo one.

Forty-three cases of diphtheria, 10 of scarlet fever, and one of small-pox were reported in Boston; diphtheria 17, scarlet fever 14, in Milwaukee; scarlet fever eight, diphtheria five, typhoid fever, one, in Providence; diphtheria 15, scarlet fever seven, in Cambridge; scarlet fever six, diphtheria four, in New Bedford.

In 36 cities and towns of Massachusetts, with a population of 1,002,146 (population of the State 1,783,812), the total death-rate for the week was 21.23, against 22.35 and 21.49 for the previous two weeks.

For the week ending September 25th, in 149 German cities and towns, with an estimated population of 7,731,680, the death-rate was 25.5. Deaths reported 5560; 2158 under five; pulmonary consumption 429, acute diseases of the respiratory organs 188, diphtheria and croup 110, scarlet fever 99, typhoid fever 85, whooping-cough 67, measles and röteln 30, priapical fever 10, small-pox (Königsberg, Berlin) two, typhus fever (Hannover) one. The death-rates ranged from 14.6 in Carlsruhe to 41.2 in Aachen; Königsberg 31.2; Breslau 23.4; Munich 24.2; Dresden 24.8; Berlin 29.4; Leipzig 24.8; Hamburg 23.7; Hannover 19.4; Bremen 15.3; Cologne 30.1; Frankfurt 16; Strasburg 22.1.

For the week ending October 2d, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 21.3. Deaths reported 3060; diarrheal 399, acute diseases of the respiratory organs 199, scarlet fever 108, fever 57, whooping-cough 50, measles 24, diphtheria 16, small-pox (London two, Liverpool) three. The death-rates ranged from 13 in Plymouth to 32 in Sunderland; Bristol 17; Birmingham 18; Leeds 24; Manchester 25; Liverpool 28. In Edinburgh 22; Glasgow 18; Dublin 36.

In the 20 chief towns in Switzerland for the same week, population 522,836, there were 36 deaths from diarrheal diseases, typhoid fever 10, acute diseases of the respiratory organs five, whooping-cough three, scarlet fever one, measles one, small-pox one. The death-rates of the principal cities were: Geneva 23.6; Zurich 21; Basle 26.5; Berne 23.3.

The meteorological record for the week in Boston was as follows:—

Date.	Barometer.		Thermometer.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	9 P. M.	Mean.	7 A. M.	9 P. M.	Mean.	7 A. M.	9 P. M.	Mean.	7 A. M.	9 P. M.	Mean.	7 A. M.	9 P. M.	Mean.	Duration.	Amount in inches.
1880.																					
Oct. 10	30.292	54	66	46	85	75	93	84	0	E	0	0	8	0	C	C	C	—	—	—	—
" 11	30.204	61	75	51	93	50	88	77	SW	S	S	4	10	8	G	F	C	—	—	—	—
" 12	29.978	60	80	49	94	46	54	65	SW	W	NW	9	17	14	O	F	C	—	—	.23	—
" 13	30.219	47	57	40	57	22	62	47	NW	NW	NW	12	19	14	C	C	C	—	—	—	—
" 14	30.129	54	70	37	64	23	49	45	W	SW	W	11	3	6	C	C	C	—	—	—	—
" 15	29.919	57	71	45	84	45	70	66	W	W	W	4	3	5	F	F	F	—	—	—	—
" 16	29.893	61	73	50	86	64	89	80	0	0	W	0	0	7	H	O	O	—	—	—	—
Week.	30.091	56	80	37						SW	W	NW							1.25	.23	

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM OCTOBER 16, 1880, TO OCTOBER 22, 1880.

MATTHEWS, W. C., captain and assistant surgeon. His assignment to duty at cantonment on Uncompahgre River, Colo., revoked, and he is assigned to duty at Fort Winate, New Mexico. S. O. 229, Department of the Missouri, October 16, 1880.

TORNEY, G. H., captain and assistant surgeon. When relieved by Assistant Surgeon Matthews, to proceed to Fort Lyon, Colo., and report to the post commander for duty. S. O. 229, C. S., Department of Missouri.

SHANNON, W. C., captain and assistant surgeon. Granted leave of absence for six months. S. O. 220, A. G. O., October 14, 1880.

GUSON, R. J., first lieutenant and assistant surgeon. Relieved from temporary duty at Fort Leavenworth and assigned to duty at the cantonment on Uncompahgre River, Colo. S. O. 229, C. S., Department of Missouri.

SUFFOLK DISTRICT MEDICAL SOCIETY. — The stated meeting will be held at the hall, 19 Boylston Place, on Saturday evening, October 30th, at seven and a half o'clock. The following paper will be read: Dr. T. B. Curtis, The Significance of Frequent Micturition.

All members of the Massachusetts Medical Society are cordially invited to be present, and to take part in the discussion. Supper at nine o'clock.

H. C. HAYES, M. D., Secretary.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting of the society will be held on Monday evening next, November 1st, at eight o'clock, in the hall of the Medical Library Association. Reader, Dr. Dwight. Subject, The Disappearance of Tumors. Semi-annual election of members.

A. T. CAROY, Secretary.

GYNÆCOLOGICAL SOCIETY OF BOSTON. — The next regular meeting of the society will be held at the Medical Library rooms, 19 Boylston Place, on the first Thursday of November, at 10.30 a.m. The profession are invited.

HENRY M. FIELD, M. D., Secretary.

BOOKS AND PAMPHLETS RECEIVED. — Annual Report of the Infirmary for Hemorrhoids, Fistula, and other Diseases of the Rectum. Incorporated 1879. Dispensary Building, No. 304 East Broadway, New York.

A Contribution to a Knowledge of Fracture of the Rim of the Acetabulum, based on the Reports of Twenty-Seven Cases and Experiments on the Cadaver. By Nicholas Senn, M. D. (Reprint.)

The Ocean as a Health Resort. A Handbook of Practical Information as to Sea Voyages, for the Use of Tourists and Invalids. By William S. Wilson, M.R.C.S.E. With a Chart showing the Ocean Routes and illustrating the Physical Geography of the Sea. Philadelphia: Prexley Blackiston, 1880.

La Syphilis, son Histoire et son Traitement (Méthode Anglaise). Par le Dr. James Tattenson. Deuxième Edition. Paris: Baillière et Fils. 1880.

Original Articles.

HIP-JOINT DISEASE: DEATH IN EARLY STAGE FROM TUBERCULAR MENINGITIS.

BY DE F. WILLARD, M. D.,

Lecturer on Orthopedic Surgery, University of Pennsylvania.

MICROSCOPICAL APPEARANCES, WITH CUTS.

BY E. O. SHAKESPEARE, M. D.,

Lecturer on Refraction and Operative Ophthalmic Surgery, University of Pennsylvania; Pathologist to the Philadelphia Hospital.

PATHOLOGICAL specimens of morbus coxarius in its earliest stages must ever, from the very nature of the disease, be extremely rare, and the marked ignorance of the true changes which occur at this early period is evident to all readers, not only of the ordinary textbooks, but even of works devoted to pathology.

After diligent search, the specimens described in the following report have been found to be absolutely unique, presenting a stage of disease antecedent even to that of the descriptions of the initial lesion by Cornil and Ranvier.

They are therefore placed on record in this journal, that others may use their very best endeavors to secure post-mortem examinations in all cases possible, and thus add to our limited knowledge upon this subject.

The microscopical work has been, in this case, carefully done, and while it is upon one specimen only, yet in the absence of other investigations at this period of the disease may be accepted as an accurate portraiture of the changes then taking place.

History from case-book: A. B., five years of age, one of three children, all of whom are living, presents himself at the Orthopedic Clinic of the University of Pennsylvania, November 12, 1877. His father is in good health; the mother pale and thin, but apparently healthy. Her mother died of phthisis, and one sister of some wasting disease during infancy. The child is pale and anæmic, but has been considered healthy. The parents are poor, and the hygienic surroundings bad.

One year ago, without any special known injury, the mother of the patient detected a slight lameness, but upon taking him to a dispensary for the treatment of deformities was, after several visits, informed that all inequality in the child's gait was simply due to "a habit which he had contracted." Reassured by this, the child was allowed to run about, and while suffering no pain, yet invariably at night complained of a sense of weariness about the hip, and a restlessness of the limb was noticed after retiring, symptoms which, I would remark in passing, are the very earliest indications of inflammation of this joint, antedating rigidity of the muscles, pain, or lameness. The lameness and discomfort have steadily increased, and the latter now amounts to a positive pain.

Present condition (child naked): walks with a decided limp, carrying the left limb with the stiff, awkward movement so common in hip disease; evidencing a lateral pelvic advancement at each step instead of a normal leg-swing. Weight of body thrown on sound side as soon as erect posture is attained, standing "at ease," thus bringing the entire strain on the uninjured member, upon that non-elastic tendon or portion of fascia lata (so admirably described by Allis) which stretches from the crest of the ilium over the trochanter major down the thigh and below the knee. The leg is flexed upon the thigh, the latter upon the pelvis, the toes are everted, while the limb is abducted

and apparently elongated, positions assumed by the member partially for comfort and partially from the obliquity of the pelvis, and therefore not necessarily indicating joint effusion.¹ Rigidity of the surrounding muscles is marked; the right thigh can be brought up against the lower ribs, and extended until the popliteal space touches the hard settee, without in any way altering the position of the pelvis or spine; but when the attempt is made to perform either of these motions, or to abduct, adduct, or rotate the left limb, it is at once evident that the pelvis follows the femur wherever it may be moved. This precautionary fixation of the muscles is an excellent example of "joint sense," and forms a prominent indication in the direction of treatment. The left nato-femoral crease is shortened; the buttock is softened, flattened, and fades off upon the posterior aspect of the thigh without any line of junction between the two, showing a wasting of both gluteal and thigh muscles, as well as a lessened projection of the tuber ischii.

Pressure on the trochanter, knee, or heel gives discomfort but no actual pain at the hip; there is more wincing when the head of the bone is pushed against the inner side of the acetabulum than when the upper, lower, or outer surfaces are impinged upon, — presumptive evidence that the round ligament is the centre of the disease.

There is no decided tumefaction or reddening about the joint, but slight condensation of the surrounding tissues is plainly palpable, especially when the posterior part is felt through the flabby buttock.

With this collection of symptoms, diagnosis was of course positive.

Four days later the child was put to bed, extension applied by weight and cord, and the windows of the room so fastened that they could never be shut, direction being given that all necessary warmth should be supplied by extra clothing. When this precaution is taken, I have never seen injury to any person's health from confinement to bed; in fact, in the vast majority of cases the relief is so great that improvement of the general condition commences at once. I have since modified my treatment in certain cases where the inflammation is slight, but in the acute painful cases I am convinced that this method, together with fixation, secures more absolute rest and greater comfort than can be gained by any other plan, especially when the patient is an active child, who when upon his feet would manage to receive at least half a dozen blows daily, even though he were incased in a solid sheet-iron dressing.

The present case proved no exception to the general rule in regard to patients thus confined, and he continued steadily gaining in every particular, growing fat and hearty under iron and cod-liver oil.

Six weeks later there was no pain or discomfort of any kind; no induration could be felt about the joint; and flexion, extension, abduction, and adduction could be performed to a considerable extent without any pain.

In January he commenced to complain of headache; vomiting suddenly set in, and continued persistently for three days. The pain in the head became of the most intense and excruciating character, causing piercing shrieks from the child at each onset; obstinate constipation was present; the characteristic facies, stupor, slow pulse, convulsions, and coma of tuberculous meningitis followed in rapid succession, with death upon the sixth day after the vomiting commenced, and two months after the child was first examined.

¹ Kolaczek, Monthly Abstr., January, 1879, page 33.

Realizing that there was here a most valuable opportunity for securing a rare specimen, I made every effort to obtain a complete post mortem, but after using my best endeavors, I was unable to gain consent except for an examination of the hip. Possession, however, was fortunately gained of the head of the femur and entire acetabulum.

FIG. 1.



Acetabulum and head of femur, showing discolored spots upon latter.

The movements of the joint were somewhat limited, and slight roughness was evident. There was not more than ten drops of effusion, but the synovial membrane was everywhere congested and softened, and at the acetabular attachment of the ligamentum teres were decided evidences of inflammation and softening of tissues. Upon the head of the femur, on its posterior upper face, was a discolored patch, possibly caused by post-mortem contact against the acetabulum, although there was no corresponding spot in that cavity, and it had more the appearance of redness situated beneath the articular cartilage.

The capsule was perfect, the round ligament intact, and while the membrane covering it was more reddened and softened than at any other part, yet there were no positive signs of ulceration to the naked eye; in fact at no place in the joint were there any evidences other than those of early inflammation.

A careful and elaborate study of the minute appearances was made by Dr. Shakespeare, of Philadelphia.

MICROSCOPIC EXAMINATION BY DR. E. O. SHAKESPEARE.

"The acetabulum, head, and neck of the femur, ligamentum teres, and synovial membrane from the case of hip-joint disease referred to by Dr. Willard were placed in my hands for microscopic examination.

"After decalcification of the hard parts and hardening of the soft tissues, by means of picric acid, nitric acid, and alcohol, the structures of the joint were so divided that the section cut in half the acetabulum and the head of the femur, and at the same time split longitudinally the ligamentum teres.

"To the naked eye the cut surface thus obtained of the cartilages and bone presented no appearance markedly abnormal. The cartilages were entire, and the bone did not seem to contain caseous or other visible nodules. The line of ossification, at the junction of the epiphyseal cartilaginous head of the femur with the bony neck was nearly straight and of natural width. In the central portion of the cartilaginous head a considerable area of primary ossification could be readily seen. The curved line of section of the spherical surface of the ar-

ticular cartilage was, apparently, unbroken by superficial erosion of the articular surface. A slight mottling of the cartilage of the head of the femur could be made out when the articular surface was viewed *en face*. An inspection of the cartilage of the acetabulum gave to the naked eye no positive results. The ligamentum teres and the synovial membrane were evidently thickened and softened. No granulations were to be seen in them, and no visible suggestion of the presence of miliary or confluent tubercles could be recognized therein.

"A careful study of thin sections of the various tissues entering into the diseased joint afforded the following results:—

"A. Line of ossification at the junction of the head of the femur with the neck:

"Nothing abnormal was noticed beyond a small amount of hyperæmia of the medullary tissue partly forming this line.

"B. Below this line of ossification, the cancellated structure of the osseous tissue presented no decided pathological appearance. The medullary tissue was but slightly hyperæmic,—indeed, a certain number of fat vesicles were still to be seen here and there scattered through it. There was nothing which could be positively diagnosed as miliary tubercles, or caseous foci—the degenerated products of inflammation. Neither were the spicules of bone or of the primary cartilage, covered by an osseous coating, in a state of carious alteration; in other terms, their bone corpuscles were not undergoing fatty degeneration. The only change here visible was extremely slight, and could readily be attributable to a physiological rarefaction of the primary bone spicules or trabeculae.

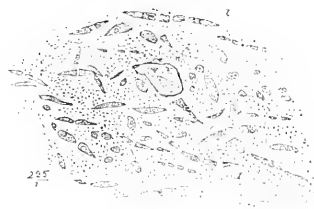
"C. Above this line of ossification, the cartilage between the latter and the before-mentioned area of primary ossification in the cartilage constituting the epiphyseal head of the femur presented, in various circumscribed localities, a marked fibrillation (which in some cases even nearly approached segmentation) of the matrix or ground substance,—a fibrillation usually following a general direction vertical to the surface of the articular cartilage. Moreover, the cartilage capsules in the vicinity of these areas of fibrillation frequently showed distinct signs of irritation and increased activity. They were often enlarged, the primary capsules sometimes containing a number of secondary capsules inclosing cells with cloudy and scant protoplasm and large nuclei and nucleoli. Some of the primary capsules were filled with a number of cells devoid of an individual capsular envelopment. In the immediate vicinity of the area of ossification in the chondral head of the femur, the fibrillation above alluded to was often much marked, as was also the irritation of the cartilage cells. In this locality, in fact, it was not uncommon to see a mucoid softening affecting some of these elements inclosed within a capsular space, but the same species of softening also sometimes produced an enlargement of the original space, and finally channeled out minute lacunæ in the surrounding matrix. (See c, Figure 2.)

"D. Area of primary ossification in the chondral head of the femur. Nothing abnormal met the eye either in the bony trabeculae or in the marrow filling more or less completely the irregular cancellæ. There was neither caries of the bone nor tubercle of the marrow. Some of the cartilage cells filling the enlarged spaces adjacent to the medullary cavities of the last-mentioned bony area were perhaps a trifle more gran-

ular and fatty than in health, and could possibly, when fused with the medulla, have added a small element of fatty or caseous degeneration to the substance of the marrow.

"E. The cartilage between the area of ossification and the articular surface in circumscribed spots showed

FIG. 2.



Cartilage of head of femur, near point of primary ossification, showing minute points of mixed softening (c) and linear arrangement of segmented cartilage cells (a). $\times 225$.

a hyper-activity of the cartilage capsules, accompanied by some softening and fibrillation of the intercellular matrix, similar to that previously mentioned, although much less frequent.

"Just here the general statement may be made, with respect to the character of the cartilage cells of the femoral cartilage, that except in two or three cellular layers near the articular surface, and in the normal line of ossification, nearly all the cartilage cells are spindle form (a, Fig. 2), with a finely granular cell body, sometimes containing vacuoles or oil drops, and a comparatively large, round or oval, more coarsely granular, often double-contoured nucleus, which frequently incloses one or more distinct nucleoli. The capsule, if it exists, is not distinctly visible. Usually there is no shrinking of the cell, no separation between it and the wall of the space in which it is inclosed. Very often the cell is double, and sometimes, particularly in the neighborhood of the minute points of softening, to which allusion has already been made, it is quadruple, occasionally even still more multiple. In these double cells the spindle is usually divided across the middle, so that the two cells more or less closely represent two cones with their bases together.

"In the quadruple and more multiple forms the cells are ranged in line, so that the spindle is divided by a number of cross-sections. The two end-cells are conical, the apex forming the point of the spindle. The other cells, ranged in line between these two, represent more or less solid cylinders. Frequently the cells composing the spindle are separated from each other by thin septa of the hyaline matrix. Often they appear to be in immediate contact with each other by their ends. These spindles cross at various angles, but their prevalent direction is in general that of parallelism to the articular surface. Close to the border of the ossifying segment, however, it seems to be parallel to the gross curve of this segment, whilst near the straight line of normal ossification the spindles are parallel with the latter. That these cells are really spindle form, and not flat cells seen in profile, is proved by the outline which they show when seen in various directions. In longitudinal section they present the shape of a spindle. In oblique optical section they appear elliptical, and their border varies with the

focus, while in transverse optical section the outline of the cell is nearly circular. The nucleus, which is usually seen in the centre, may be lost to view, and be made to appear again by alteration of the focus. There are no layers of spheroidal cells immediately below the superficial layer of flat or lenticular cells. Neither do the cells of the deep layers have a prevalent linear direction perpendicular to the articular surface. Scattered among the spindles, here and there, are a number of cells of spheroidal contour; they may be single, double, or multiple. Near the articular surface the spindles have a tendency to flatten from above downward, and very many of these flattened cells may have three or more short, wide processes. Sometimes these processes are long and filiform, and they may unite with those of an adjoining cell. The flat or lenticular cells of the surface layers are round, oval, or polygonal in outline, sometimes are double, with a body granular or containing numbers of minute oil drops or larger vacuoles, and a large round or oval nucleus inclosing usually a nucleolus. Occasionally the nucleus may be lengthened and constricted in the middle, or there may be two nucleoli. The superficial layers of the cartilage matrix are not abnormal.

"F. Excepting as to the area of primary ossification above mentioned, the foregoing statement of the general condition of the femoral cartilage may be considered as fairly descriptive of the state of the cartilage of the acetabulum. The same tendency of the space inclosing the cartilage cells to assume the spindle form may be affirmed of the acetabular cartilage in general; but more frequently than in the femoral cartilage, the inclosed cells lose the form of spindles and become flattened. In proliferating, the cells within the spaces frequently are found ranged side by side instead of end to end, this arrangement being more pronounced in proportion as the places of ossification are approached. In that portion of the septum constituting the Y-shaped cartilage which separates the acetabulum into three unequal sectors, and to which the ligamentum teres is attached, the prevalent direction of the long axis of the cell-containing spaces is vertical to the articular surface, except just at and a little below the line of attachment, in which location their direction changes to that of parallelism with the course of the ligamentous bundles.

"G. Attachment of ligamentum teres to the femoral cartilage. (See Figure 3, low magnifying power.)

FIG. 3.



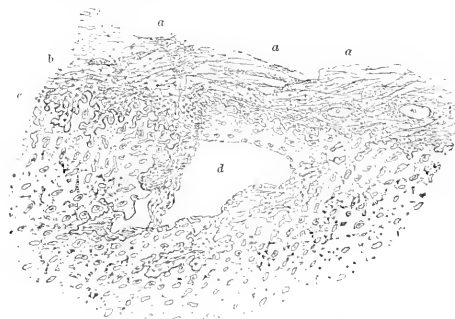
Attachment of ligamentum teres to head of femur. (a) Synovial surface of ligament. (b) White fibrous tissue of ligament. (c) Cartilage of head of femur. (d) Line of attachment. $\times 50$.

"A few dilated veins and arterioles and their accompanying capillaries were seen near line of the at-

tachment (*d*), winding between the fibrous bundles (*b*). At the insertion of these bundles into the cartilage there was usually but little cell multiplication, either in the tendon or cartilage. The superficial and deeper layers of cartilage at this location showed some increased activity or unusual irritation. The fibrous tissue of this end of the ligament was more vascular than it should be, and along the walls of the vessel was a more or less uniform accumulation of embryonal cells. Aside from these characteristics the tendinous tissue throughout its depth showed only a slight hyperplasia, such as is presented by young growing tendons. The surface of the tendon (*a*), however, was covered with a loose connective tissue in an active state of inflammation. That tissue was the seat of an abundant cell infiltration, and was well supplied with vessels whose walls were embryonal, and which in a few points had become entirely transformed into a multitude of embryonal cells, forming a cylinder plugged by a mass of fibrin and blood corpuscles, both red and white. In a few spots these cellular accumulations had become caseous.

"H. Attachment of the ligamentum teres to the acetabulum. (See Figure 4, low power.)

FIG. 4.



Attachment of ligamentum teres to acetabulum. (*c*) Softening cartilage. (*d*) Anfractuous space. (*e*) Blood-vessels in ligament at line of attachment. $\times 80$.

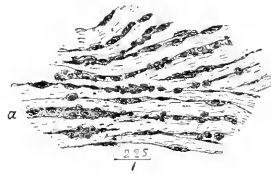
"At the point of attachment the cartilage was much softened. Along the line of attachment (*c*) the tendon was the seat of a considerable accumulation of embryonal cells. The border of the cartilage was eaten into by this embryonal tissue in such a manner as to present in a very marked way the irregular and the jagged outline of a surface channelled by Howships lacunae. Everywhere in the vicinity of the line of attachment the cavities which contained the cartilage cells were enlarged. They sometimes were filled with a mucous tissue, sometimes a with number of embryonal cells instead of the typical cartilage cell. Frequently two or more of these cavities united to form a larger anfractuous space, which might originally have been filled with an analogous tissue. Occasionally large areas of the cartilage were thus softened and replaced by a tissue very similar to the red medulla of bone and permeated by capillary vessels. In the figure, such a large anfractuous space (*d*) is represented as partly filled by the medullary tissue and partly empty. In making the section or in manipulating it this tissue was partly loosened and displaced before mounting.

"The fibrous tissue of the tendon near the line of

attachment was traversed by numerous dilated blood-vessels. The walls of these in very many instances were embryonal. Around the vessels there was a marked increase of cell elements. The fibrous tissue itself was in much the same condition as that of the femoral end of the ligament, possibly a little more irritated.

"I. Ligamentum teres. (See Figure 5, high power.)

FIG. 5.

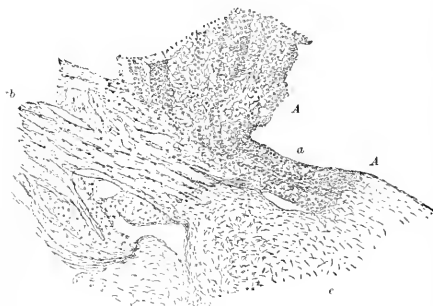


Ligamentum teres, deep portion, near acetabulum, showing proliferation of endothelia of fibrous tissues, and multiplication of leucocytes. $\times 225$.

The layer of loose cellular tissue which covered the ligament was highly inflamed and greatly infiltrated with numbers of young cell elements. The fibrous bundles of the tendon near the acetabular attachment and along their course toward the femoral end were in a state of marked inflammatory infiltration. Embryonal cells were abundantly scattered in the interstices between the bundles, and the flat cells of the latter were much swoller and often multiplied. The vessels were more numerous than normal, and their walls were in an embryonal condition.

"K. Synovial attachment to the periphery of the articular cartilages. (See Figure 6, representing appearances under low power.)

FIG. 6.



Attachment of the synovial membrane to the periphery of the articular cartilage of head of femur. (*A*) Synovial membrane. (*B*) White, fibrous tissue. (*C*) Cartilage. $\times 30$.

"The loose cellular tissue of the synovial membrane (*a*) was everywhere very thickly infiltrated with young cells. The vessels were abundant, and showed a marked cell infiltration of their walls. The cells upon the surface of the membrane (*A*) were several layers deep. Some of them were fatty-degenerated. Others were in a state of multiplication. Numbers of embryonal cells were interspersed among them. At the point of junction of this inflamed loose cellular tissue with the cartilage of the articulation was a very decided accumulation of cells of an embryonal charac-

ter, so closely heaped together that the mass presented the appearance of granulation tissue, or the young medulla tissue of bone. Adjoining this granulation tissue, and extending a considerable distance from it, the cartilage showed very much the same condition as that around the small points of softening in the femoral cartilage already described. The white fibrous tissue (*b*) upon which the synovial membrane at this location rested was in much the same condition as that of the fibrous bundles of the ligamentum teres at its femoral attachment. Where it joined the deep layers of cartilage, the latter showed signs of irritation and softening.

"*Conclusions.* First. It is apparent that the intensity of the morbid process in this case of hip-joint disease affects mainly the synovial membrane and the ligamentum teres and its covering.

"Second. While there is a slight fatty degeneration of the cartilage cells at the surface of the cartilage, there is no such decided alteration of this kind as Cornil and Ranvier and some other authors believe to be the initial and essential lesion in so-called serofulous hip-joint disease.

"Third. While the femoral portion is the more diseased of the two cartilages entering into the formation of this joint, the condition of the cartilages is not sufficiently abnormal to support an assumption that the disease began in them.

"Fourth. The bony structure of the neck of the femur, although hyperæmic, is but slightly diseased, and is not tuberculous.

"Fifth. The few caseous foci found in the ligamentum teres are the only points in the joint which could be taken for tubercles, and they presented no characteristic of tubercle other than the caseous degeneration of the cells, — a distinction insufficient for the positive diagnosis of tubercle.

"Sixth. The lesions here found may be regarded as those constituting the *first or initial stage* of at least one form of hip-joint disease.

"Seventh. It is probable that the sequence of the phenomena making the history of the tuberculous processes originating in hip disease obey the same general laws which govern the development of tuberculosis in other portions of the economy.

"Eighth. The history of this case, both clinical and pathological, would seem to support the views of those who defend the doctrine that in a certain depraved animal organism inflammatory products tend to caseous degenerations which may ultimately cause a local or general infection of the various tissues of the animal and a limited or extensive irruption of tubercles.

"Ninth. The serofulous or degenerative inflammation of a hip-joint need not be more certainly or more quickly followed by tuberculosis, either local or general, than a serofulous lymph gland is followed by the same disorder."

Remarks. By De F. W. It will not be questioned that we have here a case of undoubted hip disease, and yet this boy was scarcely ever conscious of a positive pain. It is certainly remarkable how much disease may exist in this articulation without producing any considerable amount of suffering. I frequently have cases come to me already well advanced, and yet the inconvenience is so slight as to give no more than a limp. A truly strange case was given in the *New York Medical Record* November 22, 1879, by Poore,

in which the disease had even advanced to perforation of the acetabulum and intrapelvic abscess without producing any pain.

When there is "a feeling of discomfort" at the hip after use, accompanied by a slight limp, we should be very careful how we pronounce it "but a habit of the child," even though rigidity and pain be absent. Did time permit I could give a number of histories of cases in which I am confident that hip inflammation with its horrid results was actually aborted, but to do this the patient must be taken at a very early stage, and the surgeon must make his diagnosis from a few forerunning indications.

The microscopical examinations show that the disease had at no point advanced to the stage of ulceration, and also that fatty degeneration had barely commenced, still infection of the system had resulted; thus showing that while the inflammation could not be detected from the simple form, yet that there lurked behind this process a systemic condition, hereditary or acquired (call it by what name you will), predisposing to inflammations of a low grade, "languid."

I do not mean to assert that this inflammation was tuberculous in its character; on the contrary, it was apparently not so; but it is a well-known fact among pathologists that tuberculosis is the ultimate result of even a simple inflammation, caseous degeneration, glandular involvement, and then systemic poisoning being the successive stages of development.

The bad hygienic surroundings of this case may have been sufficient, without tracing out any parental history of serofulosis, to have determined the question of recovery from any slight traumatic inflammation, or have turned its course in a retrograde direction. This child died, unquestionably, of tubercular meningitis, but his hip-joint and femur did not show any decided evidences of tuberculosis, — had scarcely even undergone either fatty or caseous changes.

It is not uncommon to find cases both of hip and spine disease dying of tubercular meningitis, but such a result would not occur at an early stage of the disease were the previous condition of the child untainted.

I cannot describe my idea of serofulosis better than to say that it is an inherent property, either hereditary or acquired, which renders an individual subject to inflammations of low grade upon trivial, traumatic, or other causes, and that these inflammations all tend to destruction rather than to organization.

A person bearing such an influence receives a blow, and the result is an adenitis, a synovitis, or an osteitis, serious in results; in a healthy person a simple, transient hyperæmia would have followed.

These individuals are the ones who become so easily tuberculous. A joint inflammation starts quietly at first; as softening occurs the detritus is carried into the neighboring lymphatic glands. Whether caseous change has occurred or not, degeneration of serofulous products is always the rule, and from these niduses of poison the products swept on contaminate the general system, and tuberculosis is the result. Such is the explanation given by Cornil and Ranvier of the relationship between serofulosis and tuberculosis, and it seems to lie nearer the truth than does the idea of looking upon inflammations as necessarily tuberculous in their inception. It is a well-known fact that there exists in certain animals, as guinea pigs, a marked predisposition for all inflammations to run into a cheesy

degeneration, and that even a superficial point of inflammation is sufficient to induce tuberculosis.

In such a condition is the person who has lived under unfavorable sanitary surroundings, or has received a destructive legacy from his ancestry.

Tubercles in bones are preceded by osteitis; hence there is often a caseous change in the marrow, but not so often in the bone corpuscles. A cavity in a bone, even though lined by granulation tissue or filled with pus or cheesy material, should not be considered necessarily tuberculous unless the microscope develop tuberculous granulations in surrounding tissues.

I do not believe that we shall find tubercle in the bones in the early stages of the majority of joint inflammations, although Kortveg¹ contends that in all cases of chronic knee-joint synovitis the presence of tubercle in the condyles of the femur can be demonstrated and that the synovitis is only a secondary result by extension. Berry's idea is very similar.²

Professor H. H. Smith³ thinks that "the deficient action of the myeloid cells is closely connected with the development of leukaemia and pernicious anaemia, and that 'haemic cachexia' in many points closely corresponds with the condition known as *scrofulosis*, and that this condition or similar disordered nutrition of the myeloid tissue leads to and aids the development of *tuberculosis* and the retrograde action of tubercle in bones."

Cornil states that one characteristic of *scrofulosis* seems to be a misproportion between the volume of the blood and the weight of the body, and that this is most evident when the inflammatory process is set up, the tissues possessing but little resistive power.

The inherent virus is vitalized at least by the absorption of the products of inflammation existing in the foci of caseation and liquefaction, and the lymphatic glands once passed general infection must follow.

That hip-joint disease is exceedingly liable to be followed by general tuberculosis is a well-established fact. Professor Gross as long since as 1858, in the *North American Medical-Chirurgical Review*, wrote a carefully prepared article upon this subject, giving many illustrations, with numerous dissections of diseased joints, while in an article by Poore, in the *New York Medical Record*, May 1, 1880, it is shown that as many cases died of tuberculosis after prolonged suppuration from the hip as of amyloid degeneration; the same will hold true in regard to caries of the vertebrae.

Another point of interest in the case under consideration was that although no osteitis was present, yet reflex muscular spasm existed most markedly, in opposition to the statement of Shaffer, that this symptom "always indicates osteitis in chronic joint disease."⁴ When osteitis is present the irritation of the nerve filaments is usually sufficient to give pain, yet muscular spasm often long antedates this condition.

In conclusion, I would say that we are still greatly in need of positive facts, both clinical and pathological, in regard to joint diseases. Our only safe method is carefully to study each case with an unprejudiced mind, not endeavoring to distort appearances to suit our views, but permitting our minds to be influenced by the things actually seen.

This one microscopical examination is of course but

from a single case, yet it has value in showing extremely early if not indeed initial changes actually occurring in a diseased hip-joint. Its teachings are left for individual decision; its impression upon my mind has been already indicated.

MEDICAL EXPERT TESTIMONY.¹

BY F. W. DRAPER, M. D.

THE single aim of this paper is to give a faithful picture of the modern American type of medical expert testimony, and to enter a plea for its radical regeneration. This venture to revive a topic which for many years has had a periodical ebb and flow of interest will be justified if it initiates a full discussion out of which shall come practical results too long delayed. We are familiar with the manner in which Massachusetts, led by the zealous efforts of the medical profession, has taken first rank in promoting the best cultivation of public medicine, and in regulating those matters that pertain to the public health, the registration of vital statistics, and the investigation of violent deaths. One other department of state medicine, that relating to medical expert testimony, still remains, deserving earnest thought, and requiring judicious amendment by the law givers. The reforms successfully accomplished through medical interposition and coöperation in times past give encouragement that similar endeavors will not be vain here.

I am conscious of the fact that I can present in this brief paper scarcely anything possessing the quality of novelty or originality. An examination of the periodical literature, legal and medical, published during the last twenty years, gives evidence that the subject has not been neglected; there has been no lack of learned criticism or of sagacious suggestions. In introducing such a venerable topic in a new guise, I acknowledge a faith in the virtue of iteration; a hope that the profession may determine that the time is now fully ripe for action, for an earnest endeavor to correct long-standing abuses in the relation which medicine holds to the law. With this in mind, I shall try to keep strictly within the limits that I have set, avoiding any introduction of matters pertaining to the rights, obligations, and behavior of medical witnesses, and urging simply and concisely the reasons that seem most cogent for the practical improvement of their present sphere and function.

There are two important considerations which commend the office of the medical expert to the renewed attention of physicians, and which should stimulate their hearty effort for its amelioration. In the first place, the expert is in a peculiar sense the public exponent and representative of his profession. Standing in the open light of the court of law, his manner as a witness, his technical opinions, his mental breadth, his learning, become matters of study and criticism in a way and to a degree wholly different from anything possible while he pursues the more congenial course of purely clinical labor in the secluded chamber of the sick. Generally, it is true, his exhibition is confined to the mixed company of spectators who take pleasure in the unsavory atmosphere of the temple of justice;

¹ P. Med. Times, July 6, 1878, page 469.

² N. Y. Med. E. C., January 30, 1880, page 113.

³ Pathol. of Tubercle in Bones, Transac. Am. Med. Assoc., 1877.

⁴ Pott's Disease, G. P. Putnam's Sons. 1879, page 28.

¹ Read at the meeting of the Boston Society for Medical Improvement, October 25 1880.

but the not infrequent occurrence of a celebrated case, a suit for heavy damages, or a capital trial enlarges his audience and exposes him to public gaze and comment. Whether he wishes and deserves it or not, he is regarded as a representative physician, and as having been chosen as such to fulfill his present functions.

It is quite time, therefore, that the implied or imputed superiority of the medical expert should be a real and not an assumed virtue; and it rests largely with physicians to show that they feel the importance of this as affecting intimately the professional *esprit de corps*.

But there is another reason, more personal in its character, which should lead physicians to take an active interest in this matter. Medical men, with rare exceptions, are well acquainted with the demoralizing exhibitions possible under existing rules of evidence. I allude now not to the unhappy and generally unjust civil suits in which physicians and surgeons are compelled to defend themselves against charges of malpractice, nor to the occasions on which, as chemists, as alienists, or as surgeons, they serve as medical experts; but I refer to the still more numerous instances in which they appear as ordinary witnesses in civil and criminal causes, in consequence of their intimate professional relations with mankind in the common course of life. We all know the great readiness with which actions are brought to recover damages for alleged personal injuries, and that in these suits the attending surgeon is always an important witness. So, also, in criminal trials, where the Commonwealth prosecutes, physicians frequently find themselves summoned to testify concerning wounds, fatal or otherwise, the consequence of unlawful violence. No medical man is exempt from this chance; under circumstances which are not of his own choosing, he is obliged to practice forensic medicine whether he will or not; he cannot foretell the hour when he may be called to close the cut which the homicide's knife has made, or to resist the progress of the septicæmia which the abortionist has lighted. But the evil of which medical men have a right to complain is not that they must testify of what they actually know with regard to cases having a criminal element in them; as good citizens, they owe this duty in behalf of the common welfare. It is when the medical expert appears on the scene to interpret the facts of a scientific character thus presented that the medical witness often learns with dismay how poor an interpreter has been chosen, and how completely subservience rather than excellence has determined the choice.

For we know well what manner of man we may find in the typical American medical expert of modern times. He has been evolved out of the necessities of advocates and clients; he is the creature of his environment. Medical memory need not be severely taxed to recall conspicuous examples of that which is worst as the fruit of prevailing methods. But it is not with exceptional or distinguished exponents of a bad system that we have to do; the average specimen offers ample material for reflection on the conditions which have nurtured him. Let me mention two or three of the qualities which characterize the veteran medical expert.

In the first place, it goes without saying that he is partial; his partisanship is deliberate and inevitable. Without this controlling bias, he would be of little use in fulfilling the purposes for which he is employed. He is in court to help the counsel who has employed him;

his business there is to render assistance in securing a verdict. This is his mission,—his *raison d'être*. The novice may initiate his experience as a witness with some old-fashioned ideas as to the sphere and obligation of medical experts: touching the truth and impartiality of their testimony; but he soon survives that. The lawyers quickly enlighten him concerning his relations to the party for whom he testifies. Nor is his partisanship a wholly voluntary matter; it is unavoidable and comes as a matter of course. Sympathy, not less than selfish interest and professional pride, leads him to color his statements on the witness-stand according to the needs of his client; the points of evidence which are useful to his side are put prominently forward; other matters are faithfully omitted, misrepresented, or obscured. The nature of the evidence itself permits this: it is comparatively difficult to distort a matter of fact without detection; but it is easy to mould so elastic a material as one's opinion, however scientific it may be, in such a way as shall suit present exigencies. The physician most skilled in this adaptability is most in demand as a medical expert; he is well known for skill in partisanship, and if he has a reputation for adroitness in "making the worse appear the better reason," it does not operate to his disadvantage.

It naturally follows from the biased state of mind thus developed in the medical expert that he becomes dogmatic, positive, and opinionated. Consciously or unconsciously, he yields to the temptation to state his views with emphasis and full confidence. It is not with him a difficult task to adjust probabilities and possibilities. Where others, more cautious than himself, are ready to acknowledge the instability of many of the so-called demonstrated principles of medical science, he affects to feel the ground beneath his feet entirely solid. Controverted questions do not perplex him. Is it a question of the source of certain blood globules found upon a weapon, his micrometric measurements and microscopic observations thereupon are infallible. Is the defense "insanity," there is no peradventure in the expert's mind concerning the subject. Is there a theory of spinal irritation or of spinal concussion to be elaborated, the witness is inflexible in his opinions and decided in his expression of them. It does not occur to him that in thus misrepresenting current medical knowledge he is injuring his profession; he is not in court to uphold the dignity of medical science. He has, in fact, been employed mainly because of his reputed self-reliance and dogmatism. If he went, in his testimony, to the point only to which the fixed principles of medicine would justify him in going, his usefulness to the party for whom he appears would often be greatly curtailed, and his occupation as a professional expert would soon be gone.

Finally, in this brief review of the aspects under which the modern medical expert presents himself, I place that which, for want of a better term, I call his mercenary side. Under prevailing methods, the physician in court as an expert witness is a hired servant; he has not been the recipient of an honorable appointment on account of recognized extraordinary attainments fitting him to fulfill a dignified medico-legal function, for which he merits, of course, a just remuneration; he appears on the witness-stand by virtue of a voluntary pledge or contract to use his medical knowledge to impress a jury and to win a verdict. He is bound in honor to discharge this obligation toward his employer and to earn the money which that employer has agreed

to pay him. It is not surprising that, in view of this relation between employer and employed, medical expert testimony is not in high repute among lawyers; and that, while using it as one of their legal weapons, they entertain scant respect for it. Not long ago, a well-known member of the bar expressed the prevailing opinion thus: "Medical testimony to almost any effect can be purchased in the market as readily as one may purchase a horse, and, to extend the simile, with as little assurance of soundness." This disposition finds an illustration in the recent conduct of a medical man who, it is reported, on learning that one of his creditors was a defendant in an action for damages on account of alleged personal injuries, proposed to cancel his pecuniary obligations by services in court, and threatened, if this proposition were not accepted, to appear as an expert on the opposing side.

We are told, too, of physicians who deliberately go a step farther in the mercenary direction, and are "attracted to the cause they serve, like seamen in time of war, not so much by the assurance of wages as by the possibility of prize." An impecunious party brings a suit against a corporation or against a man known to have a generous bank account, the ground of the action being certain injuries of a physical nature, received in consequence of the defendant's neglect; he needs the help of a lawyer and a doctor to maintain his cause. The advocate is easily secured if the case has "anything in it;" and the doctor's services are retained with nearly equal facility. Both these prime ministers expect their fees from the damages awarded to their client; their compensation depends on the result of the trial. It is therefore for their interest to labor diligently, with energy, tact, and cunning, to obtain a verdict. Here there are exactly the conditions favorable to the development of the very worst kind of medical expert, — a medical advocate inspired by selfish interest and a hope of pecuniary gain. And if, as frequently occurs, the cause is appealed, or is tried a second time in the same court, the temptations to vigorous partisanship are cumulative. Instead of being present in the case to aid without prejudice in determining truth, he comes really as a party to the suit, voluntarily taking a hand in the game, and trusting to luck and the jury to save him from loss for his venture.

Now, without proceeding farther to detail the characteristics of the prevailing type of medical expert testimony, I want to emphasize the fact that it is the legitimate fruit of the conditions under which the modern practice of the law is pursued. The physician in the sick-room does not exhibit the disposition here depicted; but place him under the novel and subtle influences of the court-room and he becomes another creature. In this new relation, he inevitably finds himself subject, in greater or less degree, to peculiar temptations. For nearly all that is objectionable in the exhibitions made by medical experts I blame the methods under which such experts are employed and utilized; the system, and not its exponent, is at fault. A case, for example, occurs which offers an opportunity for the use of medical testimony. Dr. A. receives a politely insinuating note from the eminent counsel, intimating that his services as an expert will be very acceptable. Dr. A. does not inquire very carefully into the grounds which have determined the selection; he feels complimented, at all events, and he consents to be retained. The lawyer, as a matter of course, has canvassed the availability of the candidate beforehand, and

has decided to employ him because he will probably be a useful ally; his usefulness depending less on distinguished professional position or extraordinary knowledge than on his success in impressing favorably twelve ordinary men, on his pliability in forming scientific opinions, and on his perfectly imperturbable pertinacity in maintaining them, once formed. Now, the retained expert having fully committed himself to the service of his employer, his independence is laid aside. He is expected, in preparing for the trial, to develop all the elements in the case favorable to his own side only. The advocate consults with him, coaches him, nourishes in him a controlling partiality, does all in his power to stimulate a cordial interest in his client's cause. The witness thus approaches the trial, expert chiefly as a partisan medical advocate. Against the insidious influences which promote this surrender of mental equipoise few physicians could successfully defend their judgment. One might intend and resolve at the outset to maintain an unprejudiced frame of mind, to be ready to observe, deliberate in drawing conclusions, cautious in stating them. He might reinforce his purpose by recalling the counsel of the eminent jurist, Lord Hath-erly. "Every witness," he says, "should eschew altogether the notion of partisanship. He should be ready to give his opinion frankly and unreservedly, regardless how it may tell. He is there, not as an advocate, but in order to inform the court and jury to the best of his judgment." But, however fully such authority may commend itself to the medical witness, he must be a rare exception who invariably guides his demeanor by it in practice. Ordinarily, the exigencies of his service, his sympathy with his client's cause, his sense of obligation to fulfill an implied contract, all draw him away from a judicial independence of reasoning.

Then at the trial itself still more compulsory influences encompass him. He now finds himself in the arena, marshaled with others to defend the cause of his own side, to neutralize the strength of the opposing side. He is harassed by the technical limitations of the rules of evidence. Through the inability of lawyers to conduct an examination on medical subjects, he is made to state views which, under other circumstances, he would not think of maintaining. The leading questions with which the cross-examination bristles ensnare him into unexpected and embarrassing corners, out of which the easiest way lies through extraordinary expositions of medical science. Professional pride compels him to maintain stontly his position, a retreat from the ground being deemed worse than the blunder which took him there. First, last, and always he is to shape his course with the single aim of helping to win a verdict favorable to his side, and of earning thereby the dollars which are his reward for faithful service.

It is cause for regret that the English and American methods of employing medical experts have fallen away so greatly from the primitive practice. Under the Roman law, the physician in court as an expert witness held a relation of exceptional honor and responsibility; he was *amicus curiæ*, an independent, unprejudiced interpreter of medical facts.¹ He was summoned to instruct the court and jury in matters of which they had, presumably, a general and imperfect knowledge only. His duty was to aid in establishing the whole truth. In such a position, a physician occupied a most honorable office. He was chosen because of his acknowledged superiority; he truly represented his profession.

¹ Ordromaux, Jurisprudence of Medicine, page 125.

And in still more recent times, even down to the present period, the system in vogue in France and Germany is far in advance of our own in securing the end which the theory of medical expert testimony designs. Either under the German plan which provides for official experts, or under the French method which leaves the employment and choice of the expert at the discretion of the court, the medico-legal results are admirable and in striking contrast with the procedures with which we are familiar, and which permit a suitor to come into court with a company of medical Hessians enlisted to defeat his opponent.

Now, what can be done — and this is the one important question for consideration — to modify or, if need be, to revolutionize these unworthy methods? It is plain that the only way out of the difficulty is through legislation. Statutory law must prescribe the *modus operandi* and forbid practices contrary thereto, establishing legal provisions which shall be clear and just for the guidance of all concerned.

Without pausing to review the various propositions that have been made from time to time for compassing this end, I remark at the outset that, as may readily be inferred from what has been presented, the first thing to be desired is the complete removal of the medical witness from the influences and temptations of partiality; he must be lifted far above the plane of bias. This is the corner-stone on which the entire new structure must be built, if the evils of which we complain at present are to be avoided. Other provisions are mainly correlative and subordinate details growing out of this.

To secure this end, the best way, because it is the most practical and the most in accord with American notions of fairness, is that which would provide that the medical expert in any action at law, civil or criminal, should be the choice of the two parties contending. Grant this primary principle, and all other secondary questions and exigencies will find comparatively easy adjustment. The advantages of such an innovation, both theoretical and practical, are too plain to be mistaken. Theoretically, a statute covering such a plan would secure experts in fact as well as in name, since it would obviously be for the interest of all concerned that the *best* medical judgment should be obtained upon technical questions involved in the issue on trial. Instead of the present deplorable exhibitions, so amusing to lawyers, so discreditible to the medical profession, so subversive of justice, we should see a true representative of medical science, selected because he is recognized as such, appearing in court as the honorable interpreter of medical data, the instructor of the court and jury in matters of which they are presumed to be ignorant. We should see him the calm and dispassionate exponent of the most recent authoritative advances in science as well as of the settled principles which are the fruit of long experience. We should see him, with the same judicial impartiality which the presiding justice himself must display, passing judgment, without fear or favor, on matters which legitimately fall to his office as an expert. There would be little danger that this altogether honorable function would fall into unworthy hands under such a system; the man chosen would, from the necessities of the case, be well known as the possessor of extraordinary knowledge fitting him to comprehend and to elucidate the points presented in the testimony. The man of pronounced and peculiar views, the man of hobbies, would not be sought; his judgment is already discounted.

In practice, the expert thus selected, because of his eminent fitness, his experience, his judicial fairness, his independence, would make such investigations as the case demanded, would listen to all the testimony, and at the proper time would report his conclusions either as oral testimony or, preferably, in the form of a written statement. Here would occur an opportunity for professional distinction. The name of medical expert, instead of conveying with it a questionable flavor, would become a term of good repute, attracting rather than repelling the master minds in the profession; while the many-sided questions presented in legal suits and actions would offer occasions for medico-legal reports such as have made Germany and France confessedly the leaders in forensic medicine. It is to be expected that an innovation like this will meet with opposition and unfriendly criticism. Objections will arise in part from legal considerations touching the rights of citizens, and in part from a conservatism which sets itself against all changes, and especially against such as concern institutions that serve selfish ends.

For example, it will be urged that the selection of one or more medical witnesses to be clothed with something like judicial powers will be prejudicial to the traditional and constitutional right of the individual citizen to defend his person, property, or character by producing "all proofs that may be favorable to him." As a matter of fact, however, the proposed plan would much more fully protect the interests of honest suitors, and secure them against injurious and unjust results, than is possible under prevailing methods. At present, the issue, so far as the medical elements are concerned, often depends more on the number and eminence of the hired experts than on the intrinsic strength of the case; so that a poor man, no matter how just his cause, is at great disadvantage in the presence of an adversary able by his wealth to command any amount or kind of medical testimony. The medical expert under the plan proposed would have no inducement to present anything other or less than the whole truth, and this would have effect precisely where it ought.

Moreover, this testimony would be subject, of course, to such a review at the hands of counsel (analogous in its conduct to that of a cross-examination) that its value and the firmness of the witness's belief in it would be properly tested. The witness himself, meanwhile, would not have to fear the abusive treatment now so commonly offered in court and so justly dreaded by physicians.

But if either party to the suit or action felt disappointment in the result of the expert's investigations and in the effect of his conclusions, still other measures beside a rigid scrutiny of the testimony would be available. Either side, or both plaintiff and defendant, indeed, might be permitted to summon and pay experts of their own choice, just as at present, and might use them as supplemental witnesses either to confirm or to refute the position taken by the expert in chief. The latter, however, would always have great advantage over any partisan assistance thus secured, for his independent position would always place him in the eyes of the court and jury far above any partial testimony that might be offered; while, at the same time, the knowledge that his investigations and deductions would possibly undergo medical examination would compel him to avoid the expression of questionable opinions, and stimulate him to elaborate his conclusions with the greatest care and accuracy.

I have thus described that which I regard as the pivotal point of an effective plan for improving the relations of physicians to the administration of justice. Other matters in the same connection will arrange and adjust themselves in harmony with this main idea. The remuneration of experts, the method of selecting them when the two parties in interest fail to agree,—these and other kindred questions are chiefly points of detail not difficult to meet.

The views here presented have met with favor from a committee of the Massachusetts Medico-Legal Society appointed to consider the subject of medical expert testimony. That committee, of which the honorable Attorney-General of the State was chairman, has formulated its conclusions in the draught of a bill for legislative action. This bill, of which a copy is appended, seems admirably comprehensive and feasible in its provisions. Will the medical profession favor such a measure and aid in its enactment?

AN ACT IN RELATION TO MEDICAL EXPERT TESTIMONY.

Be it enacted, etc.

SECTION 1. In any action, suit, or proceeding, civil or criminal, in which the testimony of a medical expert witness is desired by the parties, they may at any time before the trial file in the clerk's office a written agreement that such witness shall be summoned, designating him by name if agreed upon. The clerk shall thereupon issue a subpoena to the person designated, to be served in the manner provided by law. As soon as may be after service thereof the witness shall make such examination of the case as may in his judgment be necessary and practicable, and he shall attend as commanded in the subpoena, and answer such questions as may be put in relation to the case.

SECTION 2. If no person is designated by the agreement of the parties, the court, or any judge thereof in chambers, or in vacation, in any county, upon the filing thereof, shall designate a proper person, learned in the science of medicine, to be summoned as such expert witness, and the clerk shall thereupon issue a subpoena as heretofore provided. If the parties do not agree that a medical expert witness shall be summoned in the case, the court or judge, upon motion of either party and upon hearing, may determine the question, and may designate the person to be summoned, if any, as heretofore provided.

SECTION 3. Such witness shall be paid for his attendance, travel, and services a reasonable compensation, to be allowed by the court and paid out of the treasury of the county. In all civil actions and proceedings the defeated party shall be liable to refund the amount so disbursed; and after final judgment an execution may issue against him therefor in favor of the county commissioners, or, in the county of Suffolk, the city of Boston.

SECTION 4. In any case the court, upon its own motion or for cause shown, may order more than one, and not exceeding three persons, to be summoned as medical expert witnesses; and such additional witnesses shall be designated and summoned, and shall perform the same services and receive the same compensation as heretofore provided.

SECTION 5. In any criminal proceeding the defendant may call and examine other medical expert witnesses in addition to those heretofore provided for, but at his own cost; and in such case other medical expert witnesses may be called and examined in behalf of the commonwealth.

SECTION 6. No medical expert witness shall be admitted to testify before any court or magistrate except as heretofore provided.

RECENT PROGRESS IN PHYSIOLOGY.

BY G. M. GARLAND, M. D.

SWEAT.

It was formerly supposed that the secretion of sweat was dependent upon the blood pressure in the glands, and that warm drinks, motion, etc., favored the process only as they determined more blood to the periphery. The discovery by Ludwig that an irritation of the chorda tympani would produce an active secretion of

saliva from the submaxillary gland, irrespective of the circulation in that part, led to an investigation of the relation of glandular activity in general to nerve influence. It was soon found that the bile, milk, and the watery constituents of the urine are probably simple transudations, which depend directly upon blood pressure, and are only indirectly influenced by the nerves which govern the blood supply of the part. On the other hand, it was observed that the lachrymal and salivary glands could be made to secrete profusely by the irritation of proper nerves, and that this secretion would take place after the blood supply was cut off, as in an amputated head. Ludwig produced by nerve irritation a salivary secretion with a tension double that in the aorta.

Recent investigations upon the sweat glands have revealed that they react in a similar manner to nerve influence. Brown-Séquard produced sweating of face by irritating the mucous membrane of the tongue, and cases are reported where sweating has been caused by pressure of a tumor on a sympathetic plexus. One patient with a tumor could produce general or one-sided sweating, according as he lay on his back or side. Adamkiewicz relates a number of experiments which he tried upon man and animals. Having cut the sciatic nerve of one side of a cat, he exposed her to a high temperature, and found that the corresponding foot was dry, though the other feet sweat freely. If the peripheral end of the cut nerve were irritated by electricity the foot sweat profusely, and this took place even after the leg was amputated. Similar results were obtained in the fore foot after section of the brachial nerves, thereby proving that sweat is not a transudation, but the product of the activity of glandular cells under the stimulus of nerve activity.

Having thus detected the presence of sweat fibres in the brachial and sciatic nerves, observers endeavored to trace these fibres back to the central system. By making sections of the cord at various heights, and by destroying portions of the same, it was found that the sweat fibres for the fore feet leave the cord at the level of the fourth dorsal vertebra. They immediately unite with the thoracic sympathetic system, and pass through the superior thoracic ganglion to join the median and ulnar nerves. Destruction of this ganglion causes degeneration of the sweat glands in the fore feet. The fibres for the hind feet leave the cord at the level of the lower dorsal and upper lumbar vertebrae, and joining the abdominal sympathetic they finally unite with the sciatic.

With regard to the fate of these fibres in the cord considerable difference of opinion exists. Luchsinger thinks that the sweat centres are all localized in the cord itself, near the points where the fibres make their exit. Adamkiewicz thinks that the cord contains some sweat centres, and that it is also the rendezvous for fibres descending from higher centres in the medulla and brain. Nawrocki contends that the medulla is the focus of all the fibres, and that the cord contains no centres of its own. He says he has tried to make animals sweat after section of the cord at the first dorsal vertebra, and has succeeded but once. Others have succeeded, however, in this experiment, and therefore it seems probable that sweat centres may exist in the cord as well as in the medulla.

Concerning the action of diaphoretic drugs, Nawrocki says the general testimony is that picrotoxine, sulphate of physostigmine, and nicotine produce sweat-

¹ Section 5 is inserted only to meet the possible objection of the unconstitutionality of the bill in its application to criminal cases.

ing by stimulation of the sweat centres. If one sciatic nerve be cut in a cat, and the animal then receive an injection of any one of the above drugs, the affected foot will remain dry, while the others are made moist. If pilocarpine or muscarin be injected after section of the cord at the first dorsal vertebra, and after cutting the sciatic, all four feet will sweat equally. This shows that the last two drugs must act directly upon the cells of the sweat glands.

HYPNOTISM.

The halo of mysticism which charlatans have thrown about the subject of mesmerism has tended to restrain scientific men from the investigation of this interesting but dubious subject. A few men have been brave enough to challenge this "new force."—animal magnetism.—and to apply intelligent methods of investigation to the mesmeric phenomena. Braid, who was a physician in Manchester, England, studied the subject for many years, and published his results in 1843. He boldly renounced the special force hypothesis, and said that hypnotism was due to a disturbance of the cerebral circulation. He found that he could induce this condition by causing people to gaze fixedly at any bright object, when they would become hypnotized irrespective of any influence exercised by any person near them. Another theory has been advanced, that a person hypnotized is under the influence of a "dominant idea." Kircher, in the last century, would make a fowl lie motionless, as if asleep, with its beak resting upon a chalk line. He explained this by supposing that the fowl mistook the chalk line for a string, and lay quiet, thinking itself tied. This is attributing rather a vivid imagination to a hen, and it has since been shown that the chalk line is not essential to the experiment. Czernak and Preyer have produced hypnosis, or catalepsy as Preyer terms it, in other creatures, such as frogs, cray-fish, etc. While in this condition they will remain motionless in the most constrained positions, as if bereft of will and consciousness.

Recently, Professor Heidenhain, of Breslau, has experimented upon a number of his friends, and has developed some very interesting facts, together with a promising theory of interpretation. He found that he could induce hypnotism in certain persons by causing them to look steadily at some bright object, or to listen attentively to a monotonous sound, like the ticking of a watch or a droning lullaby. Gentle and rhythmical stimulation of the skin acts in the same way. It has been claimed that only certain persons possess the power of magnetizing, and it is true that some persons succeed better than others with subjects who are slightly excitable. Heidenhain says this elective behavior is due to certain physical conditions, which must be taken into account by those who endeavor to *magnetize*. Thus the warmth and moisture of the hands, the manner in which they are moved, the modulations of the voice, etc., all contribute to the desired effect. He says it is difficult to hypnotize a man who is blindfolded, but he has hypnotized persons who were previously kept in entire ignorance of the purpose of the experimenter. Thus he shows that hypnotism is induced, irrespective of any person operating, by weak, long-continued, uniform stimulation of the nerves of the eye and ear, and it is removed by strong or suddenly varying stimulation of the same nerves. The power of the operator does not depend upon his secret mag-

netic force, but upon his ability to produce and maintain such rhythmical stimulation.

Several distinct phenomena are exhibited by hypnotized persons. In the first place, mimicry is very conspicuous. The hypnotized person mimics familiar motions which he sees and hears. He clenches his fist, walks about, rides astride a chair, eats a potato for an apple, and does many other things in an automatic, imitative manner, without consciousness or subsequent recollection. Heidenhain explains this condition by the theory that communication is interrupted between the cortex of the brain and the large ganglia at its base. The impressions made upon the eye and ear being conveyed to the basal ganglia are there converted directly into motion without entering the realm of consciousness. This may be explained in another manner by using the term "liminal intensity of stimulation." For every sensation there exists a certain minimal strength of stimulation which must not be diminished, or no sensation results. If the amount of light which falls upon the eye or the intensity of sound which enters the ear be too slight, then no sensation of light or sound results. The smallest amount of stimulation which just produces sensation is called, after Fechner, the liminal value of stimulation. Now, according to Heidenhain, the hypnotized person is distinguished from the normal in that the liminal value of stimulation is exceedingly high. Sensory impressions which under normal conditions cause vivid sensations are unable to awaken his consciousness; at best they arouse previously well-trained reflex centres into activity.

Another phenomenon is that of analgesia. A pin may be run into the arm of a hypnotized person without causing pain. It is well known that the sensations of touch and pain travel by different paths. At a certain stage of chloroform narcosis a patient may feel the contact of a knife, but be unconscious of the painful cutting. Hypnotized persons are similarly affected, and may be operated upon with impunity.

Great reflex irritability of all the striated muscles is another peculiar condition, and this increase of irritability will persist for hours and even days after the experiment. By gently stroking the muscles of the arm of a hypnotized person, Heidenhain could produce rigidity of the part. Sometimes the muscular spasm, started in one part, will travel from one group of muscles to another until it has visited the entire body. The muscles thus excited remain contracted for some time, keeping the part rigid, and thus resembling the disease called catalepsy. A person of powerful muscles will become so rigid that it will be almost impossible to move any part of him. Too frequent experimenting upon the same subject is not advisable, owing to the slow return to the normal condition.

With regard to the condition of the brain itself, Heidenhain offers but a few suggestions. Consciousness is evidently diminished, and hence he thinks the cerebral cortex is functionally affected. The activity of the corpora quadrigemina is not diminished, because the pupils react perfectly, and equilibrium is maintained. The hypnotism is not apparently due to cerebral anaemia, because the retinal vessels were normal, and a person could be hypnotized while his face was still flushed from the inhalation of nitrite of amyl. He thinks hypnotism is an inhibitory phenomenon, to be ranked with other familiar examples. Irritation of the larynx affects the ganglion cells of respiration, and

inhibits their activity. Irritation of the vagus inhibits the heart ganglia. In a similar manner an inhibition of the activity of the ganglion cells of the cortex of the brain may be the cause of hypnotism.

THE PYLORIC SECRETION.

In studying the value of the gastric secretions in digestion it was found convenient to prepare a glycerine extract of the stomach, which could be kept for a length of time, and used at pleasure. This extract is made by carefully scraping the washed mucous membrane from the stomach wall, mincing it up fine, and immersing it in glycerine. The membrane thus treated imparts its pepsine virtues to the glycerine, which may then be used in digestion experiments, fresh glycerine being added occasionally, until the membrane is exhausted. Alcoholic extracts do not work satisfactorily. While employing this method Ebstein and Grützner conceived the idea of extracting the mucous membrane of the pylorus separate from that of the fundus, in order to test the value of the former alone. They declared as the result of this experiment that the secretion of the pylorus from a dog will digest albumen readily. Von Wittich repeated the same experiment upon rabbits and pigs, and he denies emphatically that the secretion of the part in question possesses any peptonic power. He placed flakes of fibrine on two filters. To one he added a portion of pyloric extract; to the other a like portion of fundus extract. As the fibrine became dissolved by digestion it passed through the paper, and could be recovered from the filtrate. The fibrine with the fundus extract was quickly dissolved and filtered, while that with the pyloric extract was very little or not at all affected.

Klemensiewicz first conceived the bold idea of isolating the pylorus after Thy's method with the intestine. He completely severed the pylorus from the neighboring parts, leaving only its vascular and nervous supply intact, and connected the remnant of the stomach above with the duodenum below, in order to preserve the continuity of the alimentary tube. Then he made an artificial pocket of the pylorus, which opened outward through the abdominal wall. The operation was only partially successful, as no dog lived longer than seventy-two hours thereafter, and most of them died earlier than that. During the time they lived he obtained from his pocket an *alkaline* secretion of shiny, sticky consistence, sometimes stained with pus and blood. This secretion, mixed with a one-tenth per cent. solution of hydrochloric acid, digested fibrine as readily as the secretion of the fundus. This seemed proof that the pyloric glands do secrete pepsine, but Heidenhain thought that seventy-two hours was a rather short isolation of the part, and that the results obtained might be due to fundus secretion still clinging to the pylorus. Accordingly, he performed the same operation by Lister's method with antiseptic precautions, and was thus able to keep his dogs alive from two to four weeks. They were liable to die of starvation from cicatricial stricture of the stomach. His digestion results were entirely confirmatory of Klemensiewicz's statements, for he obtained a clear alkaline secretion, which digested fibrine readily when mixed with a one-tenth per cent. solution of hydrochloric acid. It is an interesting fact that the secretion of the pylorus, like that of the intestine, is *alkaline*. Heidenhain isolated a portion of the fundus by a similar operation, and found the secretion acid without excep-

tion. It has occurred to me that some forms of dyspepsia may be due to an excessive secretion of this alkaline fluid of the pylorus.

Heidenhain noticed one peculiarity about the amount of pepsine contained in the fundus secretion. Immediately after eating the pepsine diminishes in amount, and continues to do so for two hours. Then it increases until the fifth hour, when it is more abundant than before eating. From this time it declines slowly to the fasting level. This initial diminution is very striking, and Heidenhain is unable to explain it. It has nothing to do with the whole amount of secretion, because sometimes an abundant flow will contain a larger proportion of pepsine than a previously scanty flow. If the animal be fed again after two hours, that is, during the interval of increase, the pepsine will immediately be diminished again.

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Hospital Practice and Clinical Memoranda.

MASSACHUSETTS GENERAL HOSPITAL.

ANTISEPTIC SURGERY.

REPORTED BY WILLIAM D. HODGES, HOUSE PHYSICIAN.

The operations described in the following notes were performed under the carbolic spray, and the wounds dressed with carbolic gauze; protective and drainage tubes, catgut ligatures and sutures, were employed, as usual in a Lister dressing. The cases occurred between March and June 30, 1880, and comprise all the breast excisions performed in the east wing of the hospital during that period.

CANCER OF THE BREAST.

CASE I. Age, sixty-five years. Disease of two years' duration, involving both breasts and the glands of the axilla. Both breasts removed. Dressings not changed until the sixteenth day, when complete union by first intention had taken place. Temperature varied between 98° and 100° F. throughout.

CASE II. Age, fifty-three years. Tumor of nine months' duration, and the size of an egg. The glands of the axilla were involved. Five dressings. Union by first intention. Discharged on the fifteenth day. Temperature highest on the day after operation, 100.5°. It subsequently varied between 98.5° and 99.5°.

CASE III. Age, forty years. Tumor of two years' duration, involving the whole breast, with enlarged glands in the axilla. Five dressings applied. Drainage tube removed on the twelfth day. Union by first intention, except where the drainage tube entered the wound. Discharged on the twenty-seventh day. Temperature never varied from normal limits.

CASE IV. Age, sixty-eight years. Tumor of one year's duration. The size of a hen's egg. The glands of the axilla were also involved. Three dressings applied. On the tenth day a slight gaping of the wound. Boeric acid and vaseline (one drachm to one ounce) substituted for the dressing. Discharged, well, on the thirty-eighth day. Temperature on the afternoon of the operation, 103° ; three days later it was normal, and remained so, with slight variations.

CASE V. Age, forty-seven years. Tumor of eight months' duration. Axillary glands enlarged. Counter-opening made in the axilla, through which the drainage tube was passed. Five dressings applied. Drainage tube removed on the eighth day. Dressings omitted on the eleventh day. Complete union by first intention. Discharged on the fourteenth day. Temperature throughout varied between 98.5° and 100° .

CASE VI. Age, fifty-five years. Tumor involved the whole breast: had been growing ten months, and was adherent to the skin. Five dressings applied. Omitted on the fourteenth day. Wound healed by first intention, except where the drainage tube was inserted. Temperature highest on the fifth day, 101° ; during the rest of the time it varied between 98° and 99.5° .

CASE VII. Age, forty-seven years. A nodular growth, of two and a half years' duration, the size of an egg, and adherent to the skin. Dressings applied five times. On twentieth day the small granulating surface remaining was dressed with boracic acid and vaseline. Discharged, well, on the thirty-fourth day. Temperature on the morning following the operation 101.5° ; after that time, it varied between 98.5° and 99.5° .

CASE VIII. Age, forty-four years. Tumor of eight months' growth, hard, movable, and about the size of a lemon. Five dressings applied. Patient discharged on the twenty-third day. Union by first intention. Temperature ranged from 98° to 100.5° .

CASE IX. Age, forty-nine years. Tumor size of a walnut; had been growing four months. Three dressings applied. Omitted on the thirteenth day. Wound united by first intention, except where the drainage tube was inserted. Temperature highest on the sixth day, 101.8° ; during the rest of the time it varied between 98.8° and 100.5° .

CASE X. Age, twenty-seven years. Sarcoma of breast. Tumor of three months' duration, about the size of a hen's egg, and adherent to the skin. Four dressings applied. Omitted on the fifteenth day. Union by first intention. Temperature throughout varied between 98° and 99.5° .

CASE XI. Age, sixty years. Tumor of three years' duration, and about the size of a lemon. The glands of the axilla involved. Five dressings. Omitted on the tenth day. Slight gaping of the wound. Temperature highest the day after the operation, 102° . During the remainder of the time it varied between 98° and 100.2° .

STRANGULATED FEMORAL HERNIA.

Female, seventy-five years old. Hernia of three years' duration. Three days previous to entrance, had all the symptoms of strangulation with great pain and incessant vomiting. Traxis failing, the sac was opened, and the intestine found very black, but easily reduced after division of the stricture. First dressing was not removed until the ninth day after the operation, and the wound found to be wholly united by first intention.

Discharged on the twentieth day. Temperature on the day of operation was 100.2° , and remained so four days. During the rest of the time it varied within normal limits.

COMPOUND COMMINUTED FRACTURE OF THE RADIUS AND ULNA.

Age, twelve years. Railroad injury. Fore-arm amputated at upper third by a circular flap. Nine dressings applied. Discharged on the twenty-ninth day. Temperature highest the day of the operation, 102° . During the rest of the time it kept within normal limits.

COMPOUND COMMINUTED FRACTURE OF THE HUMERUS.

Age, forty-four years. Patient was injured ten weeks previous to entrance. Extensive abscesses had formed in the axilla, about the upper part of the humerus, and near the elbow. Five large openings were made, and drainage tubes inserted, and the cavities thoroughly carbolicized. Fourteen dressings applied. Discharged well, and with good union, on the sixty-third day. Temperature at the time of entrance, 101.5° ; during the rest of the time normal.

COMPOUND COMMINUTED FRACTURE OF THE TIBIA AND FIBULA.

Age, twenty-one years. Amputation at upper third of leg. Short anterior and long posterior flaps. Twelve dressings applied. Slight gaping of the wound. Discharged, well, on the forty-ninth day. Temperature 103.5° on the fourth day after operation. During the rest of the time it ranged between 99° and 100.5° .

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. BOICH, M. D., SECRETARY.

OCTOBER 25, 1880. DR. JAMES C. WHITE, permanent chairman, presided.

MEDICAL EXPERT TESTIMONY.

DR. F. W. DRAPER read a paper upon this subject, which appears in the first part of the present number of the JOURNAL.

DR. HODGES remarked that Dr. Draper had portrayed in vivid language an abuse which had long been talked about and a bill to remedy which had already been brought before the legislature, but without any good result, as the legal gentlemen on the committee had not cordially accepted the proposed change.

He also said that the method suggested by the Medico-Legal Society was a good one, but that if the lawyers opposed it, it would be almost impossible to have it adopted, and that he hoped, therefore, that eminent lawyers were engaged in furthering it.

In regard to the abuse which has arisen from medical experts being partisan and serving merely the side which employs them, it may be correcting itself, for this class of testimony is so well recognized that the disposition to place them on the witness stand is decreasing; on the other hand, the best experts and the best lawyers do not usually care which side summons the expert. It is a question whether a medical expert can be suborned, unless it can be shown that he

knows certain facts in regard to the case, in which case he acts merely as an ordinary witness.

DR. ELLIS remarked that if this is the fact the abuse might be remedied by every respectable physician refusing to go into court until the abuse was reformed.

DR. WOOD spoke of the necessity of having more than one expert connected with the case, in order that all the material should not pass through one man's hands, thus avoiding the chance of the defendant's life hanging on the decision of one individual.

DR. HODGES spoke of the excellence of Dr. Jeffries Wyman's testimony in the Webster case, and asked why, in the proposed bill, the court does not appoint the expert.

DR. DRAPER replied that the French method was open to abuse, and that the method spoken of in the bill was less often liable to prove unsatisfactory than others which had already been tried.

DR. HODGES asked if it would not be well for one or more experts to be appointed by the court to examine the case in all its details and make a report on it, without being examined further in regard to it.

DR. DRAPER could not see how cross-examination in court could harm a report, as, if it was a good report, it would be strengthened by the cross-examination.

DR. GREENOUGH said that in most suits for malpractice the lawyers did not want experts, but partisans, and that therefore it is a question whether we can at present accomplish any reform.

DR. DRAPER did not think that this was the case with the lawyers, many of whom had expressed themselves as heartily sick of the present state of expert testimony.

DR. LYMAN said that all great measures of reform were apt to fail several times before they were carried out, and that he heartily indorsed Dr. Draper's paper.

DR. H. W. WILLIAMS said that this was a very fortunate opportunity for the profession to cooperate with a society which had already distinguished itself, and whose action had been approved by the attorney-general; he also suggested that the court as well as the counsel should superintend the choice of the experts. Dr. Williams then offered the following motion, which was voted on and carried:—

Resolved, That a committee of four be appointed by the chair, who, together with the chairman of this meeting, shall act in cooperation with other societies in endeavoring to obtain suitable legislation in regard to medical expert testimony.

DR. DENNY said that the views advocated at the International Congress of Legal Medicine, held in Paris in 1878, on the subject of medical expert testimony disclosed the same imperfections in the system in vogue in Europe. The expert there, it was stated, was sometimes a disreputable representative of the profession. We are not singular, therefore, in this respect. The qualifications of an expert on the Continent, it would appear, depend on his status as a member of a medical body recognized by the state, and in order to render this more definite it was advocated at the congress that there should be instituted in connection with this mixed body a society of medicine, a special institute of legal medicine, comprised of members qualified in the various departments of surgery, chemistry, toxicology, psychiatry, etc.

In the way of suggestion for the consideration of the committee, it might be said that the Massachusetts

Medical Society, with the various subdivisions among its members, possesses the elements of organization out of which some plan, as above, might be evolved, which should serve to determine more definitely the status of a medical expert.

In regard to counter-expert testimony, it should be remembered that the expert testifies both to facts which are indisputable and opinions which may be questioned, based on such facts, which opinions are for the instruction of the court on technical points, and that, as society is now organized, it is almost certain that in any important or capital case both judge and lawyers will demand that such information shall come from more than one source.

The medical expert's testimony is received for its apparent value, like all other testimony. The question of suppressing counter-expert testimony was discussed at the congress. In Austria and Hungary the government appoints physicians who are employed solely as experts, and in case a counter-expert is demanded, either by the government or civil party, it was proposed that he should be chosen out of societies recognized by the state only. If the court found serious differences among the different experts, in final resort, it was suggested that the question should be adjudged by the Society of Legal Medicine, composed of representatives from all the various sections of medicine, in special convocation, summoned, presumably, by the state. In Hungary the laws require a counter-expert. The whole question was referred to a committee, as has wisely been done here, whose report was to be forwarded to the minister of justice. I am heartily in favor of cooperation with gentlemen of the legal profession in the discussion of this difficult question.

DR. BOLLES: It is perhaps to be regretted that Dr. Draper, in his interesting and very timely paper, does not carry his proposed change a step or two farther, and place the selections of experts more fully, even, in the hands of the court, to which alone they should be responsible. Both he and the society of medical examiners which he represents can count upon the support of this society in urging reforms sufficiently radical to do the work. It is a better plan in the beginning of such a movement to ask for what would be completely logical and effective than for what may fail, and bears, at any rate, evidence of being a compromise with the present bad condition. If, then, in the legislature, this best plan is rejected, and a compromise is passed in its place, we shall not be responsible for the failure to do all that is desired.

Another very important matter is the selection of experts. Not all physicians are suitable to fill such places. Some from lack of sufficient education, others from the more serious lack of the necessary qualities of temper or judgment, or mental equipoise, can never appear upon the stand to the credit of themselves or the profession. There would be advantages in having some suitable medico-legal examining board, that at stated times should examine and issue certificates to applicants as medical experts, either general or particular. These would then form a corps from which the court could select the most suitable in each case, or require the parties, if the reader's plan were carried, to do the same. If an important or disputed point arose, a second or even a third might be called to the assistance of the first. The attending physician, however, should, as he is obliged to testify, be eligible for the position of expert in his particular case.

The counsel of either side should still, as now, be perfectly free to employ partisan medical assistance in the management of the case or the examination of the expert, but should not be allowed to put such assistants on the witness-stand, any more than they would themselves expect to be allowed to go there and testify in behalf of their clients as experts.

Dr. Bolles feared that without some entire change, such as this, the honesty and independence of expert testimony could not be assured.

Dr. Nichols thought that it was an error to suppose that an ignorant physician's testimony is taken for more worth than that of a scientific one. It is well known among lawyers which physicians are partisan and which are not, and that the partisan's fee is one tenth to one twentieth less than where the testimony is unbiased. He supported the bill not so much for the good of the public as for the good name of the physicians.

Dr. Francis called attention to a point not referred to in the paper under discussion, — that the medical expert is called upon for two distinct purposes: first, to serve the cause of justice by giving the court the benefit of his special knowledge; second, to assist the advocate in presenting his side of the case in the most favorable light. Perhaps it is as dignified for medical men to give this sort of assistance for pay as for lawyers to give their clients the benefit of legal quibbles and loop-holes. At any rate, lawyers require medical help of this sort, and call upon the man likely to give it to serve as medical expert. Unless provision is somehow made for medical help in the conduct of cases, the bill will surely be defeated by the lawyers.

Dr. White remarked that, according to his experience, bills in favor of this reform had always failed from the opposition of the lawyers, and that he considered that the appointment of the experts should be in the hands of the judiciary.

Dr. Bradford presented for inspection a case of knock-knee, operated on by him with most excellent result, the feet now coming close together.

The patient, a child of eleven years, was unable to get her feet nearer together than thirteen inches. Osteotomy was performed, the chisel being driven three quarters of an inch through the bone on the outer side, the remaining bone then being fractured, the leg straightened, and the gap being allowed to fill up with granulations under an antiseptic dressing.

Dr. John Homans briefly mentioned a case of ovariectomy which occurred two days before the meeting, and Dr. A. T. Cabot showed the cyst. Dr. Homans said that the patient was a married woman, forty-five years old. She had noticed the tumor first in April, 1880, and soon afterwards was attacked with violent abdominal pains, for the relief of which she laid on her stomach. Suddenly the tumor burst, and she was completely relieved, and thought herself cured. Soon, however, the cyst began to refill, and was removed on October 23d. There were no adhesions, but the pedicle was extremely short. It was secured by ligature and cauterization, and dropped back.

Dr. Cabot showed spots of commencing fatty degeneration in the interior of the cyst, and masses of warty or villous growth. The patient is rapidly recovering.

Dr. Homans mentioned that he had had fifteen successive recoveries after ovariectomy during the past summer, and twenty-two cases during the past eleven months, with but two fatal results.

Recent Literature.

Diseases of the Throat and Nose, including the Pharynx, Larynx, Trachea, Esophagus, Nasal Cavities, and Neck. By MORELL MACKENZIE, M. D., etc. Vol. I. Diseases of the Pharynx, Larynx, and Trachea. Philadelphia: Presley Blakiston. 1880. Pp. 570 octavo. New York: Wm. Wood & Co. (Wood's Library). 1880. Pp. 440, octavo.

An excellent book, as was expected from the long special experience and known literary skill of the author. The subjects of the present volume are thoroughly and at the same time concisely treated, and we think Dr. Mackenzie has succeeded admirably in crystallizing his experience into text-book limits. He has been able to treat the field uniformly, though, of course, he has a special interest and an enormous amount of material in certain parts of it. Illustrative cases are introduced sparingly, and only when needed. References to authorities are numerous.

Now that diseases of the throat have been cultivated as a specialty for many years, it is interesting to turn the leaves of this book to see what change may be found in the prognosis and treatment of affections formerly, and by older practitioners to-day, considered incurable. We find that the author considers simple chronic pharyngitis almost always curable, if the patient avoids the causes of the disease and submits to proper treatment. He must live in a dry, bracing atmosphere; his digestion must be attended to, and astringents used locally. In regard to granular pharyngitis, the author says that most cases of follicular disease of the pharynx get well under appropriate treatment, that is, as far as the troublesome sensations are concerned; but with respect to the vocal function the prognosis is not always so favorable, especially as regards public speakers, singers, etc., if the disease has existed many years. The vocal organ is extremely likely to remain permanently weakened, at least to such an extent as to interfere with its constant professional use. The exudative variety of the disease is much more difficult to eradicate than the hypertrophic form. In the treatment of granular pharyngitis Dr. Mackenzie destroys the enlarged follicles with London paste. In the exudative form of follicular pharyngitis the pharynx is scraped with the "pharyngeal curette," and a pointed stick of nitrate of silver is applied to each spot which discharges an abnormal secretion.

We confess that we are astonished to find (undoubtedly for the sake of simplicity) peritonsillar inflammation, parenchymatous and follicular tonsillitis, dispatched together under the head of Tonsillitis. It seems to us that these three affections differ so widely in pathology, clinical history, and treatment as to make a separate consideration of them necessary. For the removal of neoplasms of the larynx *per vias naturales* Dr. Mackenzie still prefers stout steel forceps.

No mention is made of the method, so popular in this country, of making applications to the pharynx and larynx with the long anizing tubes and compressed air, instead of with the brush.

In the chapter on malignant tumors of the larynx the author says, in regard to extirpation of that organ that recourse may be had to this operation in cases which seem suitable, but that it should only be undertaken at the immediate request of the patient, after the subject has been fully explained to him in all its bearings.

In the chapter on Perichondritis of the Larynx the opinion of the author may be found in regard to another operation, which has been recently practiced a good deal in Vienna, namely, dilatation of stricture of the larynx. Dr. Mackenzie says, "In cases of syphilis and cut throat, or in any condition where the inflammatory process is arrested, dilatation of the contracted laryngeal passage may be subsequently effected, and there are various mechanical measures which may be resorted to. Since the year 1862 I have used an instrument for this purpose (see page 265), but must confess that the results have been disappointing. The thickening of the cartilages and in some cases the collapse of the cartilaginous frame-work from the falling inward of its walls, the density of the cicatrized tissues in syphilis, and the constant tendency which these fibrous structures show to recontract render treatment very tedious, and a relapse generally follows as soon as mechanical treatment is discontinued."

What to do First in Accidents or Poisoning. By CHARLES W. DOLLES, M. D. Philadelphia: Pressley Blakiston, 1880. Pp. 64, vi.

This is a little book, designed for the non-medical public, of "simple and practical directions" how to act in emergencies. It is intended rather for previous study than for reference at the time of the accident. It is not meant by any means to make its students independent of the surgeon, but rather to instruct them what to do and what not to do before he comes.

To condense the necessary information into fifty-five pages, which are all the instructive portion of the book, needed great skill, and it has been accomplished at the expense of some faults and omissions, of more or less importance.

The author dwells upon the necessity of taking a drowning person out of the water and of cutting down a person hanging by the neck as preliminaries to attempts at resuscitation,—a praiseworthy minuteness which would not allow the wayfaring man, though devoid of ordinary intelligence, to err, and with which we are far from finding fault. Surely consistency would oblige the conscientious writer to give further cautions in regard to foreign bodies in the ear and nose than are implied only in the advice to make "reasonable efforts to remove them with a hair-pin." It is true we are told that these efforts should not be too prolonged, but the intelligent person who needs to be told to cut the rope by which his fellow-man is suspended needs also to be told of the dangers of improper interference with beans and peas in the ear, rather than of the great danger of their imbibing moisture and swelling unless immediately removed.

Any one following literally the otherwise admirable directions for artificial respiration might be confused when, after making a "good strong pull" for a "few seconds," he finds that the whole manoeuvre of placing himself on his knees behind the head, seizing the arms and sweeping them round horizontally, with his few seconds' pull, should last altogether only three seconds.

A hint as to tight lacing and tight garments generally might not be out of place when treating of fainting.

In speaking of opium poisoning, a list of preparations of opium is given which should include morphia (it is mentioned nowhere else in the book); for surely morphia is as little likely to be sought for under opium by the public, to whom the book is addressed, as laudanum, black-drop, or soothing syrup. When, with a

little snap, the clergyman's "lower jaw-bone slipped out of joint," it may have left a gap in the clerical countenance, but our author is hardly justified in saying that a "tremendous gap" caused the dislocation.

Six pages are occupied by an admirable index, which of course adds greatly to the value of the book. On the whole, the book is fairly well adapted to the good end for which it was written.

Fracture of the Patella. By FRANK H. HAMILTON, A. M., M. D., LL. D., Visiting Surgeon to Bellevue Hospital, etc. New York: Charles Berningham & Co. 1880. Pp. 106.

Dr. Hamilton bases his conclusions upon the careful study and analysis of one hundred and twenty-seven cases of fracture, many of which were treated by him or under his supervision. The treatment has not been confined to any special method, though his own apparatus was employed in a number of the cases. A large majority of the results were good, and the profession are indebted to the author for his exemplification of the practical points demanding attention in the treatment of this troublesome lesion.

He believes that muscular action was the determining cause of the break in all but twenty of the cases, and states, "That the bone breaks most often in the lower third may perhaps be explained by some mechanical law, but I am not prepared to explain it." One anatomical fact will, we think, clear up this point in the etiology of fractures of the patella.

There is a *transverse* ridge of bone extending across the posterior surface of the patella at right angles to the *vertical* ridge commonly described. This *transverse* ridge is hardly noticed by authors of anatomical works, prominence being given to the *vertical* ridge, which in many patellæ forms even less of an elevation on the surface of the bone. The two ridges cross at a point below the middle of the patella. Below and near the transverse ridge is the *insertion of the tendon of the patella* into the lower third of the bone. This fact, we believe, will account for the observation which Dr. Hamilton has made by fixing the spot where the greatest counter-extension is exerted, during an effort which requires a violent and sudden tension of the extensor muscles of the thigh.

By an ingenious experiment made under the direction of Dr. Hamilton, it is conclusively proved that the distance between the fragments is determined by the laceration which the aponeuroses of the muscles inserted into the patella have sustained.

He no longer advocates the use of his wooden inclined plane, for the reason that "it is unnecessarily cumbersome," and concludes that by any plan of treatment, in a large majority of cases, a fibrous union of the fragments is all that can be expected.

Malgaigne's hooks are stamped with disapproval, unless limited to cases of refracture, separation of the fibrous union, or where the distance between the fragments exceeds an inch and a half.

The treatment advocated by Dr. Hector Cameron, of Glasgow, which necessitates opening the joint and wiring the fragments together, is condemned, as "offering a very grave and dangerous substitute for other perfectly safe and, so far as yet proven, equally efficient methods; it is hazardous the life of the patient without offering any equivalent." Dr. Hamilton's book will make a valuable addition to the library of the practical surgeon.

H. H. A. B.

Medical and Surgical Journal.

THURSDAY, NOVEMBER 4, 1880.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly by Houghton, Mifflin and Company, Boston. Price, 15 cents a number: \$5.00 a year, including postage.

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MILK AND WATER FOR BABES.

ANYTHING, we take it, may be considered as a proper standard to which to affix the adjective good, until experience has brought one into contact with something better. This trite reflection is suggested by the fact that an absence in the country during the summer has of late been terminated in the case of many of our town-dwelling people everywhere, and habit has not yet reconciled them or their children to the mixture of milk and water, colored with burnt sugar and ballasted with salt, for which they are called upon to pay six, seven, or even eight cents per quart. The householder again finds this inveterate old creature of the meadow, the middle-man, firmly fastened on his shoulders, either sucking his blood, or making sure that he has very little to suck. He casts furtive looks about him, and shakes himself vainly in hopes of being rid of his tormentor, but the most he arrives at is to exchange one vampire for another.

Honest farmers send honest milk to market, and it is tampered with by the distributor. Proprietors of country places have milk sent to them from their own cows in the country, and it is operated on *in transitu* in spite of locked cans. Very few people, however, can have their own cows in the country, and very few farmers think they can afford to be honest at three cents per quart for a better article than the peddler sells again for six or seven cents. In spite of all temptations to virtue, it would indeed be strange if, under these circumstances, the milk of the sick cow did not go in along with that of the others, and if the remaining conscience of the farmer did not seek to save itself by practicing the first dilution of the poison; and from this stage to a thorough conversion of the farmer to the doctrine of *similia similibus*, and a hearty belief on his part that nothing is better for tuberculous consumers than tuberculous milk, is but a short downward step. Our attention has been called to new efforts, which we hope may not share the fate of so many preceding ones, started at this same season, by active brains, to circumvent all these wickednesses, and bring the producer and consumer of milk into mutually satisfactory and harmonious relations. Any individual or organization who may hit upon the way to accomplish this task is welcome to make money out of it, and, we have no doubt, will do so.

Really pure milk from healthy, well-fed cows is, after all, not dear food even at eight cents per quart, but water at four cents a pint is dear, even though pure and guiltless of typhoid fever, and milk from sick cows is not cheap at any price. The physiologist could not render the State a better service than by teaching the

public exactly what and how much danger is to be apprehended from the consumption of the milk of tuberculous cows. We commend the subject to the approaching hygienic tournament at Wellesley.

The milk consumption of Boston is large in proportion to its inhabitants. The city milk inspector in his last report states the number of gallons daily supplied to the city at 29,000, and the daily cost to consumers he estimates at \$6360; the number of gallons consumed, then, in one year would be 10,585,000, and the estimated cost to consumers for one year would be \$2,549,000. If we suppose that one quarter of this supply is diluted to the extent of sixteen per cent.,—and we believe that we are far within the limits which actual investigations bear out,—then the inhabitants of Boston pay yearly about \$105,850, over and above their water rates, for about 423,400 gallons of water colored by a little burnt sugar and increased in specific gravity by a little salt.

The annual consumption of milk in London is estimated by an official of the Local Government Board, according to the *British Medical Journal*, at only 23,000,000 gallons; the cost is, however, on an average about five pence a quart. On this basis the annual expenditure of London for milk is estimated at £2,000,000.

Without taking into consideration the 700,000 or 800,000 gallons of pure milk now supplied annually by the Aylesbury Dairy Company, we find that Londoners are paying only £70,000 or £80,000 a year for their canned water. If it is any comfort to Boston to know that she disburses a quarter as much annually as the great city of London for this aqueous luxury, we respectfully offer her the reflection; if the inhabitants can afford it, we may class this expenditure with the harmless extravaganzas, except when typhoid fever is thrown in, which is not with every quart of water.

DEATH OF DR. EDWARD SEGUIN.

NEW YORK has lost a valuable member of the profession in Dr. Edouard Seguin, so well known in connection with the modern treatment of idiocy, who died at his residence in that city on the 28th of October. He was born at Clamecy, France, and was sixty-eight years of age at the time of his death. Soon after the completion of his studies at the colleges of Auxerre and of St. Louis, at Paris, he turned his attention to the subject of the education of idiots, and in 1839 opened the institution designed for this purpose which has been the model upon which seventy-five other similar establishments have been organized in various countries. He continued his studies and investigations in this department throughout his career, and at the time of his death was president of the association of medical officers in charge of institutions for idiots.

Dr. Seguin came to this country in 1848, and after remaining ten years in Ohio returned to France. When he came to America again, he settled in New York, and continued to reside there up to his death. Altogether he aided in the establishment of eleven schools for idiots in the United States. In addition to a number of works on the treatment of idiocy, among

his published writings are the following: Prescription and Clinical Records, 1865-77; Mathematical Tables of Vital Signs, 1865-77; Official Report on Education at the Vienna Exhibition of 1873, published in 1875; and International Uniformity in the Practice and Records of Physic, 1876. He was an enthusiastic advocate of the universal adoption of the metric system, and was also especially identified with the subject of medical thermometry and human temperature, to which he devoted much time and study, and upon which he wrote his best known and most valuable book, which was published in 1876. At the last meeting of the American Medical Association he read a paper on The Physiological Training of the Idiotic Hand.

MEDICAL NOTES.

— Of *The Specialist*, a new English journal, whose title indicates its purpose, the *Medical Press and Circular* remarks: "Since the publication of our last column of Literary Notes, a new monthly journal, called *The Specialist*, has been issued by Messrs. J. & A. Churchill. Years ago the prospectus of a publication bearing the same title was issued by the late Dr. Yearsley, but, failing the support anticipated, the idea was never carried out. As a commercial speculation it is manifestly impossible for special journals in the profession to succeed, and the editor of *The Specialist* in his first leader would hardly lead readers to suppose he expected a great future for his hantling, — *Tempus omnia replet.*"

— Is there any comfort to be derived from the following confession of the *Medical Press and Circular*? "The author of the Guide to European Universities, Dr. Hardwicke, of Sheffield, has been induced, by the success of his pamphlet, to reproduce the information therein conveyed in book form, together with the results of his inquiries into other systems of education, and other countries than Europe. Here the reader will find information respecting the educational bodies, examinations, and medical laws of every civilized state, and he will also come to the humiliating confession that though there exist a good many time-honored institutions in the United States, and an anxiety to put matters on a scientific footing in others, yet farther South the condition of medicine is as bad as can possibly be imagined. Bankrupt bakers, grocers, and others who have failed to make a living, afterwards start as 'doctor,' and soon get into *full practice*, by parading their names before the public, through the medium of the daily papers and street placards, with 'Dr.' and 'M. D.' attached to them, without a word being said by the authorities. All this is very humiliating, but we could show our author identical counterparts in London, Birmingham, Glasgow, and other large cities, without a word being said by the authorities. But they, not Dr. Hardwicke, are responsible for this, and we cordially thank him for his decidedly useful addition to our knowledge of medical education in other countries."

— We find this characteristic item in the *Medical*

and *Surgical Reporter*: Dr. Oliver Wendell Holmes says, in a letter to a member of the English Spelling Reform Association: I should not care to be an obstructive (if I could be) in the way of any well-organized, scholarly attempt to reform our English and American language. But you must allow a fair share of old square-toed prejudice in their personal likings to old square-toed people. I hate to see my name spelled *Homes*, yet I never pronounce the *l*. I know from old Camden that its derivation is from the word *holm*, and I want the extra letter.

— A successful case of gastrotomy is reported by Dr. Elias in the *Deutsche medicinische Wochenschrift*. The subject was a man, aged forty-eight, reduced very greatly by stricture of the oesophagus. The collapsed stomach was found with much difficulty during the operation; it was fastened to the abdominal wall, and opened on the fifth day, when union was perfect. The patient was allowed to go out twelve days after the operation, and nutrition of the body rapidly improved.

— Xylotherapy, or the application of various woods to control the morbid sensibility of the skin in hysteria, is said to be a successful rival of metallotherapy in Paris at present. Of the woods experimented with, the bark of the yellow cinchona is thought to possess the most powerful *asthesiogenetic* influence.

— Wanted to buy, a good second-hand doctor's buggy cheap. Address Doctor, care —.

A "good second-hand doctor" is a *rara avis*. His buggy, to say the least of it, must be a mis-carriage. — *College and Clinical Record*.

— The English now turn to America as a refuge for consumptives. At the close of a review of Denison's book on Colorado, the *British Medical Journal* says: "It might be worth the while of many English consumptives, especially in cases where the disease has an inflammatory origin, who have undertaken long sea-voyages, to try the Colorado district of North America."

— The same journal, in an editorial on our State Board of Health, says: A medical contemporary is singularly misinformed when it refers to the change which has recently come over the Massachusetts Board of Health as one of "transformation" merely, and when it speaks of the old board's reappearing "in a more influential form" as the new State Board of Health, Lunacy, and Charity. The actual facts tell an exactly opposite tale. For something like eleven years the old board of health worked energetically and manfully, often against very great odds, in improving the sanitary state of Massachusetts, and in collecting information on sanitary subjects. Its reports have long been known and admired as standard books of reference, and a mere glance at the index of the final report shows the multiplicity and variety of subjects dealt with in them. The board consisted of seven members, one of whom was the secretary, a salaried officer, but having an independent vote, as any other member. Two physicians, one lawyer, one engineer, and two business men, with this secretary, composed it. The board met quarterly, or as often

as necessary, and summarily, efficiently, and harmoniously labored for the objects for which it was appointed. Last year, for political and supposed economical reasons, the boards of health and of charities were both abolished, and one board, entitled the Board of Health, Lunacy, and Charity, was substituted for them. The care of the charities of the State occupies nearly the whole time of the monthly meeting of the new board, and would prevent almost any sanitary work if the board had not committed that portion of its duty to the care of three members of the former board, who now virtually constitute the whole board of health. But even this is not strictly correct, because all the doings of the three departments of health, lunacy, and charity must be reported, discussed, and perhaps set aside by the full board. Dr. Bowditch, one of the ablest sanitarians in the States, and an active member of the old board, has resigned his position on the new board, as a solemn protest against the "grotesque, unstatesman-like conglomeration of diverse duties of work, wholly inconsistent with each other," which it exhibits. So glaring and mischievous an instance of retrograde legislation has not been witnessed for some years, and it is to be hoped that the State will see fit to restore the old board to its former high position before its influence has entirely faded away.

—Dr. Wilm, of whom it is said that he was the greatest operating surgeon of Germany, recently died in Berlin from blood poisoning, which proceeded from an injury sustained during the performance of an operation.

—A correspondent of the *Press and Circular*, Dr. Madras, thus describes his method of removing a navus: "I vaccinate the navus with liquid vaccine lymph, from which inflammation sets in, and in ten days, instead of the purple appearance of the navus, you have a white cicatrix. I wish that all medical men would follow my plan in vaccinating infants with navus by vaccine lymph."

—The *British Medical Journal* copies the following from the *Pall Mall Gazette*: The experiments, begun ten or twelve years ago, for naturalizing in certain parts of India the best varieties of the cinchona or Peruvian bark tree have been attended with the most remarkable success, and with beneficial effects still more remarkable. In the treatment of the fevers and other forms of disease endemic in India the employment of quinine has always been a chief means of cure and of prevention. But the increasing demand had raised the cost of the imported drug to a point which rendered its use impossible to millions and tens of millions of the poorer classes of India. Hence it occurred to a few of the more enterprising spirits in the Indian government that vigorous efforts should be made to acclimatize the cinchona-tree itself in certain districts of India and in Ceylon. The experiments have been entirely successful, and there are now, in various stages of growth, probably millions of cinchona plants already yielding the Peruvian bark so plentifully and so perfectly that the price of quinine has fallen in Ceylon and other parts to about two rupees (3s. 6d.) the

ounce, and to fifty cents the ounce for preparations of a diluted strength; and there is the strongest possibility, amounting to certainty, that in six or seven years the Indian production of quinine will be so large and the price so low that it will become a considerable article of export; bearing in mind that every fall in price means extending use in India in the cure and prevention of fever and disease, and therefore the cure and prevention of want and suffering among the poorest class of the native population.

NEW YORK.

—The annual meeting of the Medical Society of the County of New York was held on Monday evening, October 25th, when the usual reports of the various committees were read and received. Dr. John C. Peters presented the report of the committee on hygiene, in which special attention was directed to the condition of the streets as affecting the health of the city, and Dr. Edward G. Janeway, commissioner of the board of health, read an analysis of the vital statistics of the city for the preceding year. The annual election of officers resulted as follows: president, Dr. Alfred E. M. Purdy (re-elected); vice-president, Dr. Frederick A. Castle; secretary, Dr. Wesley M. Carpenter; assistant secretary, Dr. P. Brynberg Porter; treasurer, Dr. Orlando B. Douglas (re-elected). Thomas A. McParlin, M. D., brevet brigadier-general and surgeon United States army, and Prof. George Edward Rindfleisch, of the University of Würzburg, were elected honorary members.

A number of changes in the by-laws, approved by the comitia minima, were voted upon, and the following resolution, proposed by the committee on ethics, was carried:—

"That it is contrary to the dignity and interests of the medical profession for any member thereof to affix his name to any certificate, circular, or advertisement of any drug, nostrum, mineral water, wine, or other proprietary article intended to be used as a medicine or remedy in disease, or to any patented instrument or appliance that is intended for medical or surgical use.

"That the manufacture, advertising, or sale by any member of this society of any of the articles above enumerated is also contrary to the dignity and interests of the medical profession."

—The annual general inspection of the Mount Sinai (Jewish) Hospital by its patrons and friends was held on Sunday, October 24th, the entire building being thrown open to visitors from eleven A. M. to five P. M. There are in the institution at present one hundred and twenty-four patients, only two of whom are pay-patients. Thirty-five per cent. of the inmates are Christians, and no questions concerning their religious belief are ever asked by the hospital authorities of those applying for admission. The hospital was organized in 1852, and the present buildings, at the corner of Lexington Avenue and Sixty-Sixth Street, were first occupied in June, 1872. Since the first organization the hospital society has cured for 17,341 patients. During the past year the

expenses of the institution were \$56,000, of which \$52,000 was subscribed by Hebrews, while \$3975 was received from the excise fund. In connection with the hospital there is an out-door department, from which about forty thousand patients have received free attendance and medicine during the year.

—The annual meeting of the directors of the New York Eye and Ear Infirmary was held on the evening of October 27th. The expenses of the hospital were \$12,639.71, and the resident physician's report showed that during the last fiscal year the total number of patients treated was 12,157,—the largest number treated in any one year since the founding of the institution.

No changes were made in the staff of consulting and visiting surgeons, except that Dr. Robert F. Weir was appointed to replace Dr. Charles M. Allin, deceased. In the aural department Dr. Albert H. Buck had resigned, but was prevailed upon to retain his position on condition that he should be granted relief from duty for one year.

—At the last monthly meeting of the Children's Aid Society it was announced that Dr. Willis James, one of the trustees, had given \$10,000 to found a summer sanitarium, to be conducted under the auspices of the society.

Miscellany.

LETTER FROM LONDON.

MR. EDITOR.—The dispute between the medical and the lay authorities at Guy's Hospital has entered upon a fresh and acute stage. A letter written on behalf of the whole staff, and signed by Dr. Habershon, the senior physician, and Mr. Cooper Forster, the senior surgeon, was a short time ago sent to the governors, and in consequence of the tone assumed by the writers the two gentlemen who have signed it were called upon yesterday by a large majority of the governors to send in their resignations. Should they refuse to resign, the governors will have no choice but to dismiss them, and whether they resign or are dismissed, the rest of the staff must necessarily go with them. The letter in question was doubtless stronger in its terms than was justifiable under the circumstances, and stronger than it is ever desirable to make a letter unless open war has been determined upon. In this respect it was in marked contrast to a temperately worded reply sent by the governors to a memorial presented them by the guardians of one of the neighboring parishes, in which memorial the guardians regretted the condition of semi-paralysis to which the hospital was reduced by these internal dissensions. The governor's reply was a business-like and dignified communication, and it is greatly to be regretted that this tone has not been adopted in other communications that have been exchanged between the contending parties. The letter from the staff, above referred to, has brought matters to a climax: it contained passages which the governors could not allow to pass without challenge; any modification of these passages was refused by the members of the staff who had signed the document, and the governors had consequently no course open to them but the one they have adopted. The staff would thus appear to have made a

decidedly false step. They can scarcely do now what they refused to do before; yet to resign must mean, at any rate for the younger members, the blighting of their prospects of a brilliant career in London; or, to say the least, a considerable check in that career. On the other hand, the governors have embarked upon a career the end of which is perfectly clear, and they must be supposed to have done so with their eyes open, and with a full determination to carry it out to the end. Consequently, unless some very influential mediator steps in, to arrest the rapid current, there can be little doubt that the end of this phase of the quarrel is approaching, and that the end will be, as I foreshadowed in a previous letter, unfortunately to the detriment of the doctors. It is greatly to be deplored that the crisis has been brought about in the way I have described, because the tone adopted by the staff in their communications with the governors has to some extent tended to alienate general public opinion from their side. So long as public opinion was not actively against them, it afforded an assurance that no great injustice would be done, but with public opinion against them they have to rely upon themselves alone in their difficult fight; and although so large a body of men of the highest eminence in their profession must necessarily have great power when acting together, yet this power will avail little in a struggle of this kind. In using the word "injustice" I do not mean to imply that the governors would deliberately commit an act of injustice; but at the same time, if the quarrel is allowed to reach the final stage and to terminate in the dismissal of the whole staff, a grave injustice will be done. The injustice is great toward the senior members of the staff, who have devoted a very considerable proportion of their lives to the institution, and who have done their work in the most conscientious manner; but it is still greater towards the junior members of the staff. The seniors may be said to have reached the position in the profession due to their ability and labors; with them, therefore, it is a question of justice in the abstract, for their worldly position will be unaffected by the severance of their connection with the hospital. With the juniors it is far different. The position they hold in connection with the hospital and school is the reward of many years of arduous work and patient waiting. Under ordinary circumstances, having obtained a position on the staff, they have but to bide their time to achieve complete professional success. If the governors are allowed to dismiss the staff as a body, these younger men lose their hard-earned positions at a time when they can little afford to do so; and their chances in life are gravely compromised. Thus, there is a danger that some of our ablest and most deserving young doctors may be sacrificed to an idea; and this for no fault of their own, but because, in common with men many years their seniors, and whose opinion is certainly deserving of weight, they have ventured to differ from the governors of the hospital on certain matters of detail connected with the nursing. This is what the question resolves itself into when looked at dispassionately, and the injustice is so manifest that it would be impossible for matters to reach this point if public opinion were calm and unprejudiced. But public opinion is easily excited in favor of or against either party in a dispute by the method in which the dispute is carried on. If one of the parties be calm and self-possessed, and the other passionate, public opinion is generally in favor of the calm disputant as against the passionate. And so, I

fear, it is in the present case, and that the doctors have done their cause a great deal of harm by having allowed themselves to use stronger language than was advisable. Had they maintained a quiet and dignified attitude there can be but little doubt that some peace-maker would ultimately have been found to help both parties out of the false position into which they had drifted. It may be that some such mediator will yet present himself, but it is certain his task will now be a far more difficult one than if the gauntlet had been less decidedly thrown down and less hastily taken up.

[NOTE.—The publication of our correspondent's letter has necessarily been delayed. As most of our readers already know, the result which he foresaw has now taken place. This confirmation gives an additional interest to his forebodings.—ED.]

DR. HEWSON ON SUBSTITUTES FOR ADHESIVE PLASTER.

MR. EDITOR.—Since your publication of my article on Substitutes for Adhesive Plaster (in your issue of October 7th) I have learned by letters received, not only through your office, but by direct mail to my own, that quite a number of the readers of your valuable journal were anxious for more detailed information on various points on the subject; and as I therefore presume there are many others in the same plight I deem it best to answer all the questions so presented by note in your journal, if agreeable to you.

In doing this, I would first of all recall the fact that the article had been prepared for and was read before a society, where terseness and brevity are always desirable. To accomplish these purposes, and yet be as accurate as possible, especially as regards the mode of preparing the *liquid glue*, I had sought from Mr. H. Campbell, the pharmacist in my immediate neighborhood, and who had made all my preparations, an accurate account of the way in which this one was made. From his account I drew up the statements in my article, and I submitted them to a thorough criticism by him before I was satisfied to use them; for my purpose, throughout the composition of the paper, was always to be as *explicit* and as concise as possible. A more extended account might have made the paper more intelligible.

Most of the points on which further information has been sought of me are clearly traceable to my brevity of statement. Thus, some have noticed that I did not state whether *fluid* or *solid* measure was intended in determining the quantities of the two ingredients for the *liquid glue*. Such a statement I had not deemed necessary, for, in the first place, the acetic acid (the twenty-five per cent. article) is known generally to weigh sixteen ounces to the pound; no difficulty could therefore occur by using *dry-weight* measure. Again, in the closing paragraph of my article, I have stated, in reference to an *impromptu* method of making this glue, "By having water in a tin cup on the fire so that it boils, and putting a bottle containing one part of glue to four, by measure, of the acid, and letting the bottle remain in this bath until the glue is fully dissolved and mixed with the acid." Aid in the mixing, in this as well as in the earliest mode of the preparation, might have been stated to be derived by frequent stirring with a glass rod. Such a statement, it seemed to me, was hardly necessary; as I, however, had watched various

details, I might so have been led to such an omission from this very familiarity.

On carefully reading my article again, I find answers to all the other points raised equally well implied. The statement made by a correspondent that glue cannot be melted without being mixed with some water I am confident is incorrect. I consider such careful preparation as essential in order to fit it to take the place of collodion. Respectfully, ADDINELL HEWSON.

ABSENCE OF LOCHIA.

MR. EDITOR.—During the first week in February, 1876, I was engaged to attend Mrs. A. P., who expected to be confined during the latter part of March succeeding. The first of March I called at the house, partly to make the lady's acquaintance, and partly to form some opinion of the case I should have to deal with.

I found her to be an American woman, thirty years old, who had been married about five years, and was the mother of one child, a boy, three years of age. She was tall and thin, light complexioned, and of nervous temperament. She was an active individual, and with little help performed the in-door work of a good-sized farm.

When questioned about her health, she replied that, although she had done her usual work, she did not feel as strong as formerly. Work seemed to drag heavily. To use her own words, "she was not nearly so smart as when carrying her first child." She had a pretty good appetite. She asked me, as her abdomen was large, if I did not think she was to have twins. Auscultation not revealing signs of more than one fetal heart, I told her that her unusual size was, very probably, due to the large amount of amniotic fluid. Her limbs were not swollen and there was no marked puffing about the conjunctiva. The urine contained only a very small quantity of albumen. Her pulse beat 82 a minute and was weak. She repeated the statement, formerly made by her husband, that "she expected to be sick" the last week in the month.

Two days after the above-mentioned visit, I was called upon at about ten A. M. by a messenger, who told me that Mrs. A. P. was needing my services immediately. I hastened to her house, reaching it about half an hour after the receipt of the message, and found her suffering with severe bearing-down pains. Examination revealed a vertex presentation, with the head rapidly descending, and every sign of a speedy delivery. I asked if there had been any show, and received a negative answer. The abdomen had diminished in size since my last visit. The woman said that it had been growing smaller since the previous morning, but that the water had not come away from her in any great quantity.

In ten minutes after my arrival the waters broke, and in five more the child was born. It was a female, and when dressed weighed five pounds. After the birth, there was no loss of blood whatever. Within fifteen minutes the placenta was removed, but no blood came with the placenta. The placenta was very small, and the cord looked shrunken. I used my hand externally in compressing the uterus, to expel clots and assist in the firm contraction of that organ. The uterus was contracting in a satisfactory manner.

The woman said she was not flowing at all, and vaginal examination showed the truth of the statement. There was a slight colorless discharge, which somewhat moistened but did not stain one napkin. Much perplexed and alarmed, I felt her pulse, and found it 100; soft and weak, but readily counted. Her temperature was 100° F. There was no tenderness anywhere about the abdomen. She was very lively and said she felt quite comfortable. I remained with her until late in the afternoon, and no alarming symptoms having appeared thought it safe to leave the house.

I called early the next morning, and found the patient quite comfortable. Her pulse was 90, her temperature 99°. She had slept a good part of the night, and had passed urine twice. There had been no lochial discharge nor any signs of it. There were no symptoms of inflammation about either uterus or ovaries.

The third day there was a very profuse secretion of milk, which was of extremely poor quality. Indeed, so watery and thin was this secretion that it was thought best to feed the child for a few days with cream and water, at least a part of the time. The patient was given full doses of citrate of iron and quinine, with sherry wine, for a month, and they were well borne. After a week from the time of its first appearance, the lacteal secretion so much improved in quality as fully to satisfy the infant.

The patient sat up on the tenth day after confinement and gained steadily from that time on. Eight months after the birth of the child she began to menstruate again, but at and immediately after child-birth there was no such discharge as is generally seen at these times.

Two years from the time above mentioned she gave birth to another daughter. On this occasion she flowed as profusely as any woman does at such a time, and the lochial discharge took its natural course. Yours truly,
GEORGE A. ORCUTT, JR., M. D.

ESSENTIAL ELEMENTS OF REGISTRATION OF VITAL STATISTICS.

DR. E. HARRIS, secretary of the New York State Board of Health, and superintendent of the Bureau of Vital Statistics, publishes the following as a concise statement of the elements of registration which are essential and obligatory:—

Requirements for a perfect registry of a death, a birth, or a marriage should be clearly understood by all persons who have anything to do in making up the records which are registered as vital statistics; and it is desirable that no more should be asked for and entered in the public registers of birth, marriage, and death than is necessary for making the record so complete that each of the registered events (whether of birth, marriage, or death) shall correctly identify the individual and the essential facts in the record. While each of these three epochs in a human life should be so registered as to protect the rights of a personal and family record of each individual, the comparison of any two, or the three, of these separate but corresponding parts of the vital registry should completely verify each other in certain essential particulars, and with unfailing certainty identify the individual, the family, and the civil estate or social condition of the person. This may be best explained by viewing at one glance all

the essential points in the public registration of a birth, a marriage, and a death. These few points, being *essential*, are justly regarded as *obligatory* in the certificates and returns that are registered in the bureau of vital statistics.

	Birth.	Marriage.	Death.
1	Name and date.	Names and date.	Name and date.
2	Birthplace and residence (of parents).	Birthplace, residence (and place).	Birthplace, residence (and place).
3	Names and birth-places of parents.	Names and birth-places of parents.	Names and birth-places of parents.
4	Sex, and race other than the white.	Other race than the white.	Sex, and race other than the white.
5	Paternal occupation.	Occupations.	Occupation (paternal, if an infant).
6	Parents' ages.	Ages.	Age.
7	Child's number in this family. — by this mother?	Social estate (état civil).	Social estate (état civil).
8	Attestation of the event and its record.	Attestation of the event and its record.	Attestation of the event, its causes, and the record.

Under the eight heads, as given in this view of the scheme of public registry, we arrange all parts of the record necessary for complete *identification* of the individual and the family. At the same time the full statements under these heads will supply the information which constitutes the science of vital statistics. All *forms of certificates* and all *methods* of returns and registry in the state system of vital statistics should be simple and comparable.

TREATMENT FOR TEETH WHICH ARE SENSITIVE DURING EXCAVATION.

BY WILLIAM HERBERT ROLLINS.

I HAVE found the following preparations of value:—

Ry Chloroform20.0 cubic centimetres.
Cosmoiline10.0 grammes. M.
Signa No. 1.

Heat 200.0 grammes of glycerine for one hour to drive off the water. After cooling put it into a bottle, and close with a rubber cork.

Use this glycerine for the following:—

Ry Glycerin2.0 grammes.
Acid. pyrogallie1.0 grammes. M.
Signa. To be mixed fresh every morning, and kept under a bell glass with sulphuric acid or calcium chloride.

Directions: (1.) Dry the cavity in the tooth, and keep it free from saliva during the excavation.

(2.) Apply mixture No. 1.

(3.) Apply mixture No. 2.

(4.) Excavate.

(5.) Repeat the application as the tooth again becomes sensitive.

(6.) Vary the strength of No. 2 if it causes pain.

Boston, September 1, 1880.

TAKING IMPRESSIONS FOR MINERAL TEETH.

I HAVE sometimes attempted to take an impression preparatory to making an artificial denture, and failed because imagined suffocation, nausea, or vomiting made the removal of the impression tray necessary before the material had set.

In such cases the patient generally refuses to have another attempt made. Therefore if the teeth made on this imperfect impression do not fit, the patient will usually be obliged to go without teeth, for in the ordinary process the impression is destroyed; at least in partial dentures, and in whole dentures unless the impression was made in plaster of Paris.

In these difficult cases I find the following method of value:—

Trim the imperfect impression as well as you can, varnish and black-lead it. Make an electrotype from it. Use this electrotype, after its manifest defects have been remedied with suitable files and burrs, as a basis for a plaster model.

If the teeth made on this impression do not fit, the copper model can be trimmed at the defective places and other impressions taken from it until a satisfactory one is made.

If the defects in the original impression were marked, the electrotype will need much trimming;

therefore, in these cases it is best to make a base plate from it in gutta percha, and after coating this with rouge in oil try it into the mouth. After removing, alter the electrotype by the information so obtained, repeating the process as often as necessary.

This method of electrotyping is of much value also where dies are required, as in making mineral teeth with a gold base, for with it the male die can be made much more perfect than by casting.

WILLIAM HERBERT ROLLINS.

BOSTON, MASS.

CORRECTION.

MR. EDITOR.—In the review of the Transactions of the American Gynecological Society, Vol. III., in the JOURNAL, September 30th, owing to an omission, the author of Measurements of the Uterine Cavity in Childbed, Dr. A. D. Sinclair, is not accredited with what most justly belongs to him. His name should be associated with that of Dr. Richardson, as follows: "Being the result of a series of carefully conducted examinations by the author and Dr. W. L. Richardson at the Boston Lying-In Hospital. W. H. B.

BOSTON, October 22, 1880.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 23, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diphtheria and Croup.	Lung Diseases.	Diarrhoeal Diseases.	Scarlet Fever.
New York.....	1,209,561	570	228	24.91	10.88	14.21	6.31	2.63
Philadelphia.....	901,380	298	104	14.43	5.37	5.70	—	1.34
Brooklyn.....	564,400	250	112	31.60	21.60	10.80	4.40	.80
Chicago.....	503,298	—	—	—	—	—	—	—
St. Louis.....	—	128	53	25.78	6.25	7.03	13.28	.78
Baltimore.....	393,796	182	68	25.82	4.39	6.04	4.39	8.79
Boston.....	363,938	162	56	19.14	11.11	10.49	4.32	—
Cincinnati.....	280,000	92	28	18.48	5.43	9.80	5.43	5.43
New Orleans.....	210,000	104	39	27.88	3.85	5.77	6.73	—
District of Columbia.....	180,000	69	31	26.09	10.14	8.70	5.80	—
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,649	53	25	37.74	18.87	11.32	1.89	15.09
Buffalo.....	155,159	48	20	25.00	14.58	10.41	—	—
Milwaukee.....	127,000	51	24	39.22	21.57	7.84	5.88	1.96
Providence.....	104,862	32	9	18.75	—	21.88	6.25	3.13
New Haven.....	63,000	18	5	16.67	5.56	—	—	—
Charleston.....	57,000	—	—	—	—	—	—	—
Nashville.....	43,543	13	1	23.08	7.69	7.69	15.38	—
Lowell.....	59,340	22	11	18.18	13.64	—	4.55	—
Worcester.....	58,040	20	8	45.00	10.00	—	5.00	15.00
Cambridge.....	52,860	12	2	16.67	—	—	—	—
Fall River.....	48,626	—	—	—	—	—	—	—
Lawrence.....	39,068	19	6	—	—	5.26	—	—
Lynn.....	38,376	17	9	35.30	11.76	—	17.65	—
Springfield.....	33,536	14	4	7.14	7.14	—	—	—
Salem.....	27,347	5	4	60.00	40.00	—	20.00	—
New Bedford.....	27,268	12	4	33.33	16.67	—	8.33	8.33
Somerville.....	24,964	7	2	—	—	—	—	—
Holyoke.....	21,961	8	3	25.60	—	12.50	—	—
Chelsea.....	21,780	6	2	50.00	33.33	—	—	—
Taunton.....	21,145	3	1	—	—	—	—	—
Gloucester.....	19,288	6	5	33.33	16.67	—	—	16.67
Haverhill.....	18,478	7	5	14.29	11.29	14.29	—	—
Newton.....	16,994	—	—	—	—	—	—	—
Newburyport.....	13,170	5	0	80.00	40.00	—	—	20.00
Fitchburg.....	12,270	4	—	50.00	25.00	25.00	—	—
Twenty Massachusetts towns.....	156,012	48	18	16.67	8.33	6.25	6.25	—

Deaths reported 2285 (no returns from Chicago or Charleston); 886 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and levers) 534, consumption 336, diphtheria and croup 235, lung diseases 213, diarrheal diseases 114, scarlet fever 59, malarial fevers 46, typhoid fever 44, whooping-cough 18, cerebro-spinal meningitis 13, small-pox 12, erysipelas eight, measles five. From *malarial fevers*, New York and New Orleans 12, Brooklyn and District of Columbia six, St. Louis three, Buffalo and Milwaukee two, Baltimore, New Haven, and Holyoke one. From *typhoid fever*, Baltimore nine, New York seven, Philadelphia five, New Orleans four, Brooklyn, Boston, and Providence three, Buffalo and Worcester two, Cincinnati, Pittsburgh, Cambridge, Lynn, Newburyport, and Fitchburg one. From *whooping-cough*, New York two and Baltimore four, Philadelphia three, Brooklyn two, St. Louis, Boston, Cincinnati, District of Columbia, and Milwaukee one. From *cerebro-spinal meningitis*, New York and St. Louis three, New Orleans two, Philadelphia, New Haven, Worcester, Holyoke, and Chelsea one. From *small-pox*, Philadelphia 11, New York one. From *erysipelas*, Philadelphia three, New York two, Baltimore, Buffalo, and Marchfield one. From *measles*, Boston and Milwaukee two, Brooklyn one.

Ninety-three cases of diphtheria, 23 of scarlet fever, five of whooping-cough, two of typhoid fever, and one of measles were reported from Brooklyn; diphtheria and scarlet fever six, yellow fever two, in Boston; scarlet fever 24, diphtheria 15, in Milwaukee; diphtheria six, scarlet fever three, typhoid fever one, in Providence; diphtheria four, scarlet fever three, typhoid fever one, in Cambridge; scarlet fever nine, diphtheria four, in New Bedford.

In 37 cities and towns in Massachusetts, with a population of 1,009,171 (population of the State 1,783,812), the total death-rate for the week was 19.53, against 21.23 and 22.35 for the previous two weeks.

Total deaths, deaths under five years, and deaths from diphtheria and croup and lung diseases increased; deaths from diarrheal diseases and typhoid fever diminished.

For the week ending October 24, in 149 German cities and towns, with an estimated population of 7,767,599, the death-rate was 25.1. Deaths reported 3793; 2044 under five: pulmonary consumption 458, acute diseases of the respiratory organs 190, diphtheria and croup 145, scarlet fever 95, typhoid fever 77, whooping-cough 61, measles and röteln 27, nuptial fever 16, typhus fever (Berlin) three. The death-rates ranged from 15.3 in Barmen to 41.8 in Düsseldorf; Königsberg 25; Breslau 22; Manich 24.4; Dresden 27.7; Berlin 29.8; Leipzig 20; Hannover 24.2; Hanover 23.1; Bremen 15.7; Cologne 31.9; Frankfurt 16.4; Strasburg 21.6.

For the week ending October 9th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 27.7. Deaths reported 3118: diarrhoea 281, acute diseases of the respiratory organs 266, scarlet fever 141, fever 68, whooping-cough 60, measles 35, diphtheria 27, small-pox (London) five. The death-rates ranged from 15 in Plymouth to 35 in Leicester; Birmingham 17; London 20; Leeds 21; Bristol 22; Manchester 23; Liverpool 31. In Edinburgh 21; Glasgow 20; Dublin 33.

In the 20 chief towns in Switzerland for the same week, population 522,856, there were 28 deaths from diarrhoeal diseases, acute diseases of the respiratory organs 15, typhoid fever nine, diphtheria and croup five, whooping-cough three, scarlet fever two, measles two.

CORRECTION. For the preceding week the total deaths in German cities should have been 3793; a similar error in previous reports may be corrected by the death-rate, which is right.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.		Thermom-eter.		Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
1880.																			
Oct. 17	29.803	61	77	52	89	56	100	82	SW	S	C	11	15	0	F	F	R	4.50	.17
" 18	30.162	45	58	40	75	33	58	35	W	W	W	8	14	9	C	F	C	—	—
" 19	30.281	43	57	35	81	32	51	55	W	W	W	10	10	4	C	F	O	—	—
" 20	30.350	45	57	38	48	46	60	51	W	E	S	4	4	7	O	C	C	—	—
" 21	30.330	49	61	40	68	67	86	74	S	SE	SE	1	14	7	O	O	H	—	—
" 22	29.958	48	55	45	93	100	92	95	C	E	NE	0	12	23	O	R	R	12.20	1.47
" 23	29.511	51	66	46	78	57	62	66	W	W	W	17	12	12	C	F	F	5.20	.25
Week.	30.056	49	77	35					W	W	W							22.30	1.89

¹ O, cloudy; C, clear; F, fair; G, fog; H, hazy; R, rain; S, smoky; T, threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM OCTOBER 23, 1880, TO OCTOBER 29, 1880.

SPENCER, W. C., major and surgeon. Assigned to duty at Fort Snelling, Minn. S. O. 129, Department of Dakota, October 25, 1880.

WHITE, C. B., major and surgeon. To report in person at the expiration of his present leave of absence to the adjutant general of the army for special duty in connection with the recruiting service. S. O. 229, A. G. O., October 25, 1880.

CALDWELL, D. G., captain and assistant surgeon. Assigned to duty as post surgeon at Fort Fred. Steele, Wyo. T. S. O. 98, Department of the Platte, October 20, 1880.

CUNNINGHAM, THOMAS A., captain and assistant surgeon. Granted leave of absence for two months, with permission to go beyond sea. S. O. 227, A. G. O., October 22, 1880.

BROWN, H. G., first lieutenant and assistant surgeon. Granted leave of absence for six months, with permission to apply for one month's extension. S. O. 230, A. G. O., October 26, 1880.

BOOKS AND PAMPHLETS RECEIVED.—Croonian Lectures on some Points in the Pathology and Treatment of Typhoid Fever. Delivered at the Royal College of Physicians of London, by William Cayley, M. D. London: J. and A. Churchill. 1880.

Syphilitic Degeneration of Arteries as a Cause of Aneurism, with a Report of two Cases. By Norman L. Snow, M. D. (Reprint.)

Enumeration, Classification, and Causation of Idiocy. By Isaac N. Kerlin, M. D. (Reprint.)

The Eighth Annual Report of the Charlestown Free Dispensary and Hospital.

The Compend of Anatomy for Use in the Dissecting Room. By John B. Roberts, M. D. Philadelphia: C. C. Roberts & Co. 1881.

Report of ten Cases of Gastric Ulcer, one Case Malignant Ulcer of the Stomach, and two Cases Perforating Ulcer of the Jejunum. By A. Van Der Veer, M. D. (Reprint.)

On the Relations of the Placenta to Post-Partum Hemorrhage. By Walter Coles, M. D. (Reprint.)

An Obstetrical Case; Intra-Uterine Amputations. By Walter Coles, M. D. (Reprint.)

Lectures.

CLINICAL INSTRUCTION: ITS REAL IMPORT AND ITS METHOD.

BEING AN INTRODUCTORY LECTURE TO A COURSE OF CLINICAL MEDICINE, 1877-78.

BY W. T. GAIRDNER, M. D.,

Professor of Practice of Medicine in the University of Glasgow.

A FEW days ago I had occasion to discuss, elsewhere, the relation of lectures in general, and lectures on the practice of medicine in particular, to books on the one hand, and to practical or clinical instruction on the other. I now propose to take up more in detail the questions proper to this course, namely, What is clinical instruction? how does it stand related to clinical lectures? and how ought it to be conducted so as to utilize to the utmost the practical opportunities, alike for teaching and for learning, belonging to the medical service of an hospital like the Western Infirmary? The few introductory remarks I shall make to you on these topics will not, I trust, invade too much the actual work to be performed in this course; and they will give me an opportunity of stating, once for all, the results of an experience acquired during more than twenty years of service as an hospital physician, and as a clinical teacher.

(1.) Clinical instruction is, as its very name implies, *bedside* instruction. The very idea of clinical instruction, properly so called, carries with it that both instructor and instructed are to be in presence of the patient, and learning the lessons of disease together from the absolute source of all real and final knowledge in respect to disease,—*the sick man*. The lessons of a private practitioner to his apprentices, in the days when apprenticeships still existed, were true clinical instruction, and, with such a man as Abercrombie, who practiced this method exclusively, they must have been clinical instruction of the best and highest kind. A well-conducted dispensary, in which the physicians not only see their patients at the hospital, but follow them up at their own homes, and along with their pupils, is also a very fruitful and admirable field for true clinical instruction, and one which only requires competent and devoted men to make it at least equal, if not superior, to any other. Strange to say, however, neither of these are counted as formal clinical instruction in your curriculum of study. Probably the difficulty of securing adequate regularity of attendance and a sufficient body of well-trained and thoroughly competent teachers may be the reason why every kind of medical attendance upon the sick poor has not been more or less formally utilized for this purpose. But having for several years pursued this method, in connection with the Royal Public Dispensary of Edinburgh, where I had usually classes varying from half a dozen to twenty pupils, and having given the hours of many a long afternoon to conferences with some of these, in almost all the "closes" between Holyrood and the West Port, on the cases of disease which were too urgent to be visited otherwise than at home, while

others were seen at the dispensary on two fixed days in the week, I am in a position to affirm that it is quite possible, and would be, I think, very desirable for you that more should be made of this form of clinical instruction than has hitherto been done in Glasgow. Here, however, I am restrained by the consideration that I am not likely to be able to work in this direction myself; and I can only, therefore, commend to the junior physicians and surgeons of this hospital, and of the Royal Infirmary, the plan of clinical instruction to which I refer, of which the German *Poliklinik* or *clinique of the town*, is one of the numerous modifications. One thing, indeed, is necessary to prevent this mode of instruction from becoming a mere sham and an abuse of the name of clinical teaching, namely, a proper subdivision of the work, and, as arising from this, a sufficient amount of time given to it. Hurry-scurrying through thirty or forty cases in an hour, as is done in the out-practice of many hospitals, is not instruction, but the reverse; or, if instruction at all, it is simply instruction in bad habits—absolutely fatal habits—of inaccuracy and want of thought. It is painful to me to be led even to allude to this subject; for it is not alone the injury done to the sick poor, in many cases, but the still greater, because persistent and absolutely irremediable, injury done to the medical art and to the students and junior practitioners of it, by the system of hasty consultations involved in the vast and quite overgrown out-practice of many hospitals in London and elsewhere, that demands a word of stern and sad remark. What is to become of young men trained in such habits, in after life, if at the very outset of their career it is made plain to them by the bad example of their seniors that five minutes, or three minutes, or two minutes, perchance, is all that can be spared for the investigation of a case of serious internal disease, with a view to its treatment? if, moreover, this rapid and unexamined frame of mind is identified in the imagination of the junior with something that is called "practical," which may be roughly defined as the faculty of transacting the greatest possible amount of "business"—that is, making the greatest number of blind guesses, and writing the greatest number of brainless prescriptions, in the shortest possible lapse of time? I believe, speaking as a man who knows what amount of time and care they really require, that no more ruinous lesson could possibly be taught at the outset than this; and, on the other hand, that nothing is more absolutely essential for true clinical instruction than an abundance of time, so that every case that is made the subject of remark at all shall be, as nearly as possible, completely investigated according to all the lights that can be brought to bear upon it, alike from ancient experience and from modern science. And this is perhaps the one difficulty in realizing true clinical instruction of the best kind, as a rule, otherwise than in hospital wards. Young practitioners are too inexperienced, old practitioners are too busy, to give it in a really profitable manner, from the ever-increasing and over-abounding stores of general and miscellaneous practice. "While the grass grows the steel starves;" while the multitude of cases is being thus over hastily seen, the mind of the pupil, far from being enriched thereby with really valuable experience, is *sterilized*, so to speak, by acquiring the fatal habit of passing diseases under review superficially, and without anything like due investigation; so that he becomes, in the end, like the veriest empiric, a mere man of

¹ By request we reproduce this lecture on clinical instruction by Professor Gairdner, of Glasgow. It gives the matured opinions of a man of ripe experience and wide reputation on a very important department of medical education, and the present moment, when medical scholars are beginning their winter's work, is a propitious one for a consideration of the subject.

routine; with this difference, and one not always in his favor, that he has been during his pupillage artificially fed and nursed, so to speak, on books and lectures, and finally exalted, by the possession of a degree or diploma, into the conceit of himself that he is competent to know and to treat all manner of diseases,—the fact being that he has not learned even the very elements of a true *diagnosis*.

(2.) Clinical instruction, then, is, as we have said, bedside instruction; but it is, or ought to be, such bedside instruction only as is methodically conducted, and rendered, as nearly as may be, complete. And, if you will think of it for a moment, the *method* of the instruction is to you quite as important as even the facts or substance of the instruction. For it is but little profitable to you to see a patient lying in bed and to hear me pronounce it a case of pneumonia or of Bright's disease; what is wanted is that *you* should be able to see why and how this conclusion is arrived at. And in the order of importance to you the "how" is first, the "why" second; because the personal realization of the facts, the investigation of the phenomena, to speak in scientific phrase, should precede and not succeed the formation of an opinion about them. Hence it is scarcely clinical instruction at all, in the proper and just meaning of the word, for a physician merely to lecture about a case and to tell you in detail his opinion about it. What is really wanted is that he should place you, or at least some of you, and as many as possible of you, in the position to form your own opinion about it,—guiding you, of course, by his more matured opinion, but only so as to show the way and prevent you from making mistakes. Nay, even your mistakes are capable of being turned to account in a system of true clinical instruction; the mistake of one man is often the best kind of instruction for the many. And I would most seriously exhort you in all cases to be prepared to take this view of mistakes, not to laugh at them, or to scorn them, in each other, but to study them as the true path to knowledge; the practical exhibition of the fallacies and difficulties which will beset you all in your way through life. You will therefore greatly assist each other, and me as your instructor, if you frankly submit yourselves to questioning on all facts emerging at the bedside; for it is only by the answers of the individual man that I can discover the needs of the whole class; and only through your failures as individuals that the standard of knowledge and practical efficiency can be raised for the whole. You will very soon arrive, indeed, at this belief for yourselves, if you will only take note that we never reprove or deride any one on account of a mistake, but always use it as the means of discovering how far a difference of opinion is legitimate, and how far it is shared by others, or how far it may be removed by new observations; and in carrying out this plan at the bedside you will also observe that I prefer to throw my own opinion into the common stock, as it were, and to submit it to the criticism of facts, like the others, rather than to impose it upon you as final under almost any circumstances.

(3.) You will observe that I have said little hitherto about clinical *lectures*, except by an allusion, perhaps, to show their inadequacy as a means of clinical instruction; and it seems, therefore, rather incongruous to have to remark, at this point, that it is *only* the clinical lectures that are, generally speaking, recognized in your curriculum; in other words, the real essence of

clinical instruction, that without which it is not *clinical* at all, is passed *sub silentio*, or altogether neglected and omitted. This is certainly not as it should be, and I trust that in any future regulations of the authorities, or discussion in the medical council, this view of the question of clinical instruction will receive due consideration. As matters stand at present, the clinical or practical department of your instruction is, just as much as any other, open to the charge of being overmuch dependent upon lectures; and it is far less excusably so dependent, inasmuch as it is this part of your medical instruction that might be expected to be the corrective of any excess of lectures elsewhere. But, not to prolong remarks upon a topic that is not for you but for your seniors to judge of, I will hasten to add that there are serious practical difficulties in the way of securing the regular attendance of many students in the wards, to the extent that might harmonize thoroughly with the idea of an absolutely clinical or bedside instruction, in the strictest sense of the word. My own interpretation of the formal and official requirement is simply that by "lectures" is meant a stated meeting with the whole class, checked by roll-call; whether the instruction be given in a separate lecture-room or in the ward. While, therefore, we aim at fulfilling the regulations which require two "lectures" to be given in the week, we do not rest upon that regulation, or adopt the ordinary method of simply *lecturing about* cases, instead of actually *examining* cases of disease, as the basis of our clinical method. At one of the two "lectures" accordingly, which occur stately as part of the weekly programme, I assemble the class in the lecture-room, as assigned to me by the managers, namely, on Tuesdays; at the other, on Fridays, I arrange to have a regular meeting in the ward, equally subject to roll-call, and with every possible arrangement made for your physical comfort, as well as for bedside instruction, such as can from its nature be appreciated by a considerable number. But whatever be the form of the assemblage, the lecture (so-called) is simply the condensed and ordered expression, or the interpretation, of observations made, and of facts elicited in your presence in the wards; the lecture, therefore, is in all cases most profitable to those who have taken some pains otherwise to know personally the facts. I cannot refrain from adding here that I have listened to clinical lectures, both at home and abroad, which were in no respect clinical in any true sense of the word. One distinguished professor in Paris, during one of my visits to his hospital, was giving a whole series of clinical lectures on the properties, physiological and pathological relations, and therapeutic uses of arsenic. I could only wonder if he was also getting up his materials as he went along by giving arsenic all round to all his patients. Another professor, in Germany, on one occasion when I was casually present, had been giving two whole days (and two hours each day) in succession, to a complete systematic exposition of the entire subject of hemiplegia and the allied forms of paralysis, as illustrated clinically by one case only; and the worst of it was, that this was really a clinical lecture in external appearance at least; for the unhappy patient was present throughout this remorselessly long-winded harangue, and was doomed to listen from his bed (haunted into the lecture-theatre) to a statement at full length of the nature of the disease, causes, predisposing and exciting, pathological anatomy, symptoms, diagnosis, prog-

nosis, and treatment, without even one word, so far as I observed, of kindly sympathy or consideration for him, any more than if he had been an inanimate object. This was the most cold-blooded exhibition I ever saw or heard in the shape of a clinical lecture; and, notwithstanding the great reputation of the professor, and my anxiety on other grounds to follow him, I was so unfavorably impressed that I never again ventured within that professor's lecture-room.

(4.) This leads me to make another remark about the proper conduct of a course of clinical instruction. Bedside teaching is not what it professes to be, namely, clinical in the highest sense, unless, besides being a discipline for you in regard to the facts of disease and the methods of observing them, it is also made an equally careful training in respect of the moral relation between physician and patient. I will confess to you at once that there is some risk of this aspect of the matter being forgotten at times, and I am by no means one of those who maintain the absolute compatibility, under all circumstances, of the interest of the patient with that of the clinically-instructed pupil. There is a risk, as I have already said, that clinical instruction may be conducted in a cold-blooded and heartless manner, to the detriment of the patient. But on the other hand, I fully believe, and indeed know from experience, that the sick poor derive, on the whole, a literally immense amount of benefit which would otherwise not accrue to them, from the thoroughly methodized, orderly, and elaborate investigation which their cases undergo as a consequence of clinical instruction. Comparing, as I am able to do every day, the diagnosis and even the treatment of disease in hospital patients, with what is the average lot of the same class of patients out of hospital; nay, even comparing the indoor hospital patient, the subject of clinical instruction, with the wealthy man or woman moving in society, who consults the most fashionable physicians, and has his or her family doctor always at hand, I am almost sure that the balance of advantage is often on the side of the hospital patient; and this, just because of the thoroughness of investigation, and the methodical care in regard to all details of treatment and nursing which obtain in a well-regulated hospital ward. But I would not have you suppose that these advantages of our clinical method can be secured to the patients, say of the Western Infirmary, without your co-operation; without the whole scope of our clinical teaching being such as engages, both in your case and mine, the heart as well as the head. I will utter no mere vague sentimentalisms on this subject, for it is one where an honest, but not overstrained, human sympathy with suffering humanity is all that is required to guide you aright. What is necessary, however, is that you should clearly realize to yourself the position; that if I, for example, forget for one moment, or if you allow or oblige me to forget for one moment, the real interests of the patient as they appear to a kindly sympathetic physician, it is not only an injury done to the sick man, but also a violation of the law of true clinical instruction. For what I have got to teach you, and what you have got to learn, at the bedside, is nothing less than the whole art of the physician; and this includes, most assuredly, as one of its most important elements, the art of securing the confidence and good-will of the patient.

(5.) Now to apply these remarks regarding clinical instruction to our own work in detail. We require, in

the first place, a group of clinical clerks, and these we shall select to the number of at least a dozen, from yourselves; but by this I mean not necessarily from the enrolled members of this particular clinical class, but from the undergraduates who may prove, by clinical examination or otherwise, the possession of the necessary qualifications. To these gentlemen will be committed the keeping of the ward journals, in a great measure; with the proviso, however, that in most cases either my assistant and *chef-de-clinique* (as the French say), Dr. Gemmell, or the resident physician, or I, shall have revised and critically compared the record with the facts of the case before it is finally inscribed. In this critical comparison there will necessarily arise some valuable material for bedside instruction; therefore the examination of the details of the clinical record will usually, or as much as possible, take place in presence, not indeed of the whole clinical class, but of a select number of junior students. Use these opportunities well, gentlemen, for they are invaluable. The record, in its completed form, will be, it is to be hoped, a record of facts; but even facts are often tinged or modified by opinion; and where differences of opinion arise, we shall be careful not to extinguish these, but to preserve them in the form of the record itself; which will in all cases be authenticated by the name of the reporter, and often of those also who have concurred with or differed from him in his statement of particular facts. In all cases, moreover, we require the *date* of the observation, and, as much as is convenient, the order in which the facts were elicited, to appear upon the face of the record. We allow no subsequent correction or revision of this (saving for plainly clerical errors), except in the form of a marginal or foot-note, similarly dated; and for this purpose we keep, purposely, a blank page open opposite every written page of our hospital report. Some of the most instructive of our bedside conferences have often arisen upon these late verifications, or corrections, of doubtful points in the original record of a case. When, in the course of an ordinary ward visit, I personally dictate the report of a first or of any future observation, it is similarly authenticated, and equally open, as in the case of the report of a junior, to future criticism or correction; and many of you can bear me witness that I never hesitate in allowing an error, or a doubtful expression, to be fully and deliberately discussed, and the correction, if necessary, duly inscribed as such upon the margin. Indeed, it is in these very difficulties and fallacies of observation that we frequently find the best materials for our clinical lectures. Finally, after a certain period of observation, and after a certain number of presumably exact details have been inscribed, we make upon the first blank page opposite the beginning of the case, a *summary* of the whole observations, which in many cases, but not always, includes also a definite diagnosis, or at least the materials of one. On a second blank page we inscribe a connected statement of the details of treatment; on a third, the whole series, or a carefully-constructed abstract, of temperature observations; on a fourth, urinary observations, etc., etc. Diagrams of physical diagnosis, sphygmograms, etc., are inserted as required in the journals; and thus after a while there is built up gradually a completed record of the case up to the moment of dismissal from the hospital, or of death.

(6.) Such are our hospital journals, the raw material, so to speak, of our clinical lectures and instruc-

tions. It is clearly and manifestly impossible that all the members of a clinical class shall be even present, much less participate in the observation and verification of each individual fact; but our aim is so to work *together* in all things, and so to record the results of our work, that every member of the class shall feel, as it were, with the force of personal conviction, that the statements so recorded are such as he *might* possibly have verified, had he happened to be present at the time. And not infrequently the actual verification takes place, in the case of unusual, or striking, or typical phenomena which from their nature can be submitted to larger numbers, before these larger numbers, or even before the entire class, on one or other of the lecture days above mentioned. But obviously, such verifications, or conjoint observations, must be of a very select kind; for with every increase in the number of observers it is absolutely necessary to diminish the area, so to speak, of the facts observed. Thus it is possible, without fatigue or risk, to demonstrate the more glaring râles over a single point of the lung surface, or a well-marked cardiac bruit, or an irregularity in the pupils, or a well-defined percussion-dullness or tumor, to a large number comparatively; but if, as is usually the case, the more critical investigation of any of these requires more than the mere statement of the fact; if the murmur has to be traced to its source, or studied as to its law of diffusion; if the râles have to be followed out with relation to their distribution, or associated with other facts, such as the alterations of the respiratory murmur in different parts of the chest, then the bare physical possibilities of personal verification by numbers become correspondingly limited. Hence in our more numerous assemblages, whether on days subject to roll-call or not, we find it often necessary to elect two or at most three representative men out of the class, to whom, in detail, the more difficult or complicated observations are committed, and their impressions, told singly and in presence of the whole class, are discussed, controverted, verified, or rejected, as the basis of direct observation on which the diagnosis is to proceed, or the principles of treatment are to be brought into question, and here, also, we use the hospital record as supplementary to direct or personal observation; always with the understanding that the hospital record itself has been the result of previous observations made and controlled, as far as possible, by like methods of verification in detail.

(7.) Lastly, the clinical *lecture* proper, that is, apart from the ward altogether, which, as a rule, we give once a week to the whole class, is no ambitious performance, nor display of learning or of eloquence on the part of the lecturer, but simply, as far as possible, an outgrowth from the labors of the preceding week or month, or more, as the case may be, of duty in the wards. Facts and phenomena previously observed separately are here discussed in correlation; cases which have terminated or passed out of view are treated in *résumé*, and the most obvious conclusions arising out of them, as to treatment, or prognosis, or pathology, such inferences, in short, as would have been out of place in the wards, are shortly indicated. And considering that we have already, in this Western Infirmary and these wards of ours during only three years, since 1874, accumulated some hundreds of cases, and almost a score of volumes of records, compiled throughout with the same anxious care for the verification of every detail, we sometimes

seek back, as it were, upon our own previous clinical experience, partially remembered, it may be, by the seniors among you, or at least open to your inspection and comparison in detail, with the cases more immediately before us. Sometimes, but more rarely, we pass beyond the bounds of what may be called our conjoint experience in this hospital, and supplement it by more general statements founded on a wider area of experience.

Such, gentlemen, is our clinical method, briefly, but I hope comprehensively, stated. You will observe at once that it is widely different from that ascribed by rumor to an old friend of mine, who still lives, but who has survived all his ambitions, and will, I am sure, pardon me the use of this illustration. I happened to attend, long ago, the earlier part of the first course of clinical lectures delivered by this gentleman, and I was struck by the remarkably complete and exhaustive manner in which each whole subject was brought into view upon the basis, usually of a single case in the wards, which was simply read to us out of the journal by way of introduction, or text, so to speak. The current rumor was that the course of lectures in question had been elaborated in the course of the preceding summer, being written down every word in an exactly ordered fashion, according to all the respected author's previous experience and reading; so that the cases, as they occurred, were fitted into the lectures, instead of the lecture being adapted to the cases. It was a well-marked example of the method called by the logicians *εὑρεσις ὑποθέσεων*. But I am often reminded of this way of clinical lecturing by the reports I read in the medical journals of dissertations, often by very able men, and therefore well worth reading, on subjects requiring both elaborate treatment and complex illustration, far beyond the scope of individual experience and especially of hospital experience; which nevertheless seem to have been delivered, for some reason hard to be understood, under the title of clinical lectures. Of such dissertations we may say, almost as the French marshal said of the Baklava charge, — “C'est magnifique; mais ce n'est pas la guerre,” — they may be admirable in their way, but they are not clinical. In this hospital I hope you will find throughout, even now, a rigidly clinical system of instruction, thoroughly worked out by each physician and surgeon. It is within my hopes and aspirations, that as its wards are extended, as its resources are developed, and as its out-practice is made even more available for your instruction than now, it may become a great coöperative institute of clinical teaching, in all respects commensurate with the wants of this great medical school.

— In the *British Medical Journal* we read that “a summons was applied for, at the Marlborough Street police court, against a Miss Houghton, practicing as a ‘healing clairvoyante’ and spirit medium, for obtaining 2s. 6d. for pills, which she pretended had been spiritually prescribed for a person suffering from neuralgia, which turned out to be formed of sugar only. The summons was granted. So much is there in a name. The pills were apparently homœopathic globules, and had this incautious person invoked the name of Hahnemann only, and spoken mysteriously of potentizing by dilution and dynamizing by trituration, she might have risen to much honor and profit.”

Original Articles.

THE TREATMENT OF HIP DISEASE.¹

BY E. H. BRADFORD, M. D.

AMONG American surgeons the practice of employing extension in the treatment of hip disease is so common that the question of its advantages and special indications is rarely suggested. It, however, is a practice which is not universal in Europe, and which is entirely rejected by some surgeons. That its use is not clearly understood is evident from the fact that its chief purpose is differently stated. It has been regarded as (1) a means of overcoming the muscles spasmodically contracted about the diseased joint; (2) simply a means of fixation of the joint; (3) to separate the bones forming the joint, that is, as a method of "distraction," to use the term introduced by Volkmann. As an attempt to determine the function of extension the writer has made the following observations: An extension of twenty-five pounds was applied to my own leg and thigh. The sensation felt was that of a dragging of the whole trunk, and also of traction, mentally referred to the hip-joint, similar to that felt on pulling the phalanx from the metacarpal bone.

The cadaver of a child ten years old, a dissecting-room subject, was placed at my disposal through the kindness of Dr. M. Richardson. Needles were driven, one into the pelvis and another into the trochanter on the same side; the flesh above and below the needles was incised, so that traction upon the limb, and necessarily involving the soft tissues, did not drag upon the needles. Extension was applied in such a way as not to alter the axis of the limb relatively to the plane of the pelvis, and thus disturb the position of the needles. The distance between the needles was carefully measured and noted. An extending force of one hundred and fifty pounds was applied, the pelvis being fixed. No difference in the distance between the needles could be noticed on careful measurement.

A second cadaver was offered to me by Dr. Cutler, pathologist at the City Hospital, for experiment. The subject was an adult male, recently dead. Needles were inserted in the same way as has been mentioned. An extending force of one hundred pounds was applied, but no separation of the needles could be observed. The muscles were all severed, the *fascia lata* cut, which was found to sustain without yielding a great deal of force, and the capsule of the joint was exposed, but not opened. Extension caused no separation of needles inserted one into the neck of the femur and another into the acetabulum. The capsule of the joint was then opened, cutting across the ilio-femoral ligament, but no difference was found in the separation of the needles on extension. The head of the femur was then dislocated and replaced, but even then the needles could not be pulled apart by extension. The head was evidently held in place by the firm fibrous ring which is prolonged from the acetabulum, uniting with the capsule, and acts as a collar, making a complete ball-and-socket joint. This was quite evident on examining a number of dissected hip-joints, with the capsules partially removed, but retaining the ring. In one the acetabulum was perforated by a hole, to illustrate the well-known experiment as to the effect of atmospheric pressure. If the

hole is uncovered the head of the femur slips out readily. If the opening is stopped by the finger the head is retained in position by the atmospheric pressure. When the process is repeated several times and the fibrous collar becomes stretched and loose, the head can be pulled out easily.

The body of a full-term foetus, preserved in alcohol, was examined. Needles were placed in the pelvis, as in the other experiments, and traction made by means of weight, great care being taken that there be no extension in such a direction as to disturb the axis of the femur in its relation to the plane of the pelvis. It was found that extension noticeably separated the needles. When a force of ten pounds was applied the separation was one and a half millimetres. When a force of one pound was used the amount of separation was nearly as great, — one millimetre. The soft parts were cut away down to the joint, but leaving the capsule to be seen. Traction separated the femur from the acetabulum, as was readily manifest on inspection without measurement. On dissection it was found that the fibro-cartilaginous collar which surrounds the head of the femur in the adult is absent in the newly-born child.

It appears, then, that extension does not separate the femur from the acetabulum when the parts are in the normal, fully-developed condition. Atmospheric pressure holds the head firmly in place. If, however, the collar, which is essential to a tight ball-and-socket joint, be not firm, the yielding of the soft parts allows the head to be drawn from the acetabulum in the same way that the phalanx can in many hands be drawn from the metatarsal bone. Under what conditions such a relaxation exists as to permit this is not yet determined; presumably in chronic diseases this would sometimes be the case, and perhaps continued extension brings this result about.

It would seem, therefore, reasonable to infer that the relief given by extension in some cases of hip disease is due to the actual separation of the bones involved in the joint.² That this more frequently is not the fact in the early stages of the disease is probable, considering the anatomy of the joint. In these cases, however, the muscular force which in disease draws the femur upwards, crowding the head against the acetabulum or forcing it above the normal position of the latter, is counteracted by thorough extension. It is to this, probably, that the relief obtained by extension in the majority of cases is due. This relief is so marked that there can be doubt of its efficacy as a means of treatment.³ It is also true that extension, provided the pelvis is steadied, can be made to give efficient fixation, but it is manifest from cases which are frequently met that simple extension without any attempt to secure the pelvis gives great and immediate

¹ Experiments similar to the above have been made by Morosoff. (1) Morosoff, Inaug. Dissertation, Charkow, 1875, quoted in the *Archives générales de Médecine*, 1878, page 718. He concludes that no separation of the articular surfaces of the hip-joint occurs in the living if the ilio-femoral ligament is intact. He does not appear to have made any observations when this ligament is cut, or on subjects with the capsular collar partially developed. The experiments of Koenig and Paschen (*Deutsch. Zeitsch. f. Chir.*, 1873, No. iii., pages 256 and 272) point to a slight separation from extension; they were made on frozen and apparently not fresh cadavers. Experiments on the knee-joint have been numerous, but do not bear upon the possibility of distraction of the hip joint. It has been said that if extension causes a separation at the hip-joint the effect will be to bring the under surface of the head of the femur in closer contact with the bony rim of the acetabulum. After dissections in regard to this, I find that this does not happen unless the thigh is adducted to a marked degree.

² Read before the Boston Society for Medical Improvement, June 28, 1880.

³ Cases I., II., III., IV.

relief.¹ That at times, however, pain is not entirely relieved in this way will also be seen, and sometimes in cases which are classed as hip disease extension is even uncomfortable.² This I have thought might be explained on the supposition that extension relieves muscular spasm and the pain caused by the undue pressure of inflamed surfaces or bone, but not that due to inflamed synovial walls or the distention of a synovial cavity.

To determine this, however, a great deal of pathological and clinical evidence is needed.³

The simplicity of the weight-and-pulley extension has given it a wide-spread popularity, and the relief gained in some cases is so marked as to give it undue credit and hide its defects. If a hospital ward where a number of patients treated in this way be visited at midnight the defects will be seen. Some will be found lying on their faces, on their sides, with the limbs flexed, frequently in such positions as to transfer the extension from the hip to the knee. The method confines the patient to the bed; it alone gives hardly any steady fixation, except when the pain is so great as to prevent motion; as a means of extension it is not thorough, and it is incapable of preserving the parallelism of the limbs, an indication so important that if neglected a cure sometimes leaves the patient as much of a cripple as an amputation.⁴ Combined with other more thorough means for fixation it is capable of excellent service,⁵ but alone it should be regarded as a method for meeting certain indications, but not as a system to be relied on for the best treatment of the disease.

What has been said in regard to the "weight and pulley" is also true of the "physiological method," as it has been termed by Dr. Hutchinson, that is, the treatment by crutches and a high shoe. It meets certain indications, but cannot be relied upon in all the phases of the disease. Patients treated according to this method illustrate that at some stages and in some cases the natural fixation is apparently sufficient,⁶ and that at times but little extension is needed;⁷ but it is also clear that in many cases the weight of the limb is not enough to overcome muscular contraction, prevent deformity, and give the patient the greatest amount of freedom from the discomfort due to disease at the hip-joint.⁸ As a means of extension it is imperfect, for the reason that it is efficient only when the patient is upright; for fixation it does not perfectly guard against involuntary motion occurring during sleep; it also is not certain to protect the joint from jar, for in practice many children when not suffering from a painful joint will be found occasionally to kneel upon the affected limb or take a step, unless watched more closely than is usually practicable.⁹

The plan of fixing the affected hip-joint by securing the thigh to an iron rod, fastened into an iron cross-

piece bent so as to inclose the chest, introduced by Mr. Thomas, of Liverpool,¹⁰ gives better fixation than can be given in any other way compatible with locomotion, which becomes possible by the help of crutches and a high shoe. Since Dr. Hutchinson's cases have been published, those reported by Mr. Thomas as cured by his method have less value as evidence, as the suggestion is inevitable that many of the cases might have recovered without the use of mechanical fixation. Whether this latter is necessary, and when it is necessary, are questions which can be determined only by further observation. In rejecting extension, except that given by the weight of the limb, Mr. Thomas certainly deprives himself of a valuable aid in treating hip diseases, although he may have been successful without it. The writer has been able to watch in the past five months a few cases treated according to Mr. Thomas's plan. One, an active child too young to use crutches, visibly lost in general condition from the confinement of the splint. Another gained both locally and generally, but complained of the irksomeness of the apparatus. A third has improved, and is free from active symptoms, but is inclined to lay aside his crutches and step on the affected limb. The apparatus is readily furnished and easily taken care of.¹¹

It has already been shown by the reported cases of others that under treatment by the long extension splint, perfected by Dr. C. F. Taylor,¹² patients may make good recoveries, and the relief which patients evidently obtain from the apparatus shows that the recoveries cannot be considered, as has been stated, the result of natural causes alone, in spite of treatment.

The apparatus meets certain important indications. The limb is well protected from concussion, the joint is fixed against the spasmodic muscular action and the consequent injury, parallelism of the limbs is preserved, a more certain means of extension is given than can be furnished by the weight and pulley, and locomotion is not difficult. The disadvantages are the necessity of careful supervision and the annoyance from the wearing of a splint, adhesive plaster, etc. Designed for the purpose of efficient extension, it is only secondarily a means of fixation, and in cases where absolute fixation is necessary the apparatus is insufficient. The motion of turning or twisting in sleep is not prevented; patients wearing the apparatus will often be found, if visited at night, lying upon the affected side, with pressure upon the trochanter, or on their faces. It has been claimed that if the muscular contraction is thoroughly overcome, as can be done by means of extension, a certain amount of motion at the joint is not injurious. This is probably true, especially in cases of ostitis of the epiphysis with but little adjacent synovitis, but it is certainly desirable to protect the limb from concussion. While the long extension splint efficiently prevents concussion in walking, it does not protect from a jar on the trochanter,—a jar not likely to happen when the patient is awake, but which may during sleep. Therefore, whenever the condition of the patient requires perfect fixation, some other means in addition to the extension splint is needed to prevent the patient from motion during sleep. How much or how little injury is done by jar occurring in this way va-

¹⁰ Diseases of the Hip, Knee, and Ankle. London. 1878.

¹¹ I am indebted to Dr. Post, of Boston, for information in regard to Mr. Thomas's apparatus. Dr. Post, through Mr. Thomas's courtesy, enjoyed the opportunity of seeing a number of the latter's patients.

¹² Mechanical Treatment of Disease of the Hip-Joint. New York. 1873.

¹ Cases XII., XIII.

² Cases VI., VII.

³ The experiments of Schultz are of value in this connection. He found that extension of a distended joint brought about an increase of the intra-articular pressure, but then an extension of six pounds continued for four or five days effected a diminution of this pressure, either by relaxing the ligaments or bringing about an absorption of the fluid of the joint through an increase of the pressure. (Schultz, Deutsche Zeitschr. f. Chir., 1877, vii., page 76; also Beyher, *ibid.*, 1873, No. iv., page 26; and Ranke, *Centralblatt f. Chir.*, 1875, page 969.)

⁴ Case XVI.

⁵ Cases V., XVII.

⁶ Cases VIII., IX., XI.

⁷ Case XIV.

⁸ Cases XIII., XIII., XL.

⁹ Cases VIII., XI., XIV.

ries with the site of the disease and the habit of the child; in a few cases this has seemed to me to retard the patient's recovery. The objection to the extension splint, that in walking the splint bends and all extension is lost, does not appear to be of value, as when the bending of the splint takes place the weight of the limb is an extending force.¹

Absolute recumbency, with fixation, either in bed or "wire breeches," if for a long period, is a method sanctioned by good usage. Pain will diminish and disappear under this treatment,² and children suffering extreme pain and emaciated from the loss of sleep often gain in flesh and improve in condition when placed under the treatment of complete immobilization and recumbency. This is sometimes advisable, but it is also true that the degree of improvement is limited, and that children after a while remain in a condition beyond which they do not gain. The fact that exercise to children is as important as sunlight for a plant is exemplified in the rapid gain patients frequently show after release from confinement in bed. Now that it has been clearly demonstrated³ that in many cases of hip disease the lesion is in the early stages a caseous degeneration or local tuberculosis in the epiphysis of the head of the femur, and that the joint is not primarily affected, it is certainly bad treatment to subject all cases of hip disease to long confinement as it would be to confine patients with phthisis in order to prevent bronchitis.

The conclusions which the writer has been led to form may be stated as follows: The treatment of hip disease should be based neither upon any one method nor upon the use of any splint. In the course of a long affection involving the femur, the joint, and the adjacent tissues certain changes take place. The morbid condition is an osteitis near the joint, and the subsequent invasion of the latter, or a primary synovitis exciting a neighboring osteitis; the process is accompanied by a spasmodic contraction of the neighboring muscles, which aggravates the inflammation by increasing the pressure on the inflamed bone. At different times and in different cases one condition, and the consequent indication for treatment, may be more prominent than another; they all, however, need to be borne in mind, and rational treatment consists in thoroughly meeting the indications as they appear. The methods for this purpose will vary according to the experience and skill of the surgeon and the surroundings of the patient, and it is a matter of judgment in each case how far absolute immobilization and thorough extension are demanded, when natural muscular fixation suffices, and when exercise is necessary. The greatest danger is from destructive change of the bone, and not from the synovitis, and hence jar upon the inflamed tissues, when caused either by locomotion or by muscular spasm, is especially to be avoided, and this must be done until recovery has so far taken place that there is no possibility of relapse. This requires a long time, during a large part of which motion may not be injurious. The stage when jar must be prevented is longer than the stage when rest is required.

To state the matter briefly, beside the necessity of improving the patient's general condition, it is important, —

(1.) To prevent jar and injurious motion at the joint.

(2.) To overcome muscular contraction.

(3.) To prevent and correct deformity.

Extension is to be regarded as a means for overcoming muscular contraction, for partial fixation of the joint, and, under certain conditions, for "distraction," or actual separation of the bones forming the joint.

CASES ILLUSTRATING TREATMENT.

CASES RELIEVED BY EXTENSION.

CASE I. W., boy, sixteen years old. During the preceding six months the patient had without known cause suffered from attacks of severe pain in the right leg and thigh, worse at night, requiring at times morphia and ether. He limped in gait, and had been growing gradually worse until he became finally confined to his bed. No treatment had been undertaken. On examination the right thigh was found flexed and adducted, allowing no motion at the hip-joint, the adductors were contracted, the glands in the groin were enlarged, the thigh was atrophied. Pain was caused by jarring the limb.

An extension by means of a weight and pulley was applied (eight pounds being used as a weight). No attempt was made to fix the pelvis, and the patient moved in bed. The relief from the pain was immediate and complete. No morphia was needed. Three months later the patient's father reported that he had continued to gain, and that he had been free from pain when extension was applied. The case was not kept under observation, but a year later the boy was heard from, and he was reported to have been constantly gaining.

CASE II. Girl, aged ten, had been under treatment for the preceding year for hip disease, wearing an extension splint. This was removed, and the child suffered no discomfort, until after a fall she was seized with violent pain, referred to the knee, which increased rapidly for three weeks, until the patient required subcutaneous injections of morphia (three times a day, one third of a grain at a time). On examination the right thigh was strongly flexed and adducted, and the whole thigh swollen (subsequently an abscess formed). The slightest jar produced an agony of pain, and of course the least motion was impossible. The patient was etherized, and an extension by weight and pulley was applied, the limb having been placed in position. The pain ceased immediately, and the patient slept well without a narcotic. The course of treatment was long and tedious, with continued extension and confinement to the bed, but there was no subsequent pain; recovery occurred with the hip ankylosed, but without shortening or adduction. At the present time there is a slight discharge from the sinuses, which remain from the abscess. The patient is able to bear full weight upon the limb, but walks with preference on a splint or crutches.

CASE III. Woman, thirty years old. For some time the patient suffered from occasional attacks of violent pain in the right knee and groin. The patient was brought to the Carney Hospital, with extreme pain on motion, and spasmodic twitching of the muscles of the thigh accompanied by violent pain in the knee and hip. This pain was greatly diminished and in a short time entirely stopped under the treatment by extension with the weight and pulley. A

¹ This difficulty can be obviated by a simple arrangement used by Dr. C. P. Putnam, of Boston, and a splint devised by Dr. N. M. Shaffer, of New York.

² Case XIX.

³ Volkman, *Klinische Vorträge*, 168, 169.

weight of twenty pounds was used and continued for a long time. Discontinuance of the extension or diminution of the weight reawakened the pain. After several months an extension splint was applied; this, the patient stated, gave a greater sense of freedom from discomfort about the hip than an extension by weight and pulley, but it had to be discontinued at times, owing to the cutting of the perineal strap. The patient is at present able to go about wearing the extension splint. The spasmoid contraction of the muscles of the thigh could be easily seen after any motion or jar, and the efficacy of extension in controlling this was manifest and accurately estimated by the patient.

CASE IV. F., boy, aged seven. Hip disease of left hip, of one year's duration. A large abscess had formed in the upper part of the thigh. There was extreme sensitiveness at the hip. The abscess was incised, and an extension by weight and pulley applied, and later an extension splint. The relief from pain, which had been quite severe, which was afforded by the extension was very well marked. The boy improved greatly for nearly a year, but subsequently developed phthisis in the left lung, and died with symptoms of general tuberculosis. During the three months which preceded death the hip symptoms, which had been of comparatively slight importance, became more severe. The patient, although annoyed by the irritation caused by the adhesive plaster used in extension, required the extension splint constantly to ease the discomfort at the hip-joint.

On a post-mortem examination the head of the femur was found covered by granulations, and on section a focus of caseous degeneration of the epiphysis was discovered, but no tubercles were seen on a careful examination made by Dr. Whitney.

CONTRACTION OF THE LIMB DURING HIP DISEASE CORRECTED BY EXTENSION.

CASE V. Girl, aged five. Diseased left hip, of six months' duration. The thigh was flexed at nearly a right angle with the axis of the body. This could not be straightened beyond an angle of forty-five degrees, even under ether, without tenotomy and force. There was a good deal of tenderness at the hip-joint, but no evidence of suppuration. An extension by weight and pulley of eight pounds was applied, in the line of the deformity, the thigh and leg being raised by pillows, and the patient kept recumbent. The patient suffered no pain, and in the course of two weeks the deformity was completely reduced, and the thigh perfectly in line with the body.

CASE WHERE PAIN WAS NOT RELIEVED BY EXTENSION.

CASE VI. Girl, five years; hip disease of left limb, beginning with gradual prodromata, attended by attacks of extreme pain. A fourth attack occurred while the patient was wearing an extension splint which had not been thoroughly applied. This was a severe one, and although the pain seemed diminished to a degree by extension, yet for several weeks the patient suffered extreme pain at night, and occasionally extreme pain in the day. The extension was continuously applied; both weight and pulley, with immobilization in bed, and an extension splint were tried. Extension beyond ten pounds appeared to increase the nocturnal pain. The patient was subse-

quently removed to a hospital, and died a year later of exhaustion, after the formation of an abscess and several months of suppurative discharge.

RELIEF FROM EXTENSION NOT MARKED.

CASE VII. A girl, aged ten, a delicate child, with a previous history of severe pain, was admitted to the hospital with symptoms of stiffness at the right hip-joint, slight tenderness, resistance to passive motion, except within an arc of ten degrees, and nocturnal pain. There was flattening of the right buttock, with atrophy and contraction of the muscles of the thigh. An extension by weight and pulley was applied, and the patient immobilized in bed. The relief from nocturnal pain afforded by the extension and fixation of the joint was not marked, but the patient gradually improved, and in three or four weeks was free from pain; the muscular stiffness, however, remained for three months. At the end of a year the patient had regained perfect motion at the hip-joint, and was able to walk without a limp. She died suddenly, however, with symptoms pointing to embolus from a valvular disease of the heart. The hip-joint on examination was found to be healthy, except that a small portion of the synovial membrane at the insertion of the ligamentum teres in the acetabulum and around the head of the femur was thickened and red. The ligamentum teres was intact, and the cartilage, the rest of the synovial membrane, and the bone, which was sawed through, were healthy.

CASES TREATED BY DR. HUTCHINSON'S METHOD.

CASE VIII. Girl, five years old. The patient had been treated for hip disease two years before, remaining six months in bed, but was supposed to have recovered entirely, and had walked about freely for the past year. Symptoms, however, reappeared, namely, limping, pain in the knee, limitation to motion at the left hip-joint. The limb was slightly abducted. Crutches and a high shoe were given, which the patient has worn for six months, and still uses. An extension by weight and pulley was applied at first, but discontinued by the patient, and it caused some discomfort. The symptoms diminished, and the patient's health improved. At the present time, although there is no deformity, the stiffness on moving the hip-joint remained about the same. The child is liable, when not watched by the mother, to lay aside her crutches, and step upon the limb.

CASE IX. A somewhat similar case, occurring in a girl of the same age, affecting also the left hip. The child has had no inclination to step upon the limb. There has been no increase of symptoms during the treatment, but there has been no diminution of the stiffness at the hip-joint during the five months of continued use of crutches and an elevated shoe.

CASE X. Girl, five years old. The patient has had hip disease for several months. The thigh was badly flexed and somewhat abducted, and there was no motion at the hip-joint. The patient was not suffering from much pain, although pain could be caused by jarring the limb. Crutches and high shoe were furnished, and the treatment was carried out thoroughly. A severe attack of pain occurred, but subsided after putting the child to bed for three weeks and applying a weight and pulley. The crutches and high shoe were resumed, and after treatment of nearly eight months the stiffness at the hip-joint was found to have remained

the same; the flexion almost entirely corrected; the abduction remained the same. The patient's general condition was good, and she was free from pain.

CASE XI. Boy, eight years old, complained suddenly, without known cause, of violent pain in the left hip, causing him to limp in walking. The pain diminished, but the limping continued. On examination, slight limitation to motion was found, and some local tenderness. There was no nocturnal pain. The patient was kept in bed for two weeks; an extension by weight and pulley was applied, but caused the patient discomfort, and was discontinued. The boy was allowed to walk about freely, using crutches and an elevated shoe. This the boy did readily, and remained entirely free from pain. For several months the patient made no attempt to touch the affected limb to the ground, but later he frequently laid aside his crutches and took a few steps without, although the well limb was elevated by a patten four inches high. A few months later, the motion at the hip-joint being perfect, the crutches and high shoe were removed, but the pain returned, and they were resumed, with the effect of entirely relieving the pain. Three months later the crutches were again removed, and at the present time (three weeks later) there has been no recurrence of pain. The motion at the hip-joint is perfect, and there is no limping in gait.

CASE XII. A young lady, twenty years of age. The patient had prodromata of commencing hip disease for a long time, the disease developing slowly. This culminated in an attack of violent pain in the affected (the left) limb, for which she underwent treatment, wearing for a time a long extension splint. The improvement was so great that the patient was considered well, and apparatus was discontinued. After one or two months the symptoms reappeared. The patient was unable to walk; discomfort and pain at the hip and knee occurred at night; there was stiffness on moving the limb, aggravated at night. The thigh was flexed and abducted slightly; there was motion at the hip-joint only within a limited arc. Pain (referred to the knee) was caused by jarring the limb. The thigh was slightly flexed and abducted. The patient suffered pain on the jar of riding. An elevated shoe and crutches were furnished, and the patient directed to walk about freely and to bear no weight upon the affected limb. An extension by weight and pulley was applied at night, and during the day when the patient was resting. After a year of this treatment, thoroughly carried out, the patient has gained ten degrees of motion at the hip-joint; there is no flexion of the thigh. The patient is able to move her thigh about with much more freedom, and has been without pain. She is, however, at present unable to walk without her crutches. It was manifest in the course of the case that sufficient extension was not gained by the simple weight of the limb to make the patient comfortable. A weight of fifteen pounds was used by the patient when lying down, and she was never as comfortable without as with the extension.

CASE XIII. A girl, fifteen years old. A parallel case to the preceding, except that during a year's treatment there has been no gain in the amount of motion at the hip-joint, and no marked improvement, except in general condition. In this case, as in the preceding, the patient is not so comfortable without an extension by weight as with. Although she goes about constantly on crutches and is a large girl, the weight of

the limb alone is not sufficient to prevent the muscular contraction incident to the disease.

CASE XIV. L., a boy aged five. Disease of two years' duration, of the left hip. The patient had been treated by the long extension splint, and had been able with this to walk about freely. Three sinuses remained, discharging moderately; the limb was in good position, without flexion, and with a few degrees of motion, and without pain. The extension splint was removed, and the boy treated according to Dr. Hutchinson's method. The boy continued in good condition, but the amount of motion at the hip-joint diminished until the joint became fixed. The boy's mother stated that it was impossible to prevent him at times from laying aside his crutches and taking a step upon the lame limb.

MUSCULAR CONTRACTION NOT RELIEVED BY THE "PHYSIOLOGICAL" TREATMENT.

CASE XV. A girl, six years old. The patient suffered from disease of the left hip-joint, and was treated for nearly six months according to Dr. Hutchinson's method. Although the treatment was carried out with great care, and the patient used her crutches constantly, the extension from the weight of the limb was not sufficient to prevent the thigh from becoming gradually more flexed. On examination at this time the thigh was found at an angle of fifty degrees with its normal line (with the patient recumbent), and there was extreme sensitiveness of the joint. The deformity was gradually corrected by means of extension; a small abscess, however, formed later, and was incised. The sensitiveness of the joint remained for several months. The patient—fifteen months after the first application of extension—goes about readily, wearing an extension splint. Within the past two months she has been entirely free from pain.

CASE ILLUSTRATING A RECOVERY WITH BAD DEFORMITY.

CASE XVI. A girl, ten years old, had disease of the right hip-joint when quite young. Was kept recumbent for a year with an extension by weight and pulley. An abscess formed, discharged, and healed; there has been no discharge for six years. The patient has never worn apparatus, but goes about on crutches. She has been entirely free from pain for several years. On examination the right thigh was found flexed at an angle of forty-five degrees with the normal line of the thigh (in a standing position). The thigh was adducted, and there was no motion at the hip-joint. The trochanter is situated one inch above the Nélaton line. The legs are of equal length, but owing to the flexion and adduction of the thigh the patient is obliged to wear a shoe-lift three and one half inches high to prevent tilting of the pelvis; and although she can bear her full weight upon the affected limb, on account of the deformity locomotion is more comfortable with the help of a crutch.

A CASE TREATED BY ABSOLUTE REST AND EXTENSION.

CASE XVII. A girl, ten years old. The patient for several months had suffered from the prodromata of hip disease, which culminated in a very violent attack which had lasted for ten days. The patient was found in a pitiable condition. Intense pain was caused by the slightest motion or jar. The right thigh was badly flexed and adducted; there was great tenderness, heat,

and swelling over the right hip-joint. No treatment had been undertaken. An extension by weight and pulley was applied, with almost immediate relief to the pain. The patient began and continued to sleep well, requiring no opiates, which had been needed. She was subsequently immobilized completely by a wooden frame, which preserved parallelism, allowed the patient to be carried about, and permitted the use of extension by weight and pulley. A few months later an abscess formed and discharged itself, leaving a sinus which remained open discharging slightly for nine months, but healing finally. At the end of a year a long extension splint was applied, and the patient allowed to go about. The improvement in the general condition was rapid. A year later, on examination, perfect parallelism of the limb was found. There was no shortening, and no pain, tenderness, or muscular contraction. There was motion to the extent of ten degrees at the hip-joint. The girl was able to bear her whole weight upon the affected limb, and was desirous of laying aside the splint, but was directed to continue its use for several months, during the day, removing it at night.

A CASE TREATED SOLELY BY MEANS OF APPARATUS.

CASE XVIII. B., boy, ten years old, suffering from empyæma, developed symptoms of hip disease, which was recognized by Dr. Fessenden, of Salem, the family physician. The thigh was held firmly flexed at the hip-joint; the muscular contraction of the adductors was well marked. There was no tenderness, but pain was elicited on jarring the limb, the pain being referred to the knee. Some atrophy of the thigh was present. The boy walked using a cane. A long extension splint was applied and thoroughly attended to by Dr. Fessenden, the patient wearing it for a year. The patient soon became able to go about with freedom, and was entirely free from pain. Motion of the joint developed to about fifteen degrees. The boy's condition, however, remained poor. The sinus from the empyæma continued to discharge, and moist râles could be heard over the lung. April, 1879, a large abscess had formed in the vicinity of the hip-joint; this was aspirated by Dr. Fessenden, and afterwards discharged itself, leaving a sinus, which healed in three months. Several months later the extension splint was discarded, and one applied designed simply to prevent jar upon the limb in locomotion; this was worn for nine months, there being during this time an improvement in the general condition. At the present time there is perfect parallelism of the lower limbs and no shortening. The trochanter is in its proper place, and slight motion remains at the hip-joint. The sinus in the thigh has not discharged for a year; the boy is able to walk about freely, though with a limp. There has been for more than a year perfect freedom from pain, tenderness, or muscular spasm on jarring. Two months ago apparatus was removed, and at the present time there has been no evidence of a relapse. This is still possible, as the boy's general condition is not good. Râles are still to be heard in the lungs, and the sinus from the empyæma continues to discharge.

SYNOVITIS OF THE HIP-JOINT; RECOVERY AFTER ABSOLUTE REST.

CASE XIX. A healthy girl, five years old, a patient of Dr. Tarbell of Boston, was suddenly seized with extreme pain in one limb. There had been no prodromata except that the child had been noticed to

limp a few weeks before. The pain was intense, particularly severe at night, and the patient required opiates. The slightest jar caused violent pain. The pain increased for a week, and began to diminish, but was aggravated by changing the sheets. On examination the child was found lying with both thighs flexed and adducted. The patient could move the toes and ankles, and such slight motion of the knee (the patient lay with the thighs spread apart and the legs bent at the knee) as did not move the thigh was possible, but any motion disturbing the hip-joints caused intense pain. There was no fever, and none of the other joints were affected, but there was swelling and tenderness over both hip-joints. As the child was absolutely immobilized by the disease, nothing mechanical for the purpose was tried. Extension was not used, as the pain had been decreasing. In a few days this had diminished greatly, and in a short time had disappeared. In a month the patient regained perfect motion at the left hip-joint, but some muscular resistance remained at the right hip, and a light extension by weight and pulley was applied. In three months the child walked about freely, and six months later she was considered perfectly well by her parents. There has up to this time been no relapse.

A CASE SHOWING THE NECESSITY OF CONTINUING EXTENSION FOR A LONG PERIOD.

CASE XX. A girl, nine years of age, who had been treated at various charitable institutions for hip disease, during a period of two years, entered the Children's Hospital, in the summer of 1878, with the left thigh badly flexed and slightly adducted, and a great deal of sensitiveness on jarring the limb. The deformity was such that the patient was unable to walk without a crutch. The limb was straightened gradually by means of extension. The patient needed for comfort a great deal of extension, but walked about readily with the extension splint well applied. This she has worn constantly for two years, attending school and enjoying excellent health. The limbs are nearly parallel; there is no shortening, and no pain or tenderness at the joint. The patient's condition was so good that the extension splint was removed, but after a week the thigh became slightly flexed; this increased until the extension splint was again applied.

NOTE. — The following case came to notice as this article was going to press. It appears to illustrate the disadvantages of Mr. Thomas's splint.

CASE XXI. A boy aged five, with hip disease, had been treated for several weeks by complete fixation in bed and an extension by weight and pulley. The symptoms, which had been acute, had subsided. There was no swelling, pain, or tenderness about the hip, and the case had been progressing favorably for some time. A Thomas splint was applied and accurately fitted. On the following night there was severe nocturnal pain, which increased on the next night. The next day the hip was found swollen and tender, and the limb sensitive on jar. The symptoms all disappeared immediately on removal of the splint and the readjustment of the extension. The boy has since been progressing well, as before. The coincidence was so marked that there could be no doubt that the disease had been aggravated by the splint, and that this exacerbation was stopped by its removal. It should be said that in six other cases where Thomas splints were applied nothing of this sort has occurred.

RECENT PROGRESS IN THE TREATMENT OF MENTAL DISEASES.

BY THEO. W. FISHER, M. D. HARY.

THE EFFECT OF WILLED MUSCULAR MOVEMENTS ON THE TEMPERATURE OF THE HEAD: A NEW STUDY OF CEREBRAL CORTICAL LOCALIZATION.

This is the subject of a prize essay by R. W. Ammidon, M. D., of New York.¹ The three new and nearly related branches of modern medical science, cranio-cerebral topography, cerebral cortical localization, and cerebral thermometry, are first reviewed in their latest aspects. Broca, Férri, and Turner substantially agree in locating the lower end of the fissure of Rolando, which is the most important landmark in the brain, six centimetres above and a little behind the external auditory meatus, and its upper end four and five tenths centimetres behind the bregma. The neighboring convolutions, supposed to contain the psychomotor centres of the opposite half of the head, body, and extremities, can easily be mapped out from this central line. An outline head is given with a modified system of Férri's lines, from which all the convolutions can be located on the living subject. Dr. Ammidon holds that, in spite of numerous negative and contradictory facts, most observers will to-day agree that there is a certain area in the human cortex of psycho-motor centres, and other areas possessing either sensory or psychical, or at least no motor, attributes. Ferrier, Hitzig, and Munk have laid out a map of psycho-motor centres, which is supported by a large amount of clinico-pathological evidence. Davy made the surprising discovery that in decapitated animals and in man the post-mortem temperature of the cerebral mass was often 8° to 10° F. below that of other organs. Lombard, in 1867, in his thermo-electrical experiments on the difference in temperature between the scalp and the extremities, noticed marked fluctuations, due to mental effort. For instance, there was always a rise of temperature in the head and fall in the legs on reading a book, graduated accordingly as the book was stupid or the reverse. The rise was greatest on reading aloud. His last work in 1879, on the effect of mental states on cerebral temperature, embodies the results of sixty thousand experiments, and demonstrates that small elevations of temperature result from intellectual and emotional excitement. Schiff, Broca, and Gray have still further elucidated this subject by their experiments, proving local increase of temperature under sensory and other forms of psychical excitement. Gray found that the temperature of the left hemisphere was the higher when at rest, but rose only half as much as the right after reading or lecturing. He was also able to locate a tremor of the brain by the thermometer. In insanity the highest average temperature (36.9° C.) has been found in furious mania and the lowest (35° C.) in dementia. In all mental diseases the occipital lobes have the lowest temperature and the frontal the highest. It is higher in the frontal lobes in mania, simple melancholia, and dementia, but higher in the parietal lobes in general paralysis and in melancholia agitata.

In the summer of 1879 it occurred to Dr. Ammidon that excessive use of peripheral parts might cause a sufficient rise in the cortical centre for that part to manifest itself in the scalp. This he demonstrated in a series of experiments which we do not propose to

describe in detail, but will refer the reader to his essay, the accompanying diagrams being essential to their correct understanding. Having determined by the thermometer the supposed cranial locations of the centres for all the larger muscles and groups of muscles, he transfers them by means of outlines to the corresponding convolutions, and finds but little of the cerebral convexity uncovered. The unaffected regions are the anterior half of the temporo-sphenoidal lobes and the extreme anterior portions of the frontal lobes. He finds a striking correspondence between the centres marked out by thermometry and those of Ferrier as far as the latter extend. He thinks some of the large elevations of temperature noticed by Lombard and Gray after mental action were due rather to the accompanying muscular action of the face in speaking and the arms in gesticulating. He claims to have added many centres to those of Ferrier, in parts before considered psychical or sensory.

ON THALAMIC EPILEPSY.

Dr. Hammond, in a recent paper,² describes a form of epilepsy not hitherto differentiated or associated with a definite brain lesion. He enumerates six varieties, described by Dr. J. Hughlings Jackson³ as follows: (1.) A sudden and temporary stench in the nose with transient unconsciousness. (2.) A sudden and temporary development of blue vision. (3.) A spasm of the right side of the face with stoppage of speech. (4.) A tingling of the index finger and thumb, followed by spasm of the hand and fore-arm. (5.) A convulsion almost instantly universal, with immediate loss of consciousness. (6.) Certain vertiginous attacks; loss of consciousness. Dr. Jackson does not make unconsciousness an essential part of his definition of epilepsy, which is "an occasional sudden and rapid discharge of gray matter in some part of the brain." Dr. Hammond thinks, as some of Dr. Jackson's forms do not tend to pass into the graver variety, they hardly deserve the name of epilepsy, and he would insist on unconsciousness as an essential symptom. He describes two cases of hallucination without delusion or convulsions, and with very brief unconsciousness, which he regards as epileptic, and due to an affection of the optic thalami. He regards the optic thalami as centres of sensory perception, in opposition to the opinions of Jackson, Ferrier, and Nöthnagel. Ferrier calls them "ganglia of interruption," and regards them as intimately connected with all sensorial functions, but thinks sensorial epilepsy is of cortical origin. Nöthnagel thinks it impossible to make a diagnosis of lesions of the thalami with any degree of certainty.

GENERAL PARALYSIS.

The following statements and opinions concerning general paralysis are taken from the retrospect of the *Journal of Mental Science*. Dr. Crocmer records⁴ his observations of the temperature in general paralysis. He describes three forms of this disease: the maniacal with meningitis, the melancholic with a tendency to apoplexy, and the obtuse or apathetic with atrophy. In the former the temperature is the highest, and the daily fluctuations greatest. In the melancholic form the temperature is lower and less variable. In the

¹ Archives of Medicine, August, 1880.² On the Anatomical, Physiological, and Pathological Investigation of Epilepsies, West Riding Lunatic Asylum Reports, vol. iii, 1873.³ Zeitschrift für Psych., Band xxxvi. H-ft 2 and 3.⁴ Archives of Medicine, April, 1880.

third variety there is little change until a falling temperature indicates the approach of death. As a rule the temperature is lower than in other diseases, and lower than in healthy patients. Paralytic attacks are always accompanied by a rise preceded by a fall of a very brief duration, indicative of the irritative stage.

Dr. Montyel denies the assertion of Dr. Doutebente that general paralysis tends to become chronic in cases with hereditary tendency to insanity.¹ The latter believes the time is not far distant when general paralysis will no longer be considered a form of insanity, but a morbid entity, an interstitial encephalitis. He also thinks an inherited tendency to insanity retards the progress of the disease. It is not hereditary, as insanity is, but is due to an inherited temperament, normal and non-morbid. Dr. Montyel, by careful observation in a large number of cases, shows that in general paresis inheriting insanity the disease has not shown any tendency to become chronic.

Dr. Baillarger arrives at the following conclusions in reference to the remissions in general paralysis:² (1.) Melancholia with paralytic stupor, or simple paralytic stupor, may assume most serious symptoms, and simulate advanced dementia, and nevertheless be followed by remissions after several months. (2.) When symptoms of dementia with some delusions develop rapidly during the first stage of general paralysis they may not belong to a genuine dementia, but to a pseudo-dementia, constituting a special condition not yet sufficiently examined. (3.) The existence of dementia at the beginning of general paralysis is frequently erroneously diagnosed from certain special characters, or because it is supposed to be masked by maniacal or melancholic delirium. (4.) The constantly varying, absurd, contradictory delirium of general paralysis is not a proof of the existence of dementia, and may be explained by a special condition comparable to certain cases of drunkenness. (5.) Pseudo-dementia in general paralysis cannot at present be distinguished from true dementia except by its rapid invasion and signs of stupor. (6.) There are no genuine remissions in simple, chronic, and progressive paralytic dementia.

Dr. Christian has written a series of articles,³ showing by tests with the dynamometer and by weighing that there is no real paralysis in general paralysis, but merely ataxia with debility, and no definite relation between weight and muscular power. The marasmus may be extreme and the strength fair, or the contrary. The patients preserve to the end the will and the power to contract their muscles forcibly, nor do the muscles undergo fatty degeneration. He concludes also, from careful observation, that the involuntary muscles are seldom paralyzed, the patient usually being dirty from absence of mind and dementia, though the sphincters may be occasionally really paralyzed. He believes that the disease is primarily an interstitial encephalitis, beginning in the intellectual centres, which are progressively destroyed. The motor centres are only irritated secondarily, and the motor disorders are proportionate to the intellectual. The fibrillar trembling, he thinks, is caused by an alteration in the muscular plasma.

USE OF QUININE WITH NERVOUS SEDATIVES.

Dr. Langdon C. Gray recommends the use of quinine in doses of five to ten grains when the bromides

are to be used in full doses. In epilepsy he found it increased their anti-epileptic potency, while diminishing or dispelling the bromism. It acts in a similar way with belladonna and hyoscyamine. He thinks it may be a general law that tonics and stimulants increase the sedation and lessen the depression of nervous sedatives. Chloral with whisky or given in a glass of sherry acts better than when given alone.⁴

GYNECOLOGY AS RELATED TO INSANITY IN WOMEN.

Dr. Alexander J. C. Skene is professor of gynecology in the Long Island College Hospital, and has charge of the gynecological practice at the King's County insane asylum at Flatbush, under direction of Dr. J. C. Shaw. This institution contains four hundred female patients, affording ample field for observation and practice. This experiment of employing an outside specialist in female diseases has long been urged as of vital importance, but judging from Dr. Skene's experience its importance has been very much overrated. He describes first⁵ the difficulties of investigation under the peculiar circumstances of the case, and the difficulty of obtaining information from the patients or the records. He admits the reaction of mental disease on other organs than the brain, as well as the causative influence of uterine disease in the production of insanity. Either may be primary and causative, or secondary and resultant. The gynecologist has the advantage in estimating this causative influence, since he can assure himself of the existence of uterine or ovarian disease in his patients and watch the advent of mental disorder in many cases, while for the hospital physician insanity obscures the diagnosis by changing or masking the subjective symptoms. He would rather find fault with gynecologists for having done so little, considering their opportunities to develop this branch of medical science, than with psychologists. The mistake has too often been made, as in Dr. H. R. Storer's book on *Insanity in Women*, of attributing too much to reflex action. In many cases of chronic uterine disease the impaired nutrition of the brain, due to prolonged suffering, is the direct cause of the insanity which follows, the local disease being merely the indirect predisposing cause. Exhaustion due to extraordinary functional activity of the sexual organs, as in frequent child-bearing, and lactation is an important cause of insanity. This nervous exhaustion may or may not be accompanied by anæmia. Too many other burdens are added, both by rich and poor, to the demands of the age of reproduction. Insanity at puberty may not be due to reflex irritation, but to the mental and, especially, emotional excitement incident to that period. At the menopause imperfect elimination or suppression of an accustomed discharge may account for many cases of insanity. The puerperal state and venereal excess act through exhaustion rather than by irritation. No active disease of the sexual organs is present in a very large proportion of cases of insanity from sexual causes in women, so that local interference is rarely required. Dr. Skene shows much candor and good sense in thus admitting what has already been thoroughly understood by hospital physicians, whose conservatism has been so often denounced.

He next considers the effect of insanity on the reproductive system. Observations were made by him in the cases of two hundred insane women, from seven-

¹ *Annales medico-psychol.*, November, 1878.

² *Loc. cit.*

³ *Loc. cit.*

⁴ *Archives of Medicine*, October, 1880.

⁵ *Archives of Medicine*, February 1, 1880.

teen to forty-six years of age, for six months. Eight having died, of the remaining one hundred and ninety-two there were only twenty-seven who menstruated regularly and normally; thirty did not menstruate at all; four, once; eight, twice; ten, three times; eighteen, four times; thirty-four, five times; twenty-four, six times, at irregular intervals; thirty-one, seven times; and six, eight times, during the six months. The impaired general nutrition accounts for the absence of menstruation in most cases. Amenorrhœa is conservative and not abnormal in such circumstances. Deranged innervation, mental anxiety and shock, are also causes of this suspension. It was observed that in those patients who menstruated normally the insanity was of a mild type; and in general menstruation was affected in proportion to the degree of insanity. Excessive menstruation is usually due to uterine disease, and should be taken as evidence of that fact. Its presence is of course easily determined. Functional affections of the uterus are generally favorably affected by insanity, and often disappear spontaneously. This class of diseases therefore needs little attention from a gynaecologist in an asylum. That class of the insane who manifest unusual sexual desire, or whose ravings are obscene, mostly suffer from centric emotional disorder. Such cases may have had their origin in some disease or abuse of the sexual organs, which either disappears, or eludes the gynaecologist's diagnostic skill in the hospital.

Dr. Skene thinks that organic diseases of the uterus, when they exist, do exercise an important influence in causing insanity or in preventing recovery from it. He believes that acute insanity wholly due to disease of the sexual organs will be relieved by curing the primary affection, while chronic insanity will remain after the local disease is removed. He doubts the value of many of the cases reported in current medical literature in which speedy cure has followed local treatment. He gives the headings of a hospital case-book, arranged to bring out, by inquiry of relatives, the previous history of the condition of the sexual organs. He finds physical exploration of the pelvic organs of insane women beset with difficulty. It cannot be accomplished without ether, and he says, in view of the difficulty and injurious after-effects of the ether, the results did not justify the means. Nitrous oxide gas he found more agreeable and its effects occasionally useful. The local treatment does not differ essentially from that in sane patients, except where the coöperation of the patient is required.

ALCOHOLIC INSANITY.

Dr. Sutherland recently reported to the psychological section of the British Medical Association the result of his investigations in two hundred private insane patients, half males and half females. Of the males twenty-six and of the females six cases were alleged to have been caused by drink, but on closer examination eight of the male and two of the female cases were those in which alcoholic excess was only a premonitory symptom. The two classes are to be distinguished as follows: When intemperance is a cause the previous habits of the patient are those of a drunkard, and often no other influence can be detected. When intemperance is a symptom some other cause, such as a blow on the head, is found to concur, and the mental symptoms have somewhat preceded the intemperance. When alcohol is the cause the mental

symptoms are those of homicidal mania or suicidal melancholia with eccentric conduct. When intemperance is a symptom the mental phenomena are those of mild melancholia or delirium tremens. When intemperance is a cause the delusions are those of suspicion or grandeur; when a symptom they are of a quiet order. Acute cases of alcoholic insanity, in his experience, recovered, but if caused by intemperance the patient invariably took to drinking on his discharge; if drinking was a symptom the patient frequently remained sober. In chronic cases caused by drink there was a continued craving, and dementia rapidly supervened. If on the contrary, drink was a symptom the mental condition remained stationary, and the patient was satisfied with a moderate amount of drink.

After a two days' discussion of this subject and the general causative influence of intemperance in producing insanity and idioey, the president, Dr. J. Crichton Browne, remarked that medical psychologists could not sanction extreme views on either side. Alcohol, he thought, had an immediate deleterious effect upon the highest nerve centres, and might induce insanity in cases where no predisposition existed. Delirium tremens, mania à potu, monomania of suspicion, and alcoholic dementia presented a series of mental diseases due directly to alcohol. It might also be a contributory cause when concurrent with predisposition, nervous enfeeblement, and other causes, or a remote cause by leading to cranial injury, and then aggravating the effects of the blow. He thought the percentages of the commissioners in lunacy nearly correct, namely, 21.3 per cent. for males, and 7.9 for females. Mr. Mould reported one case of dipsomania, in which the patient had been maniacal one hundred and fifty times, recovering each time in three days.

HABITUAL DRUNKARDS' BILL.

At the last annual meeting of the British Medical Society, the report of the habitual drunkards' bill committee was accepted, and the committee continued. A resolution was passed unanimously that the "support of the association be requested, with the view of obtaining from the legislature some provision whereby habitual drunkards who become chargeable to the rates should be placed under such restraint as may lead to their being reclaimed." The committee hoped to raise the funds necessary for the establishment of a home for inebriates on the voluntary plan permitted by the new act, and expected then to induce magistrates to give inebriates the choice of detention in prison or in the home for an equal time, thus making the act in effect compulsory.

(To be continued.)

Reports of Societies.

RECORDS OF THE BOSTON SOCIETY OF MEDICAL SCIENCES, OCTOBER, 1879, TO MAY, 1880.

JAMES J. PUTNAM, M. D., SECRETARY.

TUESDAY, OCTOBER 21, 1879. DR. WHITE showed a *hair* such as was exhibited at the last meeting of the British Medical Association by Dr. Walter Smith, of London. The diameter of the hair was subject to regular variations of considerable amount, alternately narrowing and widening, and the optical effect to the naked eye was of light alternating with dark spaces.

The hair was from the head of a young man, and showed no pathological changes which might account for this manner of growth. The appearances suggested trichorexis, but this affection is really of a different nature.

Dr. DWIGHT said that to similar light effects from contrast are to be ascribed the microscopic appearances seen in examining certain tissues, and giving rise to false notions of their structure.

Dr. H. P. BOWDITCH spoke briefly of some experiments which he had made bearing on the question as to the relative degree of assistance which we get from our sense of touch and muscular sense, and from our sense of sight, in the determination of the position of objects in space.

It would seem at first glance as if the delicacy of the visual sense were much greater than that of the tactile sense, yet, as a matter of fact, we constantly use the latter in connection with the so-called muscular sensibility to correct the former: thus in detecting the flaws in a piece of nice joiner's work.

Dr. Bowditch's own experiments were to study the point whether the use of the sight or of the muscular sense best fixes the exact position of an object in the memory. To this end he had brought a small glass bead into different positions on the table, at times with the eyes open, but without placing it with the hand, at times with the eyes closed, while the finger was used to place the bead, and had then tried under which of these two conditions he was best able to locate the bead subsequently, with the end of a knitting-needle, the eyes of course being closed. The results were as follows:—

Location by touch: minimal error, 8 mm., maximal error 38 mm., average 19 mm.

Location by sight: minimal error, 8 mm., maximal error, 33 mm., average 11.4 mm.

Dr. Bowditch observed that he was well aware that it was not exact to speak of the sense of sight in these experiments, since in reality the tests principally concerned the ocular muscles.

Another method, not yet tested, would be to try comparative estimates of size of objects by the use of sight and of touch.

Dr. BLAKE suggested that the best form of object for this purpose would be a raised circle, round which the finger should be carried, since with small objects more could be felt than would be exposed to sight from any one point of view.

Dr. HAY spoke of various conditions which modify the judgment of the eye, as whether a line is horizontal or perpendicular, etc.

Dr. JAMES said that these observations of Dr. Bowditch brought to mind the experiment of Helmholtz, who found that his ability to reconverge his eyes upon an object (finger) held up before him was increased if before opening his eyes he touched the object with his finger.

Dr. BOLLES spoke of the degree to which education (which may be excessively rapid) comes into these problems as a complicating factor, as, for example, in the case of type-setters.

The delicacy of muscular sense as compared with sight is shown in the case with which we move a slide under the microscope through the minutest distances.

Dr. WADSWORTH thought it would be hardly fair to compare the efficiency of sight with that of touch in estimating the size of objects, since our very notion of

size and distance requires the use of both senses, one to supplement the other. Certainly by sight alone we could acquire no idea of distance.

Dr. BOWDITCH admitted this as regards sight, but said that with touch alone (including muscular sense) it is manifestly possible to acquire quite accurate notions of distance, as in the case of the blind. Dr. Bowditch further suggested that behind education there might be anatomical and physiological reasons for the greater accuracy of different sets of muscles, as, for instance, the varying richness of their nerve supply.

Dr. DWIGHT thought that the importance of this point could be overrated. The abducens oculi, for example, receives a larger supply of nerve fibres than any of the other ocular muscles, yet its functional power is not greater than theirs.

Dr. BLAKE described the principle and use of the *tephophone* of Professor Meyer.

TUESDAY, DECEMBER 30TH. Dr. GREEN showed and explained the use of *Professor Hughes's audiometer*.

Dr. Green said that he was not prepared to give his opinion of the instrument in full at this time, but could say that it was not an accurate measure of the hearing power in general as in relation to talking, but only in relation to this special kind of sound, which is a different matter, the hearing for one kind of sound being often impaired without that for another suffering any change (a fact which has its analogy in affections of the eyesight).

Dr. FOLSON gave an account of the investigations of the National Board of Health at Memphis, which will be published in substance elsewhere.

JANUARY 20, 1880. Mr. BROWN, introduced by Dr. Bowditch, showed a *modification of the Fletcher microtome*, devised by himself.

Dr. BOWDITCH considered the main advantage of the instrument to be its portability. It cuts fully as large sections as the other.

Dr. EDES showed *casts of the pelvis of the human kidney*, one being from a case of interstitial nephritis. In this the branches were much smaller than in the other, which were normal.

It would appear from these casts that in most kidneys the arrangement of the pyramids is hardly so symmetrical as that described by Lenhossek.

He showed also some "corrosion preparations" of the sheep's kidney, the pelvis, artery, and vein being injected, and the parenchyma subsequently removed by hydrochloric acid and washing.

In these preparations the single papilla found in the kidney of the rabbit, cat, and dog, and the numerous ones of the human and larger mammalian kidney, are represented by a longitudinal ridge, joined at right angles by from five to seven branches on each side, curving downward around the sinus of the kidney.

Between the branches of the pelvis inclosing these elongated papillae are, very symmetrically arranged, the branches of the renal artery and vein.

In reply to Dr. Cabot, Dr. Edes said he could not tell whether the walls of the pelvis were thickened or not.

In reply to Dr. Bowditch he said that he had carefully compressed the kidney before injecting, in order to expel the air.

DR. GREEN called attention to two new instruments which had been extensively lauded about the country: the *dentaphone* and the *audiphone*. Dr. Green outlined the anatomy of the ear, showing upon the board the membrane, tympanic ossicles, semicircular canals, and cochlea.

There are two distinct ways in which we hear: one by the transmission of vibrations from the air through the tympanum, ossicles, fluid in the internal ear, to the nerves; another by a similar transmission of vibrations through the bones of the head to the petrous portion of the temporal bone and finally to the same nerves.

Dr. Green quoted Dr. Trumbull in calling one of these modes of hearing acoustic, and the other nervous.

Many circumstances may produce resistance to the passage of sound in acoustic hearing: thickening of the drum, calcareous deposits, etc.; hence acoustic deafness. There may be also diseases in the nervous part of the ear; hence nervous deafness. In practice, it is customary to use noises and notes to test the acoustic hearing, and the common forms of tests for this purpose are the watch and the voice. In examining the nervous hearing the tuning-fork is used in contact with the bones of the head, the fork in vibration being placed on the median line of the forehead, or on the teeth, and in this way the sound is conveyed directly to the auditory nerve through the bones of the skull.

This test of the so-called bone conductor has been employed for a long time, and gives some surprising results, especially in one-sided acoustic deafness: for if in these cases the fork is placed upon the forehead and teeth, to the surprise of the patient, it is heard loudest or entirely in the diseased ear. The explanation of this is that the waves of sound being propagated in every direction, when they reach the tympanic cavity pass out, in part, through the conducting mechanism of the ear, and whenever this conducting mechanism is in its normal condition are lost to our perception; if, however, this mechanism offers more resistance than normal, as in acoustic deafness, from immobility due to thickening, calcifications, etc., the amount of sound which normally passes out and is lost is reflected back to the nerve of the ear. Any person can make experiment on himself in producing acoustic deafness by closing one meatus with the finger, and then testing with the tuning-fork; the closing of the meatus setting up the same sort of resistance as is offered by the calcified or thickened drum membrane.

The object of artificial aids to hearing is so to intensify the waves of sound that they can overcome the resistance opposed by these diseased conditions. The different forms of ear-trumpets and conversation tubes are calculated to bring about this intensification of the waves of sound for cases of acoustic deafness. The object of the audiphone and dentaphone is to utilize the bone conduction for ordinary hearing, just as it has been utilized for a long time in testing, namely, so to increase the sound that it may set the bones of the head in vibration, and thus eventually reach the auditory nerves without being obliged to pass through the conducting mechanism.

Although these two instruments were the first attempts systematically to use bone conduction for ordinary hearing, the principle is by no means new. At least ten years ago, Dr. Green had seen a patient with extreme acoustic deafness, who claimed that with a palm-leaf fan held in the teeth he got a marked improvement in his hearing. He showed also an instrument which was given him several years before, consist-

ing of a metallic plate attached to a bit of rattan, the end of the rattan being held in the teeth, and the voice being directed against the metal; the person who made this instrument had thought it of some assistance. He also spoke of a stick in the teeth placed against the sounding board of a piano, to convey music to very deaf persons, and said that instances of the application of this principle could be multiplied greatly. He then showed the two instruments under discussion: the audiphone, of which the essential point was a large plate of vulcanized rubber, which was sprung up against the upper teeth, and the surface of which, being large, was capable of receiving a considerable body of sound; and the dentaphone, which was a simple metallic plate, to the centre of which a string was tied, while the other end of the string was made fast to a flat bit of wood to be held between the teeth; the disk was inclosed in a wooden box, in which was a small, funnel-shaped mouth-piece to receive the sound.

The instruments were shown on account of the estimation in which they were held by a portion of the public,—an estimation which Dr. Green thought was immensely exaggerated.

He had tested the audiphone in a considerable number of cases, but had found that the gain at the best was but slight, being not more than from two feet without the instrument to perhaps four feet with it. They could only be useful where there was great acoustic deafness, and at the same time a perfect nervous structure.

As the acuteness of bone conduction varies greatly in different persons and at different ages the application of these instruments must vary with it, and as neither of them are of a character greatly to increase the intensity of sound the limit of their power must be very soon reached. If the capabilities of the bone conduction with these instruments exceeded those of air conduction with a trumpet, they would of course be the most useful aid; but in practice Dr. Green thought this would rarely be the case, and that we could exclude these instruments in all cases except those of the profoundly deaf.

If the resistance in the conducting mechanism had reached an extreme degree and the nerve was perfect, they would be of assistance up to their limit of power, which, he thought, would never be more than a few feet, unless in exceptionally acute bone conduction, — a rare condition.

The great obstacles to their general application even in these cases is, however, the pathological fact that when the conducting mechanism is as seriously diseased as in the cases under consideration the nervous structures have also become most seriously impaired in their functions. He condemned in severe terms much that had been printed in the non-scientific press as calculated to give a very erroneous impression of the power of these instruments.

The principle involved had a certain scientific basis, and the instruments were of use in a few cases.

— *Apraxos* of the constantly increasing bad smells in which various quarters of Paris abound, a late number of the *Charivari* depicts a gentleman in the country standing over a manure heap inhaling its emanations. He replies to his son, when asked by him what he is doing there, "Going into training for a visit to Paris."

Medical and Surgical Journal.

THURSDAY, NOVEMBER 11, 1880.

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SINGLE OR DOUBLE SCHOOL SESSIONS.

As we write the question is pending, in regard to one of the public schools of Boston, between a single session of five hours, from nine to two o'clock in the morning, broken by two recesses (one of ten minutes at half past ten, and a second of twenty minutes at ten minutes past twelve), and a double session of three hours, from nine to twelve A. M., broken by one recess of ten minutes, with a second session, from two to four o'clock, four afternoons in the week.

The latter division of hours is the one which obtains in most of the public schools; the former division is the one which exists now, and always has existed in the school above mentioned.

The matter has excited considerable interest among those personally interested in this particular school. The discussion has been carried into the daily papers, enlarging its scope in the mean time so as to cover some important points as to the amount of strain to which growing children may properly be subjected, and the claim which it is judicious to make upon their consecutive attention. On all the points involved "medicus" and "materfamilias" have had an opportunity to express opinions. On the one side, parents, teachers, and scholars seem to be almost "solid" for the single session, and on the other some one else seems to be quite "solid" against it.

If the subject involved no more serious question than the dinner hour of the parents it would perhaps not be suitable for our consideration, but as the hygienic aspect of the matter has excited some attention we may permit ourselves a few words in regard to this. Chadwick, the best authority as yet on this topic, concludes that a child from the age of five to seven can attend to one subject for fifteen minutes; from seven to ten years of age, about twenty minutes; from ten to twelve, about twenty-five minutes; from twelve to sixteen or eighteen, about thirty minutes. The total daily mental work suitable for a young person from twelve to sixteen years of age, taking Chadwick's estimates as a basis, and making allowance for the rapid development at this period, is placed at from five to six hours. Where children are not over-stimulated to study out of school hours, these conditions, we believe, are fairly well met in our public schools by change of subject and short and repeated recess, whether the session be a single or a double one. But the question of the child's capacity for play and for continuous play is quite as important as his capacity for study, and the risks incident to repeated journeys to and from school in the very ex-

posed part of the city where this particular school is situated are not imaginary, and these two points seem to have been instinctively seized by children and parents in de-irring a single session. In this case we think practical experience has the advantage over abstract reasoning.

REPORT ON THE PLAGUE IN RUSSIA.

THE French commissioner, Dr. C. Zuber, associate professor of epidemiology in the school of Val-de-Grâce, has finally sent in his report on the epidemic outbreak of plagues in the Russian provinces of Astrakhan, which our readers will remember excited so much attention in the winter of 1879. All the other commissioners having previously reported, it only requires the publication of such materials as the Russian government is possessed of to put the public in possession of all the facts and opinions which it is likely to get at, or which will be of service in forming a conclusion as to the origin, the characteristics, and the course of this epidemic. Dr. Zuber's report is full and the materials are well digested. The delay in making it up has not been altogether a disadvantage. He is decidedly of the opinion that the disease was imported from the Persian littoral on the Caspian to the Russian town of Astrakhan, the capital of the province of the same name, and from thence carried along the Volga to Vetlianka and the other stanitzas where the outbreak was so virulent. It will be remembered that there was a severe outbreak of plague at Resht, the principal Persian seaport on the east coast of the Caspian, in 1877-78. There is always an active trade by water between this place and Astrakhan, and there was eventually established a tardy and inefficient quarantine. Ambulant cases of abortive plague were soon observed in Astrakhan, and continued for some time. If this was plague, which Hirsch is disposed to deny, it was of a very mild type. It is not unusual, however, to find severe outbreaks of plague in the Levant preceded by a series of these "abortive" cases. We may therefore regard Dr. Zuber's hypothesis in regard to the origin of the Vetlianka epidemic as perhaps more probable than the one of importation in goods from Armenian towns, preferred by Hirsch, and certainly as more congenial than that of an autochthonous origin, suggested by one of the British commissioners, Colville. We are disposed to think Zuber right when, in opposition to Hirsch, he designates the malady as the true bubonic plague of the Levant, and declines to consider the claims of Indian or Pali plague, in which detail the erudition of Hirsch has only served to confuse a subject already none too clear.

INSANE CRIMINALS AND THE CRIMINAL INSANE.

WITH the arrangements which exist at present in most of the States the proper disposition to be made of an insane person who commits a criminal act and has criminal tendencies, and of a criminal who subse-

quently becomes insane, is not satisfactory and is perplexing.

Not long since attention was directed by a member of the Committee on Lunacy of the State Board of Massachusetts to the fact that there were among the prisoners at the state's prison a number who were clearly insane; some having become so since imprisonment, and others having probably been so before conviction. The impropriety of confining these men with the sound criminals and subjecting them to the same discipline was clearly pointed out.

The late message of the governor of Vermont has excited approving comment, on the other hand, because he notes as an abuse, requiring reformation, the practice of confining convicts who have become insane with the ordinary insane in the state asylum. The objections to such a course are obvious.

The state of things complained of in Vermont and in Massachusetts are both undesirable, but we do not see precisely how they are to be obviated without some special provision for the care of these cases.

MEDICAL NOTES.

— It is reported that Hon. Moses Kimball has resigned his position as a member of the State Board of Health, Lunacy, and Charity, and that Hon. Thomas Talbot has been appointed and confirmed as his successor. It may be remembered that it was under Mr. Talbot as governor that the old board of health was submerged.

— There was a pleasant meeting of the Massachusetts Medical Benevolent Society last Thursday evening at the house of its hospitable president, Dr. H. W. Williams.

— The *Medical Press and Circular* says that M. Tillaux brought before the Academy of Medicine, of Paris, on August 31st, a woman on whom he had performed hysterectomy, a year previously, for a cystic tumor. He had removed the greater part of the uterus and the tubes, leaving only the intra-vaginal portion of the cervix and a very small stump of the supra-vaginal portion. Both ovaries were preserved, but there was complete interruption of the connection between them and the trunk of the uterus which was left. Since the operation the woman had menstruated regularly every month; the periods lasted three or four days, but have been less abundant than before the operation. M. Tillaux has ascertained by examination with the speculum during menstruation that the blood comes from the stump of the uterus, and not from the vagina. With regard to the genital functions, the woman declared to M. Tillaux that they were performed better than ever, from all points of view. As a kind of contrast, M. Tillaux, last November, removed from a girl, aged twenty-two, both ovaries, which were diseased; since the operation the girl, who is wonderfully well, has menstruated every month exactly. From these cases we must conclude that the physiology of menstruation, in its relation to ovulation, which was considered as a question long settled, re-

quires new researches to account for these contradictory facts.

— The *Druggist's Circular* gives this useful information: "The decay of wood imbedded in the earth is difficult to guard against; but, according to the *Farmers' Gazette*, a simple precaution, costing neither money nor labor, will increase the durability of posts put in the ground by fifty per cent. This is simply to take care that the wood is inverted, that is, placed in the opposite direction to that in which it grew. Experiments have proved that oak posts put in the ground in the same position as that in which they grew, top upward, were rotten in twelve years, while their neighbors, cut from the same tree and placed top downward in the soil, showed no sign of decay for several years afterward. The theory is that the capillary tubes of the tree are so adjusted as to oppose the rising moisture when the wood is inverted."

— The *Cincinnati Lancet and Clinic* says: "From the *Medical Register* of the Illinois State Board of Health for 1880, it appears that the total number of practitioners in the State, when the law regulating the practice of medicine went into effect, July 1, 1877, was about 7400. Of these only 3600, or less than one half, were graduates or licentiates, the remaining 3800 being unqualified practitioners. The graduates and licentiates at the present time number 4825, and the non-graduates 1500; or, in other words, the number of qualified practitioners has increased by about 1225, while the number of unqualified practitioners has decreased by 2300, which gives a diminution in the total number of practitioners equal to 1075. The number of itinerants in the State in 1877 was 73; in 1880 only nine. The number of cancer doctors in 1877 was 23; in 1880 only four.

"Do we need any more eloquent plea for sound medical legislation? Are there no other States that require a similar purgation?"

— *Gaillard's Medical Journal* prints this item: "A distinguished friend from Aiken, South Carolina, sends the following appropriate anecdote in regard to the Philadelphia diploma 'mills':—

"The descriptions in the various journals of the breaking up of the bogus diploma mills in Philadelphia reminds me of the following amusing anecdote of Rabalais: In his time, the old University of Montpellier was extensively engaged in the same sort of business that has just brought the University of Philadelphia to grief. Diplomas were not only sold, but in many instances even the presence of the applicant was dispensed with. Unable to resist the temptation to play a practical joke on the venerable faculty, and, perhaps, also with a view to checking their scandalous trade, Rabalais addressed them a formal application in behalf of a young friend, dwelling with great fervor on his profound learning and wonderful skill in medicine. Inclosing the customary fee, he ended with the request that the degree of doctor of medicine should be conferred on this friend, whose name was Johannes Caballus. In the course of time the precious sheepskin arrived, but the rage of the faculty may be better imagined than expressed when the

report reached them that they had made a jackass a doctor, M. Johannes Caballus being none other than Raballais' favorite ass." Rabalais, however, had another method of spelling his name than that adopted by the distinguished friend of Dr. Gaillard.

NEW YORK.

— The trustees of the American Museum of Natural History have just held their autumn reception at the new building on Manhattan Square, near Central Park. Among the acquisitions to the museum since the spring reception, in May last, are the following: A collection of sand and fresh-water shells containing the typical specimens delineated in the works of Binney and Bland, presented by twelve members; three skeletons of Anstrilians, presented by Mr. Morris K. Jessup; an ethnological map of Africa, prepared by Professor Brickmore, the superintendent of the museum; an American archaeological collection, deposited by Mr. Andrew E. Douglas; and several additions to the ethnological collection, including a war canoe from the South Seas, New Zealand weapons, carvings and stone axes, axes from New Guinea, and ornaments and carvings from British Columbia. The additions in the geological hall consist of some manuscript geological maps of Eastern North America, prepared by Professor Whitfield, and a number of encrinurites and other fossils from several formations, purchased by the trustees out of the collection of Mrs. Braum, of Cincinnati. The specimens intended to illustrate Dana's Manual of Geology have been rearranged and labeled, and most of the birds forming the fine Maximilian collection have been remounted. The entire collection of shells belonging to the museum has also been remounted. Hitherto it has been the custom to place the shells on the shelves without reference to position, but now they have been arranged upon stands in such a manner as to show the position in which they rest upon the upper vertebrae during life.

— The irrepressible Tanner, having made a total failure of his lecture tour in this country, is said to be about to afflict the good people of England with a series of lectures in different cities and towns. He says he is completing arrangements with Dr. B. W. Richardson, of London, to make a forty days' fast there, in order to show the superiority of water over alcohol. The idea is to issue a challenge to the "brewers, distillers, and doctors," who shall select six men, as near Tanner's age and physical condition as possible, to enter into competition with him. They may use wine, beer, or any spirituous liquor they choose during the fast, while he will take only water.

Speaking of Tannerism, a mother and daughter near Syracuse have been fasting so persistently, under the influence of religious fanaticism, that the most serious consequences resulted. The girl, who was fourteen years of age, actually died of starvation, and the mother, whose system had become much reduced, was restored with difficulty.

— Our Brooklyn exchange remarks that malpractice suits will not occur there so frequently as formerly. The judges are falling into the habit of summarily

dismissing causes brought against medical men, if the plaintiff cannot show a good and substantial ground of grievance. The cases that have recently been taken up "on spec." have fared badly.

PHILADELPHIA.

— Dr. Elliott Richardson, of this city, reported at the last meeting of the Obstetrical Society a case in which he had recently performed a modified Porro operation. As the patient has now recovered, and as it is the first successful operation of this kind performed in this country, the following notes will be of interest. The patient was a dwarf, three feet and a half (forty-two inches) in height, and twenty-five years of age. She was connected with a circus, and was married to one of the attachés, a man of ordinary size. On account of great contraction of the pelvis, Casarean section near the termination of full term was decided upon. The operation was performed under carbolic spray, the usual precautions being observed. The Porro operation as modified by Müller was done in the presence of Dr. Harris, president of the Obstetrical Society, Professor Goodell, Professor Tyson, and Dr. Albert H. Smith, president of the County Medical Society. The child was extracted alive, and has survived the operation. The mother did well for more than a week, when she had an attack of milk-leg, which, however, did not prove to be serious. She has within the past week been reexamined by the physicians who were present at the operation, who consider her as entirely recovered.

— Another very rare operation was successfully performed last month at the German Hospital. A patient over fifty years of age, who had been suffering for years with trifacial neuralgia, and had all of his teeth upon one side extracted without relief, came under the care of Dr. Ferdinand H. Gross, one of the attending surgeons to the hospital. It was a very severe case of tic, involving all three of the branches of the right fifth nerve. The patient was in almost constant torture from the rapidly recurring pains. By pressing upon the common carotid artery of the right side, the attending surgeon found that the pains were controlled; he therefore decided to adopt the recommendation of Nussbaum, and ligature the main arterial trunk. This operation was accordingly performed by Dr. F. H. Gross, a double ligature being thrown around the right common carotid artery. The patient rapidly recovered, and the effect was very marked. Immediate relief from neuralgia was experienced, and although in the course of about two weeks slight twinges were felt there has been no return of the painful spasms. About a month later the patient had an attack of pneumonia, which he attributed to exposure after leaving the hospital, but otherwise his recovery was not retarded, and the relief far surpassed his expectations.

— While reporting operations of interest it is worth recording that at the Jefferson Medical College Hospital two ovariectomies have been performed (in the private operating room) thus far this session. One was under the charge of Professor Gross, and the other of Dr. S. W. Gross. Both cases recovered.

Recent Literature.

American Health Primers. School and Industrial Hygiene. By DAVID F. LINCOLN, M. D. Philadelphia: Presley Blakiston. 1880.

This is the twelfth and last of the series of American Health Primers, edited by Dr. W. W. Keen. The writer, Dr. Lincoln, is the author of the article on School Hygiene in the volumes on Public Hygiene which were added to the American edition of Ziemssen's Cyclopaedia. The little volume is considerably thicker than most of its predecessors in the series, and yet the remarks on Industrial Hygiene, which constitute Part II., have had to be compressed into thirty-eight small pages. Part I., on School Hygiene, is thoroughly well written, and covers the ground very satisfactorily. The information given is useful, and drawn from the best sources, both at home and abroad, and the opinions expressed are moderate and judicious. In Chapters II. and V., on Emotional and Mental Strain and on Amount of Study, the author warns his readers none too strongly against the tendency of our present public-school management to over-stimulation, and against the dangers of too prolonged or extended application. Such warnings cannot be too often repeated, especially in regard to girls between the ages of twelve and seventeen. The author thinks it certain that between those ages five hours of study and recitation, or, under the most favorable circumstances, six, are all that should be required. This amount is, however, as a rule exceeded in the public schools, if we include the study done at home. With- in proper limits it is certainly better to preserve discipline by stimulating the ambition rather than by flogging, but an excess of the former is quite as likely to do harm as the latter. We share the hope of Dr. Lincoln that the time may not be distant when light gymnastic exercises will be introduced into the public schools.

The Art of Prolonging Life. By CHRISTOPHER WILLIAM HUFELAND. Edited by ERASMUS WILSON, M. D., from the last London edition. Philadelphia: Lindsay and Blakiston. 1880.

This book was written in the latter part of the last century, in Germany, by Hufeland, a philosophic physician and professor of medicine in the University of Jena; it has gone through several editions in Germany, and enjoys considerable popularity there. In 1797 it was translated into English, but has never received in England, the present editor thinks, the attention it deserves. He has accordingly revised the old translation, and adapted it to modern tastes. The book has evidently been a labor of love on the part of the author and of the editor; the former, he tells us, having devoted his leisure hours during eight years of his life to its composition.

We do not doubt that both author and editor secured a prolongation of life through their congenial occupation, and we think the reader, too, will find enough of the curious, amusing, and instructive in the work, especially if he puts in practice all its good injunctions, to prolong his life at least for the length of time spent in its perusal. So that we think ourselves justified in assuring him that nothing will be lost, and something very possibly gained, by some hours devoted to Hufeland's reflections, which in general could

not be much more sage, and certainly would have been more hurried if he had lived to-day and in this country.

Medical Education and Practice in all Parts of the World. By HERBERT JUNIUS HARDWICKE, M. D. Philadelphia: Presley Blakiston. 1880.

A great deal of useful and convenient information is contained in this work in regard to the subjects of which it treats, and the information, as a rule, seems to be fairly accurate and reliable. The part devoted to the United States opens with the Philadelphia Record's full account of the bogus diploma traffic in that city. The position assigned to this narrative is perhaps unnecessarily prominent, but we do not think the exposure of those vile practices can be too minute or widely circulated. This diploma traffic, whether carried on in Pennsylvania, New York, or Massachusetts, was and is a disgrace to us, and we may as well acknowledge it. The excuse that less notorious irregularities prevail in other countries should avail us nothing.

Miscellany.

LETTER FROM LONDON.

MR. EDITOR. — At last the Guy's Hospital dispute has reached a stage at which, for a time at least, we may hope it will cease to be the burning topic of medical and quasi-medical conversation. The governing body of the hospital, a self-elected, non-medical, close corporation, have vindicated their absolute authority in a manner so ample that with not a few of them the least may have been almost *ad nauseam*. The senior physician and surgeon, acting on behalf of themselves and their professional colleagues, addressed a note to the governors, by whom one sentence therein was interpreted "to impute to the governors that they knowingly persist in a mischievous system."

Thereupon, the senior officers' resignations were called for. Two days later, at a full meeting of the medical and surgical staff of Guy's Hospital, it was decided that the offensive communication should be withdrawn; that the medical officers should cooperate with the governors by sending two delegates to serve on a committee, which they had previously refused to participate in. It was generally understood, in medical as well as social circles, notwithstanding rumor to the contrary, which found support in one of the medical journals, that in the event of the governors still insisting upon the resignation of Dr. Habershon and Mr. Forster those gentlemen would be accompanied in their retirement by the whole of their colleagues, who felt themselves collectively responsible in the matter.

No one seems to doubt that the whole affair has been a blunder from the first, and it is curious to note that party feeling has been so high throughout as to prevent very many from realizing that there might be two sides to the question viewed from without, and to allow comparatively few to keep before their eyes the main question, which daily was enwrapped in fresh side issues. The starting-point was eleven months ago, when, without any reference to the medical officers, the vacant post of matron was filled by the appointment of Miss Burt, a lady who had been found in charge of the nursing at the Leicester Infirmary, an institution with upwards of two hundred beds, into

which during four years she had introduced what was worthy of the title of a nursing system to replace the miserable and typical Gamp system which previously existed. Before going to Leicester Miss Bart had been trained in the St. John's House nursing sisterhood, and had done much service as a ward sister at Charing Cross Hospital, the St. John's House sisterhood having a contract for nursing both Charing Cross and King's College hospitals.

It would seem, therefore, that the real bone of contention can never have had reference to the person actually appointed, but rather to the method of her appointment. Herein, then, apparently lies the secret of the very compact front against which the doctors arraigned themselves when they took up cudgels in a controversy which can now bear no other good fruit than by indirectly promoting the appointment of a royal commission to investigate the constitution, funds, and management of the London hospitals, in accordance with a petition which not long since had the active support of the recently greatly abused treasurer of Guy's Hospital.

Throughout the struggle the lay papers have been freely used both as battle-fields and champions by the medical contingent. So blindly, indeed, have some of them been led that *The Times*, in a recent article, manifested at once its anxiety to make the best of the defeat and its sense of the weakness of the vanquished cause; for instead of adhering to facts it reversed them, in at least one important particular, though in so doing it contradicted a previous issue.

The Times, quoting Miss Bart's peremptory dismissal of some scores of nurses as an evidence of her administrative incapacity, when the same pointed more directly to her appreciation of the necessity of discipline, mentioned nurse Ingle, who was recently convicted of the manslaughter of a Guy's Hospital patient, as a sample of the women introduced to replace those old, tried, esteemed, and trusted nurses turned away at the bidding of caprice. Whereas the nurse Ingle was acknowledged at her trial to be one of the old nurses, highly appreciated by medical officers of Guy's Hospital, where she had been engaged from a date prior to the commencement of Miss Bart's reign there.

Last night the Medical Society of London held its opening meeting for the session, when Dr. J. Hughlings Jackson read the notes of A Case of Recovery from Symptoms of Gross Organic Brain Disease. The patient, a woman aged twenty-two, affording no indications of syphilis, had severe headache, no vomiting, reeling gait, total absence of patella tendon reflex, loss of sight, excessive double optic neuritis, loss of smell, and no deafness. She was placed upon five-grain doses of the iodide of potash; after a few days this was supplemented by mercurial inunction, and the treatment was rapidly followed by the disappearance of all the above positive symptoms, the loss of smell alone excepted; and, as Dr. Jackson pointed out, this exception was not very material, for no certain data were forthcoming to show from when the deficiency existed. He asserted that, in his opinion, it was perfectly fallacious to diagnose a syphilitic causation for the symptoms solely because they disappeared readily under treatment with mercury and iodide of potash. Though confessing that he had no experience of symptoms of gross organic cerebral disease which had not been so treated, he advocated thus treating such symptoms, regardless of their negative syphilitic history, on

the ground that post-mortem examinations exposed hæmorrhages, abscesses, tubercles, and tumors in the brain, which had during life produced symptoms insufficient to induce the patient to seek medical advice; and that therefore very gross organic brain mischief was demonstrated to be compatible with apparent health, and able to exist without proving fatal for a long period, whilst symptoms were not set up which in themselves would be disastrous.

He mentioned that either of the lesions named above, or indeed a piece of wood present in the cerebellum, might induce all the symptoms noticed in the case which he read. He thought that the recognition of the possibility of the subsidence under treatment of such symptoms, notwithstanding the continuance of their original cause, should lead to the comprehension and anticipation of the subsequent relapses so generally experienced in cases of this class.

Dr. Jackson repeated his well-known injunction that an ophthalmoscopic examination should be made in every case of severe headache, acknowledging his belief that very many cases of early gross organic brain disease would not be diagnosed from hysteria without the aid afforded by such systematic examination. He regretted that in this case there was no sufficient record regarding the pupillary action, expressed in warm terms his high appreciation of the clinical value of patella tendon reflex, and shadowed forth the possible importance of the combined observation thereof, in conjunction with the immobility of the pupils to the stimulus of light whilst acting in consonance with the accommodative function.

He dwelt on some points relating to the differential diagnosis of tabes dorsalis, and mentioned that, whilst necessarily familiar with the optic-nerve atrophy so frequently present with tabes dorsalis, he had never yet met with an inflammatory change of the optic disks in that disease. Incidentally, in reply to some criticism regarding his expressed disbelief in the syphilitic character of the particular case, he stated that he had met with only one case of syphilitic brain lesion situated in the particular position which he believed it was essential the mischief should have occupied to produce the reeling gait and other symptoms recorded of his patient.

Dr. Jackson expressed an inability satisfactorily to account for the comparative frequency with which the olfactory nerves escaped implication, at least so far as the sense of smell was concerned, in the symptoms of organic brain mischief, and recorded with some surprise that deafness occurred quite exceptionally as a symptom; but in relation to these points the author of course alluded to the fact he has so fully established, that frequently extensive double optic neuritis exists for a considerable time, and indeed exists and subsides, without any impairment of vision being noticed by the patient.

Dr. Broadbent availed himself of the occasion to assert his belief that in these cases the so-called optic neuritis is simply an i-chaemia of the optic disk, due to fluid pressure, and in support of this hypothesis mentioned one of those interesting and rare cases of unilateral optic neuritis, with cerebral tumor, in which the ophthalmoscopic change was detectable only on the side opposite to the tumor, which an autopsy showed to have been so placed as to prevent the possibility of fluid entering the sheath of the unaffected optic nerve. This speaker further suggested that when blindness accompanied optic neuritis and other symptoms of or-

ganic brain lesion, then it was, as often as not, more easy to assume that the blindness was dependent upon some change at the ophthalmic centres than that it resulted from an ocular condition produced by the neuritis.

LONDON, October 19, 1880.

EXPLOSIVE PRESCRIPTIONS.

IN the report on *Materia Medica*, in the September number of the *Dublin Journal*, we find the following account of the dangers of certain combinations of drugs, many of which are so commonly used as to show somewhat startling possibilities:—

M. Kaeuffer has lately published an interesting study upon this question, and, in an experience of more than thirty years, has witnessed several cases of explosion. One day he had occasion to prepare an ointment containing *chloride of lime*, *sulphur*, and other substances. When the two first-named bodies were triturated together a series of small detonations occurred, and the whole mass deflagrated violently. A similar ointment had been many times prepared without any difficulty, and the probable cause of the mishap was the presence of chlorate of lime in the chloride of lime. Upon another occasion some *oil of turpentine* was poured into a stone jug, when immediately the vessel broke, and a thick column of black smoke was disengaged. It was then discovered that a small quantity of sulphuric acid had been in the vessel into which the turpentine was poured.

Again, a highly dangerous substance, namely, *nitro-glycerine*, has been suggested in practice, and, under the name of glonoin, it has been adopted by homœopaths. This medicament is kept in little glass vessels, which, upon the least shock, burst like bombs.

Then there are the *hypophosphites*, which have given rise to several accidents. Without a thought of danger, a young pupil, in dispensing a prescription, rubbed up a mixture of two and one fourth parts of hypophosphite of lime, three and three fourths parts chlorate of potash, and one third part of lactate of iron. Suddenly the whole mixture took fire, and there was a violent detonation, scattering the *débris* in every direction. The young man received such severe burns that his life was endangered for several weeks. Although, no doubt, the chlorate of potash in this case was a potent factor, yet it is well known that trituration of hypophosphite of lime alone is very liable to cause explosion, especially if the temperature be at all elevated, and such explosions have occurred in various quarters. Furthermore, solutions of oxidizing bodies in glycerine demand great care, and have more than once led to violent explosions. Thus a mixture of *chromic acid* and *glycerine* has been recommended for affections of the mouth, etc., and dispensers should know that in order to avoid accidents the acid must be added drop by drop to the glycerine. The following mixture was ordered for external use, namely, seven and one half grains of chromic acid and sixty grains of glycerine. The chromic acid was mixed with water in a flask, and the glycerine mixed with it by shaking. Suddenly the contents of the flask exploded with a loud report, flying all about the shop, while the vessel remained unharmed in the hands of the astonished apothecary, and was covered with a black mass. A similar accident happened with an apothecary of Mont-Doré.

Permanganate of potash likewise acts energetically upon glycerine, alcohol, ether, essential oils, gallic and tannic acids; and if carelessly managed will cause explosion or inflammation. An unlucky apothecary attempted to dispense the following formula:—

Permanganate of potash	10 parts.
Alcohol	
Distilled water	15 “

Scarcely had the bottle been corked and put up, when the liquid became so heated that an explosion took place, and the boiling fluid spouted into the face of the surprised pharmacist. He nearly lost the sight of one eye, and was disabled from work for more than a month.

It has been long known, as was pointed out in a former report, that pills containing *oxide of silver* and *creasote*, or carbonic acid, or morphia, are apt to develop so much heat as to set fire to the box in which they are placed, and a lady received a formidable burn through carrying a box of such pills in her dress. With this phenomenon, doubtless due to rapid reduction of the oxide of silver, we may connect an accident which happened at New York by the addition of nitrate of silver to essential oil of almonds, with the object of eliminating from it hydrocyanic acid. The dangers which phosphorus presents are too well known to render necessary any allusion to the precautions to be taken in keeping and handling this metallloid.

Another substance which may be formed under certain circumstances is a violent detonating agent, namely, *iodine of nitrogen*. This compound is produced by the union of iodine, or chloride of iodine, with ammonia, or carbonate of ammonia, or even by mixture of an alcoholic solution of iodine with liquor ammonia in excess, and a suitable quantity of water.

The following prescription is cited by Mr. Rice as having led to an explosion in the United States:—

Iodine	15 parts.
Comp. euphorbium.	
Soap liniment	aa 60 “

The euphorbium liniment contains sufficient ammonia to account for the formation of iodide of nitrogen. The same writer mentions another prescription, which it was impossible to execute:—

Ammoniated mercury	20 grs.
Iodine	15 grs.
Water	a few drops.
Lard	1½ ounces.

As soon as the two first substances were mixed and moistened with water detonation occurred. The relative rarity of explosion with formulæ of this kind is easily explained, because trituration is usually affected in presence of abundance of water, which hinders such a result. The practical conclusion then is that when one has to deal with mixtures of tincture of iodine and solution of ammonia small quantities only should be operated on at a time.

Chlorate of potassium, on account of its powerful oxidizing properties, demands especial caution in combining it with other drugs. Its action upon hypophosphites has been already adverted to, and great care must be exercised in mixing potassium chlorate with sulphur, or certain metallic sulphides, for example, sulphide of antimony. A mixture of potassium chlorate and tannin is likewise dangerous, and these bodies, when ordered in substance, should be put up separately. A dentifrice powder of catechu and potassium

chlorate occasioned a violent explosion when rubbed up in a mortar, and even friction with a dry brush might possibly cause a detonation on a small scale in the very mouth of a patient. Chlorate of potassium and glycerin also constitute a dangerous mixture. Some time since a gargle prescribed by one of the most distinguished physicians in New York, and containing equal parts of potassic chlorate, perchloride of iron, and glycerine, exploded violently, not in the pharmacy, but in the messenger's bag. Another time a similar mixture exploded soon after its preparation under the influence of the solar rays, and set fire to the house.

WHALE-TENDON LIGATURES.

MR. EDITOR. — In the letter of October 28th, from Mr. J. T. Gilman, upon the above subject, he says his attention was first directed to the whale tendon as offering material for ligatures in the winter of 1878, after reading the article No. 43 in No. 77 of *Braithwaite's Retrospect*; and he also says he thinks he was the first to suggest the use of whale's tendons for surgical purposes.

In the month of February, 1877, Dr. Ishiguro was ordered by the Japanese government to take charge of the hospital at Osaka. While there he set about seeking a substitute for Lister's catgut ligature, on account of its excessive cost and the inconvenience of its use. He hit upon the whale tendon as offering a satisfactory substitute, and after the trials and tests which I gave in my communication of September 30th made his invention publicly known under the name of "Ishiguro's ligature," in October, 1877. Shortly after this, specimens were sent by him to Professor Gross, of Philadelphia, and in a letter dated 6th of April, 1878 (and it was not until July of the same year that the *Braithwaite* alluded to was issued), Dr. Ishiguro was informed by Professor Gross that he had inserted an account of the ligature in the *American Medical Journal*, highly praising the same as of great use in surgical operations. Samples were also sent to Strasburg, and favorable notices were given of the ligature in the medical journals there.

It will be seen, then, from the above that Dr. Ishiguro had perfected and made public his invention a year or more before Mr. Gilman's attention was first directed to the subject by the article in the July *Braithwaite*, 1878, and that this invention was known both in Europe and America before July, 1878.

We must then allow to Dr. Ishiguro priority in using and making known the whale-tendon ligature, although Mr. Gilman seems to have conceived the idea of this use of the whale tendon independently.

Dr. Ishiguro says that in Japan the ligature has rapidly established itself in estimation among the medical men, and there is no other than that used now in the military hospitals. Respectfully yours,

EDWARD O. OTIS.

EXETER, N. H., November 1, 1880.

FETID MENSTRUATION RELIEVED.

MR. EDITOR. — In the case of the spinster reported in the number of the JOURNAL for October 28th, Obstetrical Society's Report, after trying a variety of remedies without avail, by the advice of Dr. Fordyce Bar-

ker, I administered capsules of apiol three days before and during the monthly period, with the result of abolishing the annoyance.

Shortly after, a married lady, who had to avoid society, and even keep her room on account of the fetid nature of the menses, was completely relieved by the same treatment.

C. ELLERY STEDMAN.

DORCHESTER, October 28, 1880.

MEDICAL REGISTRATION IN PHILADELPHIA.

THE Philadelphia *Medical Times* in commenting upon the late bogus-diploma business expresses the opinion that action was prevented not so much by indifference as by the feeling that it was hopeless to contend against the influence of politicians, some of whom, it says, have apparently assisted in or winked at the nefarious practices of Dr. Buchanan and his associates. It hopes that public opinion will now take the form of a movement to obtain a medical registration law from the next legislature. It further remarks: We ourselves would like to see legislation go farther than this. If our civilization continues the day will assuredly come when those who would enter upon the practice of medicine will be compelled to pass a public state examination, but for this the times are not yet ripe. There are yet too much honest difference of opinion and too many conflicting interests in the profession to expect that it should unite in the effort to obtain legislation looking to such an end. It is different with medical registration. We do not think that any one of influence will claim that an attempt at registration can do injury, though many may believe that it will be futile. The good to be obtained from a strictly enforced registration is patent. The credentials, as it were, of every man would be public to all citizens, and the not a few who possess no credentials would be driven out of the commonwealth.

Such a law could be based upon the one adopted last winter by the Albany legislature.

There is no body, except the State Medical Society, to which it would be more becoming to inaugurate a movement looking towards the obtaining of a registration law than the Philadelphia County Medical Society. Is there not public spirit in it sufficient for the purpose? Let us make the experiment. With a registration law working well in New York and Pennsylvania, it would not be long before the smaller States would follow.

AMPUTATION OF THE HIP-JOINT.

MR. STOKES has reported to the Dublin Pathological Society a successful case of amputation at the hip-joint. He adopted Davy's method of arresting hæmorrhage by the introduction of a lever into the rectum, and the operation was almost a bloodless one. Lister's antiseptic dressings were vigorously carried out. To the bloodlessness of the operation and the antiseptic precautions Mr. Stokes attributes his success. It is probably the first successful amputation at the hip on an adult in Ireland. The operation was done for disease of the hip. The age of the patient and the large extent of the femur involved decided the operator against excision.

An account of the case is given in the *Dublin Journal*.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 30, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diphtheria and Croup.	Lung Diseases.	Diarrheal Diseases.	Scarlet Fever.
New York.....	1,209,561	544	227	26.10	12.50	16.36	5.70	2.76
Philadelphia.....	901,380	300	82	14.00	6.33	5.33	—	1.00
Brooklyn.....	564,400	—	—	—	—	—	—	—
Chicago.....	503,298	—	—	—	—	—	—	—
St. Louis.....	—	120	—	25.00	6.67	1.67	5.00	—
Baltimore.....	393,796	158	74	28.48	10.76	3.80	2.54	7.61
Boston.....	363,938	151	47	25.83	12.58	8.61	5.30	.80
Cincinnati.....	280,000	78	28	17.95	8.97	8.97	1.28	1.28
New Orleans.....	210,000	115	37	26.96	6.96	6.09	6.96	1.74
District of Columbia.....	180,000	79	23	21.52	13.92	3.80	—	—
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,640	58	24	48.28	17.24	6.90	1.72	15.52
Buffalo.....	153,159	49	20	40.82	26.53	6.12	4.08	4.08
Milwaukee.....	127,000	48	27	25.00	14.58	12.50	2.08	8.33
Providence.....	104,862	36	—	27.78	5.56	11.11	5.56	13.89
New Haven.....	63,000	17	10	25.30	11.76	5.88	—	—
Charleston.....	57,000	28	8	10.71	—	14.29	7.15	—
Nashville.....	43,543	20	3	20.00	—	15.00	—	5.00
Lowell.....	59,340	21	10	19.05	9.52	19.05	—	4.76
Worcester.....	58,040	25	6	20.00	—	12.00	—	12.00
Cambridge.....	52,860	18	6	5.56	5.56	11.11	—	—
Fall River.....	48,626	24	18	37.50	20.83	8.33	4.17	4.17
Lawrence.....	39,068	—	—	—	—	—	—	—
Lynn.....	38,376	14	2	7.14	7.14	—	—	—
Springfield.....	33,536	8	3	12.50	12.50	25.00	—	—
Salem.....	27,347	7	1	14.29	14.29	14.29	—	—
New Bedford.....	27,268	5	0	—	—	—	—	—
Somerville.....	24,964	—	—	—	—	—	—	—
Holyoke.....	21,961	—	—	—	—	—	—	—
Chelsea.....	21,780	8	1	37.50	37.50	—	—	—
Taunton.....	21,145	6	2	16.67	16.67	—	—	—
Gloucester.....	19,288	4	2	—	—	—	—	—
Haverhill.....	18,478	3	2	100.00	33.33	—	33.33	—
Newton.....	16,994	—	—	—	—	—	—	—
Newburyport.....	13,470	4	1	25.00	25.00	—	—	—
Fitchburg.....	12,270	3	—	—	—	—	—	—
Twelve Massachusetts towns.....	86,507	24	6	25.60	20.83	—	—	—

Deaths reported 1975 (no returns from Brooklyn or Chicago); 670 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 479, consumption 322, diphtheria and croup 213, lung diseases 182, diarrheal diseases 68, scarlet fever 60, typhoid fever 53, malarial fevers 36, whooping-cough 16, cerebro-spinal meningitis 13, small-pox 10, erysipelas five, measles three, typhus fever one, malignant pustule one. From *typhoid fever*, Philadelphia and Boston nine, St. Louis seven, Pittsburgh six, New York four, Baltimore and District of Columbia three, Cincinnati, Buffalo, Nashville, and Worcester two, New Orleans, Providence, Charleston, and Lowell one. From *malarial fevers*, New Orleans 10, New York nine, St. Louis seven, District of Columbia three, Baltimore and New Haven two, Boston, Cincinnati, and Nashville one. From *whooping-cough*, New York seven, Baltimore five, Philadelphia Cincinnati, Pittsburgh, and New Haven one. From *cerebro-spinal meningitis*, New York four, St. Louis and New Orleans two, Baltimore, Cincinnati, New Haven, Fall River, and Quincy one. From *small-pox*, Philadelphia 10. From *erysipelas*, New York four, Baltimore one. From *measles*, Boston, Pittsburgh, and Fall River one. From *typhus fever*, Buffalo one. From *malignant pustule*, Haverhill one.

Thirty-seven cases of diphtheria, nine of scarlet fever, and one of small-pox were reported in Boston; diphtheria 19, scarlet fever 17, in Milwaukee; diphtheria 10, whooping-cough eight, scarlet fever six, typhoid fever three, cerebro-spinal meningitis one, in Providence; diphtheria and scarlet fever five, typhoid fever four, in Cambridge; diphtheria eight, scarlet fever seven, in New Bedford.

In 27 cities and towns in Massachusetts, with a population of

902,269 (population of the State 1,783,812), the total death-rate for the week was 18.83, against 19.53 and 21.23 for the previous two weeks.

For the week ending October 9th, in 149 German cities and towns, with an estimated population of 7,724,099, the death-rate was 25.1. Deaths reported 3733; 1966 under five; pulmonary consumption 460, acute diseases of the respiratory organs 210, diphtheria and croup 163, scarlet fever 106, typhoid fever 93, whooping-cough 77, measles and follicular 34, puerperal fever 24, cholera (Bacillus) one, typhus fever (Münchener) one, small-pox (Königsberg) one. The death-rates ranged from 12.7 in Darmstadt to 31.7 in Danzig; Königsberg 30.4; Breslau 24.5; Munich 32.9; Dresden 22.2; Berlin 29.2; Leipzig 23.8; Hamburg 20.2; Hanover 17.5; Bremen 21.5; Cologne 28.3; Frankfurt 21.6; Strasburg 19.6.

For the week ending October 16th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 21.4. Deaths reported 3073; acute diseases of the respiratory organs 273, diarrhoea 232, scarlet fever 141, fever 75, whooping-cough 56, measles 43, diphtheria 11, small-pox (London) six. The death-rates ranged from 15 in Bristol to 31 in Salford; Sheffield 19; Manchester 20; London 20; Birmingham 20; Leeds 22; Liverpool 25. In Edinburgh 27; Glasgow 21; Dublin 33.

In the 20 chief towns in Switzerland for the same week, population 522,856, there were 29 deaths from diarrheal diseases, acute diseases of the respiratory organs 12, typhoid fever five, diphtheria and croup five, measles four, scarlet fever three, small-pox three.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	9 P. M.	9 P. M.	Mean.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	Duration.	Amount in inches.
1880.																			
Oct. 24	29.826	37	48	34	72	45	61	59	W	NW	W	20	20	24	O	F	C	—	—
" 25	30.085	38	49	29	57	26	91	58	NW	NW	NW	16	18	6	C	C	C	—	—
" 26	29.912	48	54	30	79	41	80	67	W	S	S	1	5	7	T	O	R	5.00	.02
" 27	30.061	43	52	36	93	52	63	69	W	NW	NW	6	18	17	F	F	O	—	—
" 28	29.307	39	47	33	79	58	65	67	NW	SE	O	10	6	0	O	C	C	—	—
" 29	30.311	40	50	27	78	62	74	71	O	E	SE	0	4	3	C	F	F	—	—
" 30	29.954	49	54	40	84	73	100	86	SE	E	SE	4	4	10	O	O	O	6.35	.08
Week.	30.065	42	54	27					W	NW	NW							11.35	.10

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

EDUCATIONAL NOTES.

— In the educational number of the JOURNAL the following addition should have been made to the corps of instructors at the University of Pennsylvania: Faculty, Wm. F. Norris, M. D., Clinical Professor of Diseases of the Eye; George Strawbridge, M. D., Clinical Professor of Diseases of the Ear; Horatio C. Wood, M. D., Clinical Professor of Nervous Diseases; and Louis A. Dabring, M. D., Clinical Professor of Diseases of the Skin. The auxiliary faculty is constituted as follows: Charles J. Sill, L.L. D., provost and *ex officio* President of the Faculty; Dr. John J. Reese, Professor of Medical Jurisprudence and Toxicology; Samuel B. Howell, Professor of Mineralogy and Geology; Joseph T. Rothrock, B. S., Professor of Botany; Jos. G. Richardson, M. D., Professor of Hygiene; A. J. Parker, M. D., Professor of Comparative Anatomy and Zoology. The following lectureships constitute the spring session: *Regional Anatomy*, Dr. H. Lenox Hodge; *Operative and Minor Surgery*, Dr. Charles T. Hunter; *Venereal Diseases*, Dr. J. Wm. White; *Ophthalmic Surgery*, Dr. Forrest Willard; *Physical Diagnosis*, Dr. R. G. Curtin; *General Symptomatology*, Dr. Lewis Starr; *Ophthalmoscopy*, Dr. L. D. Risley; *Refraction and Accommodation of the Eye and Operative Ophthalmic Surgery*, Dr. E. D. Shakespeare; *Practical Pharmacy*, Dr. Adolph W. Miller; *Histology*, Dr. J. H. C. Sines; *Practical Obstetrics*, Dr. Elliott Richardson; *Operative Obstetrics*, Dr. Daniel Bray; *Electro-Therapeutics*, Dr. C. K. Mills; *Laryngoscopy*, Dr. Carl Seiler; *Pathology of the Crine*, Edward T. Bowen; *Diseases of Children*, Dr. John M. Keating; M. D.; *Descriptive Anatomy of the Bones and Joints*, Dr. Chas. B. Nanette.

— At the Jefferson College clinical instruction is given during the winter term by the faculty and Prof. W. Thomson at the hospital; during the remainder of the year the clinics are under the charge of the hospital staff: Drs. J. H. Brinson, R. J. Lewis, and S. W. Gross, *Surgery*; Drs. O. P. Rex, J. C. Wilson, J. Seth Cohen, and W. W. Van Velsah, *Medicine*; Drs. F. H. Getchell and J. Ewing Mears, *Gynecology and Diseases of Children*; Prof. W. Thomson, *Ophthalmic Surgery*; and Dr. Laurence Turnbull, *Aural Diseases*.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM OCTOBER 30, 1880, TO NOVEMBER 5, 1880.

BAILY, E. L., lieutenant-colonel and surgeon. When relieved by Surgeon Moore, to proceed to Wilmington, Del., and report, by letter, his arrival to the surgeon-general. S. O. 232, A. G. O., October 28, 1880.

MOORE, Jno., major and surgeon. Relieved from duty with army medical examining board in New York city, and to report in person to commanding general, Department of the Columbia, for duty as medical director of that department. S. O. 232, A. G. O., October 28, 1880.

MELCHAM, F., captain and assistant surgeon. Granted leave of absence for one month. S. O. 234, A. G. O., October 30, 1880.

PIZZI, J. H., captain and assistant surgeon. Assigned to duty at Jackson Barracks, La. S. O. 126, Department of the South, October 29, 1880.

HEIZMANN, CHARLES L., captain and assistant surgeon. The extension of his leave of absence of September 23, 1880, from head-quarters Division of the Pacific and Department of California, is further extended two months. S. O. 234, C. S., A. G. O.

LAUDERDALE, J. V., captain and assistant surgeon. Relieved from duty as post surgeon at Newport Barracks, Ky., and assigned to duty at McPherson Barracks, Ga. S. O. 127, Department of the South, November 1, 1880.

WOOD, M. W., captain and assistant surgeon. At the expiration of his present leave of absence to report in person to commanding general, Department of the East, for assignment to temporary duty. S. O. 232, C. S., A. G. O.

SUFFOLK DISTRICT MEDICAL SOCIETY. — A regular meeting will be held at the hall, 19 Boylston Place, on Saturday evening, November 13th, at seven and a half o'clock. Dr. H. D. Hicks will report A Case of Mitral Disease.

All members of the Massachusetts Medical Society are cordially invited to be present, and to take part in the discussion.

H. C. HAVEN, M. D., Secretary.

CORRECTION. — The number of students graduated by the University of Pennsylvania the past year, as given in our educational number, should have been 116 instead of 91, which was the number graduated during the preceding year.

ERRATUM. — The signature to communication on Absence of Lochia, in the last number, should have been George A. Oviatt, Jr., M. D.

BOOKS AND PAMPHLETS RECEIVED. — *Treatise on Therapeutics*. By Trousseau and Pidoux. Translated by D. E. Lincoln, M. D. Vol. III. (Wood's Library.) Report of the Pennsylvania Hospital for the Insane for the Year 1879. By Thomas S. Kirkbride, M. D. Philadelphia, 1880.

A Text-Book of the Physiological Chemistry of the Animal Body, including an Account of the Chemical Changes occurring in Disease. By Arthur Gamgee, M. D. Vol. I. London: Macmillan & Co. 1880.

On the Use of Sulphur and its Compounds in Diseases of the Skin. By L. Duncan Bulkley, M. D. (Reprint.)

On the Management of Infantile Eczema. By L. Duncan Bulkley, M. D. (Reprint.)

Anaesthesia in Labor. By D. M. Barr, M. D. (Reprint.)

Acts of the Legislature of Louisiana establishing and regulating Quarantine for the Protection of the State; also Rules and Regulations of the Board of Health of the State of Louisiana, and Health Ordinances of the City of New Orleans. Collected and classified by Joseph Jones, M. D. New Orleans, 1880.

A Contribution to the Relative Value of the Different Operations for Delivery in Narrow Pelvis, with the History of Eighteen Cases. By Aug. F. Erich, M. D. (Reprint.)

Light in the Public Schools, and School Life in Relation to Vision. A Paper read before the Sanitary Convention at Detroit, January, 1880. By C. J. Lundy, M. D. (Reprint.)

Original Articles.

PILO-NIDAL SINUS.¹

BY R. M. HODGES, M. D.

A DEEP, symmetrical, and somewhat conical dimple occasionally, indeed frequently, exists near the tip of the coccyx, well forward toward the anus, in the cleft between the nates. Sound and natural as regards integument, resembling to a certain extent the navel, with the dimensions of which it may be compared, it is fixed at its deepest portion, and the depression cannot be obliterated or made shallower by stretching the skin. Congenital in origin, it attracts the attention of nurses or mothers, and in infancy inquiry is made as to its significance. Later in life, opportunities for inspection being less frequent, it passes unobserved. It probably represents an imperfect union of the lateral halves of the body, involving the integument only.

Justification for assuming that so trifling a defect may be ascribed to this cause is found in certain imperfections, as trivial, occasionally noticed in various parts of the body. For example, in some cases of hare lip a complete lateral fissure is accompanied by a slight linear furrow on the other side of the median line, seemingly the scar of an operation already performed, but in reality the indication of an incomplete double haro-lip, or imperfect union of the embryonic intermaxillary fissure. Cleft of the uvula, of the iris, some of the slighter degrees of hypospadias, represent deformities much less in amount, but of similar origin to this indentation over the coccyx.

Under certain circumstances this apparently unimportant dimple becomes the seat of a pathological process, which, like the dimple itself, has scarcely attracted attention. Two instances in which it was observed by Dr. J. Mason Warren were published by him in 1867. He speaks of these as similar to other cases, "numbering perhaps eight or ten," which had fallen under his notice, but which he had nowhere seen described. Although the occurrence is well known to both surgeons and students at the Massachusetts General Hospital, and perhaps elsewhere, this reference constitutes, so far as I can learn, the only allusion to the subject in medical literature. The occurrence referred to is this:—

A fistulous opening—rarely more than one—over the coccyx, in the immediate vicinity of the anus, and always in the median line, annoys the patient by the itching, irritation, and discharge of pus by which it is accompanied. It is generally stated to have existed for a long period, and is supposed to be fistula in ano,—an impression which, if at first shared by the surgeon, is quickly corrected. A director or probe being introduced passes at considerable depth above and below the opening, indicating a cavity of an inch or more in diameter, but does not enter the gut. On exposing its interior by an incision, a certain quantity of pus is evacuated, and a lock of loose hair is found occupying the space, more or less matted and curled, and of varying size and amount. The hairs of which it is made up are always short, without bulbs, and correspond in color to those of the patient. The cavity containing them has no cyst, or lining membrane, or

other characteristic suggestive of a congenital dermoid wen; merely the granulating walls of an ordinary suppurating sinus, with no trace or suspicion of hairs growing from its surface, or of isolated spots of cuticle from which they might have been shed. The lock of hair being removed, the sinus fills up with new tissue, and in due time heals by a solid cicatrix.

This sinus is never found in children, never in men who do not have a great amount of hairy growth about the nates, and so rarely in women that the records of the Massachusetts General Hospital include but a single instance (mentioned by Dr. Warren), and in this, for a female, there was an unusual pilous development.

Explanation of this phenomenon is to be found in the anatomical peculiarity first spoken of, and in some of the peculiar properties possessed by hair. Short hairs show a remarkable tendency to "stay put" wherever they lodge. The "hair balls" found in the stomachs of cattle, due to their habit of licking each other, and which attain sometimes the dimensions of a child's head, remain for long periods of time in the cavity of that organ. This latter fact and the disposition of hair to felt together are shown by its gradual consolidation into the solid masses which, when cut in halves, serve in Texas ranches as scrubbing-brushes for floors.

In the navels of dirty persons, hairs, together with lint from underclothing, and other body *debris* collect together in a concretion, sometimes provoking quite severe local inflammation. The sparse body hairs of persons careless as to cleanliness and friction of their skins often bury themselves beneath the epidermal layer of the integument. It is a less familiar fact, however, that a horse-hair from a mattress, or a long hair of a woman, trod upon on the floor by the naked foot, or accidentally coiled up in the shoe, will, and often does, insinuate itself beneath the skin, and with little if any discomfort worm itself into the tissues for a considerable portion of its length. This is an occurrence repeatedly met with by "pedicures" or corn doctors, and hairs removed under these circumstances are frequently found among their trophies of nails and corns. On one occasion the late Professor Jackson exhibited to the Boston Society for Medical Improvement a bristle, extracted by Dr. John Homan from a foot, into which it had penetrated, unconsciously to the patient, one and a third inches. Hair-enters are continually in trouble from the short hairs which penetrate the skin of their fingers and hands.

In view of these several facts there is no occasion for surprise that body hairs, broken off by friction or decay in a pilous region which entangles and prevents them from falling, should felt and mat together when they have lodged and accumulated in a depression favorably situated for their reception and retention, and subject to so much motion in walking and sitting as the one to which attention has been directed. Neither is it strange that they should, in course of time, excoriate the surface, softened by continuous perspiration, and penetrate or even perforate the integument; nor that, finally, by the inflammation and supuration provoked, they should become a subcutaneous foreign body, the original dimple in the skin degenerating into the fistulous orifice of a more or less extended excavation in the cellular tissue, for which the possessor is compelled to seek surgical advice.

For the development of this rather singular lesion,

¹ Read before the Boston Society for Medical Improvement, November 8, 1880.

to which, for the sake of designation, I venture to give the name of *pilo-nidus* (*pilus*, a hair, *nidus*, a nest) sinus, the following elements are necessary:—

(1.) The presence of a congenital coccygeal dimple.
(2.) Abundant pilous development; hence, adult age, and almost of necessity the male sex.

(3.) Insufficient attention to cleanliness; consequently its subjects, as a rule, must be persons of the lower class, and the affection one met with in hospital, or dispensary, rather than private practice.

THE TELEPHONE AND MICROPHONE IN AUSCULTATION.¹

BY C. J. BLAKE, M. D.

IT is too soon to have forgotten the enthusiasm which greeted the first publication of the electrical transmission of articulate sounds as made possible by the invention of the telephone, and the interest which was awakened in the medical profession in anticipation of its value in auscultation, and especially for the purposes of clinical demonstration,—expectations which were still further encouraged at a later day by the results of experiments made almost simultaneously by Mr. Berliner, of Boston, and Prof. Eli W. Blake, of Brown University, in this country, and Professor Hughes, in England, and published to the world by the latter in the various forms in which the discovery was demonstrable, as the microphone.

It is now more than four years since the introduction of the telephone, and more than two years since the appreciation of the full value of the "broken circuit" in connection with the telephone for sound transmission; in addition to the various forms of "transmitters" which are used on telephone lines, and which are in fact microphones, differing only in the mechanical devices for reception of the sound waves and adjustment of the contact surfaces, several forms of microphone have been constructed especially for purposes of auscultation, but none have as yet, even in a slight degree, answered this purpose. Setting careful investigation of their capabilities aside, this is sufficiently evidenced by the fact that none of these instruments have come into general use.

That, with numerous experimenters in the field, nothing in this line of research has been satisfactorily, practically accomplished awakens the question by those who await results as to why it has not been done, and it is an endeavor to answer this question which forms the basis of this paper, in which I shall have to apologize for partially retelling a twice-told tale in explanation of experiments bearing upon this subject made at different times during the past four years, at first with the hope of devising an auscultation telephone and microphone, and finally for the purpose of determining the reasons for the want of success in this attempt.

Having failed at one end, it was necessary to begin afresh at the other; this I am inclined to think has been the experience of other investigators of this subject, and as achievement is so often, finally, the result of the study of apparent impossibilities, it is to be hoped that a practically useful auscultation microphone may yet be devised. When the discoveries of the tel-

ephone and microphone were first announced, some very enthusiastic gentlemen went so far as to predict that telephonic consultations would be held, and that eminent special practitioners, who "listened to the heart beats of a nation," as a matter of business, would each settle themselves down in the centre of a web of wires and auscultate at indefinite distances from the patients; the general argument being that an instrument which could make audible the foot-fall of a fly or the rustling of a camel's-hair pencil could certainly transmit at their full value the sounds from within the chest cavity which are so loudly heard in the stethoscope. But little of that knowledge of the practical working of the telephone over lines in use for purposes of ordinary communication, which came with the general introduction of the instrument, was necessary to prove the baseness of this scheme; the very delicacy of the telephone in its susceptibility to interrupted currents and its almost fatal propensity—if such an expression may be used—to pick up sounds that did not belong to it were enough to show that it could not be used for so delicate a purpose as auscultation over any circuit of sufficient length to expose it to the influence of other electric currents. The first experiments, begun in 1877, were therefore made over a private wire, extending a distance of about eight hundred feet from one house to another, overhead, isolated as far as possible from other wires, the nearest overhead wire being six feet distant, but having a ground connection; the telephones used were the ordinary hard-rubber case hand telephones, Bell. The telephone was placed upon the bare surface of the chest, the mouth-piece of the telephone being pressed upon the surface, the auscultant listening at the second telephone at the other end of the line. The experiment was several times repeated with the telephone upon different portions of the chest, and with varying degrees of pressure; with exception, in one instance only, of the suspicion of a barely perceptible "thud," no sound which could be referred to the heart as its source was heard, although with the telephone in this position the voice and words of the experimenter could be heard by the auscultant.

There could also be plainly heard, in consequence of the ground connection, the snapping and crackling noises indicative of earth currents, the clicking of the Morse instruments, and the sound of a "fast speed transmitter" on the Western Union lines running along the Providence Railroad, and the ticking of the clock connected with the Observatory in Cambridge. It was very plain, therefore, that even if the heart sounds could be transmitted they would be drowned by extraneous noises, and the experiment was repeated by making the auscultation in the same room with the patient, the two telephones being connected by the short flexible wires, about three feet long, in common use. Even under these favorable circumstances no sound originating in the chest cavity could be heard.

Disks of postal-card paper, having small disks of iron in the centre, were substituted for the metal disks of both telephones, but with no better results, and the experiments with the telephone alone were abandoned.

The introduction of the microphone awakened new interest in the possibilities of auscultation, and a series of experiments was instituted with various forms of this instrument, the Bell telephone being used as a receiver.

Guided by former experience, a short line without ground connections was always used, and the micro-

¹ Read before the Boston Society for Medical Improvement, November 8, 1880.

phone was placed either directly upon the chest or upon a small box of proportions suitable to its action as a resonator for very low tones. In no instance were sounds heard in the telephone which could be referred to the heart or lungs as their source, but there could be distinctly heard rubbing and rustling noises resulting from the contact of the microphone apparatus with the surface of the skin and the small hairs upon it; and when the microphone was held in the hand, a short distance above the surface of the chest, noises could be heard which could be referred only to the disturbance of the opposing microphonic surfaces in consequence of the slight involuntary movements of the hand. Auscultation of the tracheal respiration was also attempted, with the same results. Of the various forms of microphone used in these experiments one was the transmitter invented by Mr. Francis Blake and used by the National Bell Telephone Company; another a microphone having a curved membrane, modelled upon the human *membrana tympani*; and a third a common form of microphone, but arranged with an adjustment which seemed to fit it particularly for the transmission of low tones. In order to test the capacity of the latter instrument in this respect, a resonator was tuned as nearly as possible to the pitch of the first beat of the heart (in this case a tone of about 170 v. s.) and placed upon the microphone. On blowing into the resonator forcibly, and thereby giving a tone much louder than that of the heart, there could be heard in the telephone a rushing sound of comparatively high pitch, but no fundamental tone of the resonator.

A large tuning-fork of the same pitch, set in vibration and held over the microphone, or placed upon the table at a short distance from it, was distinctly heard.

It seemed, therefore, that the microphone would not transmit audibly tones as low in pitch as those of the heart beats unless they were of considerable intensity; in other words, the volume of sound from the heart would need to be greatly increased, or its pitch considerably raised, in order to make it audible by microphonic auscultation with any present apparatus. The susceptibility of the microphone, moreover, to movements causing slight disturbances of its contact surfaces and the correspondingly loud noises induced in the telephone present a very serious difficulty in the way of auscultation.

In other words, for successful auscultation a microphone must be constructed which will respond only to very low tones of slight intensity, the contact surfaces of which shall not be subject to slight mechanical disturbance, and the adjustment of which shall be fairly permanent. In view of the work in electrical sound transmission during the past four years, no one would be so rash as to assert that these conditions cannot be fulfilled.

The reasons for the failure in auscultation as above stated are:—

(1.) In the telephones, the very considerable loss of power in sound transmission. In a series of experiments made for another purpose¹ in 1878 it was found that in response to a tone of 448 v. s. the centre of the disk of the transmitting telephone, without the magnet, moved through a space of 0.2625 millimetre, while the disk of the receiving telephone made a corresponding movement of only 0.0135 millimetre, a loss in motion of 92.9 per cent. between the two telephone

disks. With so great a loss by telephonic transmission in a tone of considerable intensity, it is claimed that the proportion of so weak and dull a sound as that of the heart, its overtones damped by transmission through soft tissues, given forth by the receiving telephone, would be inaudible to the human ear.

(2.) While the telephone creates its own current of electricity, a certain proportion of the working force which moves the disk of the transmitting instrument being expended in this operation, the microphone takes a current already provided by a battery, and merely varies the amount of the current passing from one to the other of its opposing contact surfaces. The whole of the motive force, therefore, generally speaking, is expended in varying the resistance. With this great saving the instrument is much more susceptible to very slight sounds, but it is also fatally susceptible to the influence of very slight mechanical movements which vary the relations of the contact surfaces to each other, thereby varying the amount of current passing, and producing corresponding sounds in the telephone. These sounds are usually very loud and sharp, and interfere materially with the hearing as well as with the transmission of regular musical tones. It may be briefly put that for the delicate purpose in question the telephone transmits too little, and the microphone, in any of its present forms, transmits too much.

Several auscultation microphones and sphygmophones have been constructed in France and Germany. I have had no opportunity to experiment with them, but from the details of their construction they do not differ essentially from those used in these experiments, and I should judge them to be open to the same objections.

THE EARLIEST ENGLISH AND AMERICAN MEDICAL ACTS.

BY EDWARD MUSSEY HARTWELL,
Fellow of the Johns Hopkins University.

THINKING that it may be of interest to compare the acts cited in the educational number of the JOURNAL in an article on the Regulation of the Practice of Medicine in the United States, with the earliest English and American medical acts, I subjoin transcripts of the latter.

In the Rolls of Parliament for the ninth year of Henry V. (1421) the following Petition of the Physicians is found, being No. 1 for that year:—

"Hey and most myghty Prince, noble and worthy Lordes Spirituelx and Temporelx, and worshipfull Coes [commons], for so moche as a man hath thre things to governe, that is to say, Soule, Body, and wordly Goudes, the whiche ought and shulde ben principally reweled by thre Sciences, that ben Divinite, Fysyk, and Lawe, the Soule by Divinite, the Body by Fysyk, wordly Goudes by Lawe, and these conynnynges sholde be used and practised principally by the most conynnyng men in the same Sciences, and most approved in cases necessaryes to encrease of Vertu, long Lyf, and Goudes of fortune, to the worship of God, and comyn pyty. But, worthy Sovainnes, as hit is knowne to youre hey discrecion, many unconynnyng an unapproved in the for-sayd Science practiseth, and specially in Fysyk, so that in this Roialme is evy man, be he nev' so lewed, takyng upon hym practyse, y suffred to use hit, to grete harme and slaughtre of many men: Where if no man

¹ British Society of Telegraph Engineers, London. Sound and the Telephone. C. J. Blake.

practised theryn but al only connyng men and approved sufficiently y lerned in art, filosofye, and fysyk, as hit is kept in other londes and roialms, ther shulde many man that dyeth, for defaute of help, lyve, and no man perysch by unconnyng. Wherefore pleseth to youre excellent Wysdomes, that ought aft' youre soule, have no entendance to your body, for the causes above sayd, to ordeine and make in Statuit, ppetually to be straitly y used and kept, that no man, of no man's estate, degre, or condicion, practyse in Fysyk, from this Tyne forward, but he have long tyme y used the Scholes of Fysyk withynne som Univerteite, and be graduated in the same; that is to sey, but he be Bachelor or Doctor of Fysyk, havynge lres testimonialx sufficientz of on of those degreeres of the Univerteite in the whiche he toke his degree yn; undur peyne of long emprisonement, and paynynge XL li. to the Kyng; and that no Woman use the practyse of Fysyk undre the same payne: And that the Sherrefe of the Shire make inquisition in thaire tornes, if ther be eny that forfitteth ayens this statuit, under a payne resonable, and theme that haz putte this Statuit in execution without any favour, und' the same peyne. Also, lest that thay the whiche ben able to practyse in Fysyk ben excluded fro practysynge, the whiche be nought graduated, Plesith to youre hey prudence, to send Warrant to all the Sherreffes of Engeland, that evy practyso' in Fysyk nought graduated in the same science that wile practyse forth be withynne on of the Univerteites of this lond by a eteine day that they that ben able and approved, aft' trewe and streyte examination, be receyved to thire degre, and they that be nought able, to cese fro the practyse in to the tyme that they be able and approved, or never more entremette therof; and that therto also be iset a peyne convenient."

In response to the above petition the Parliament at Westminster passed May 2, 1421, the first of the English medical acts, which in its "law French" original reads:—

"11. Item, pur ouster meschieves & perils q longement ont continuez dedenz le Roialme entre les gens, parmy ceux q'ont usez l'arts & le practick de Fisik & Surgerie, pretendantz soi bien suffisamment apris de mesmes les arts, on de verite n'ont pas estez: a grande deceite a le poeple. Si est ordeinez & assentuz en ceste Parlement, q les Seignrs du Conseil du Roi pur le temps esteantz aient, poir p auctorite de mesme le Parlement, de faire & mettre tiele ordonnance & punissement envers ceux personnes q desore en avant vorront entremette, & user le practick des ditz arts, & ne sont my habiles ne approuvez en ycelles, come appent as mesmes les arts; C'est assavoir, ceux de Fisik en les Universitees, & les Surgeons entre les Mestres de cell arte. Et ceo come semblera as ditz Seignrs le plus covenable & necessarie en le cas selonc leur bon advis & discretions, pur la secrete de le poeple." I cannot find that the act has ever been printed in English. The following may serve as a free translation of it:—

"11. Item, in order to remove mischiefs and perils which have long existed in the Realm among the people, on the part of those who have employed the art and practice of Physic and Surgery, pretending that they are sufficiently learned in the said arts, when in truth they are not; to the great deception of the people. Therefore it is ordained and decreed in this Parliament, that the Lords of the King's Council for the time being have power, by the authority of the said

Parliament, to make and provide such ordinance and penalty against those persons who shall hereafter undertake and employ the practice of the said arts, and are not at all learned or approved in the same, as pertains to these arts; that is to say those [who are not] of Physic in the Universities, and Surgeons among the Masters of that art. And this as it shall seem fit and necessary to the said Lords in the case, according to their good judgment and opinion, for the safety of the people."

On page 49 of his Contributions to the Annals of Medical Progress, Dr. J. M. Toner, of Washington, makes this statement: "The earliest law enacted in any of the colonies relating to medical men that I have seen is the act passed by the colony of Virginia in 1639." On page 50 he quotes the following Virginia act of 1645, amendatory of the act of 1639:—

"Whereas by the ninth act of assembly, held the 21st of October, 1639, consideration being had and taken of the immoderate and excessive rates and prices exacted by practitioners in physick and chirurgery, and the complaints made to the then assembly of the bad consequence thereof, it so happening through the said intollerable exactions that the hearts of divers masters were hardened rather to suffer their servants to perish for want of fit means and applications than by seeking relief to fall into the hands of griping and avaricious men; it be apprehended by such masters, who were more swayed by polittick respects than Xian [Christian] duty or charity, that it was the more gainfull and saying way to stand to the hazard of their servants than to entertain the certain charge of a physitian or chirurgeon, whose demands for the most parte exceed the purchase of the patient; it was therefore enacted for the better redress of the like abuses thereafter, untill some fitter course should be advised on, for the regulatynge physitians and chirurgeons within the colony, that it should be lawfull and free for any person or persons in such cases where they should conceive the acct of the physitian or chirurgeon to be unreasonable, either for his pains or for his drugs or medicines, to arrest the said physitian or chirurgeon either to the quarter-court or county-court where they inhabit, where the said physitian should declare upon oath the true value, worth, and quantity of his drugs and medicines administered to or for the use of the plt., (patient) whereupon the court where the matter was tryed was to adjudge, and allow to the said physitian or chirurgeon such satisfaction and reward as they in their discretions should think fitt.

"And it was further ordered, that when it should be sufficiently proved in any of the said courts that a physitian or chirurgeon had neglected his patient, or that he had refused, being thereunto required, his helpe or assistance to any person or persons in sickness or extremity, that the said physitian or chirurgeon should be censured by the said court for such his neglect or refusal, which said act and every cause therein mentioned and repeated, this present grand assembly to all intents and purposes doth revive, ratifie, allow, and confirme, with this only exception that the plts. (or patients) shall have their remedy at the county-courts respectively, unless in case of appeal.

"Enacted Grand Assembly of Virginia, session of 1645—46."

The great and general court of Massachusetts for 1879—80 seems to be quite behind the times in its regard for "the known approved Rules of Art in each Mystery and occupation," when judged in the light of

the following law enacted by the Colony of Massachusetts Bay in 1649:—

"Forasmuch as the law of God allows no man to impair the life or limbs of any person, but in a judicial way: It is therefore ordered, That no person or persons whatsoever employed at any time about the bodies of men, women, or children for preservation of life or health as chirurgions, midwives, physicians, or others, presume to exercise or put forth any act contrary to the known approved Rules of Art in each Mystery and occupation, nor exercise any force, violence, or cruelty, upon or towards the body of any, whether young or old, (no, not in the most difficult and desperate cases,) without the advice and consent of such as are skillfull in the same art, (if such may be had,) or at least of some of the wisest and gravest then present, and consent of the patient or patients if they be *mentis compos*, much less contrary to such advice and consent, upon such severe punishment as the nature of the fact may deserve; which law, nevertheless, is not intended to discourage any from all lawfull use of their skill but rather to incourage and direct them in the right use thereof, and inhibit and restraine the presumptuous arrogancy of such as through presidence of their own skill, or any other sinister respects, dare boldly attempt to exercise any violence upon or towards the bodies of young or old, one or other, to the prejudice or hazard of life or limbe of man, woman, or child."

Dr. S. E. Chaillé has shown in a striking way, in the *New Orleans Medical and Surgical Journal* for May, 1874, page 828, that popular indifference, not to say popular ignorance, is the main difficulty in the way of regulating the practice of medicine in the United States. He says:—

"Many of the States have tried the experiment of enacting laws so excellent that nothing more was needed to improve the medical profession except their execution. In 1851 eleven States had had such laws and had repealed them; four then had them, but subsequently repealed them. Among these four was the State of Louisiana, as to which it was published abroad 'No State in the Union is better protected against impositions of all kinds than Louisiana.' But distance lent enchantment to the view, for the facts were as follows: Louisiana did enact most excellent laws as early as 1808; wisely amended them in 1816, 1817, and 1819; and after forty-four years of experiment repealed them in 1852, without encountering the opposition of any. For such was the execution of these laws that the State was infested with quacks and patent medicines, and whilst the laws imposed taxes and other burdens on the good their penalties against the bad could not be enforced."

—"Professor Potain, alluding to a case at the Necker in which vomiting was a prominent symptom," writes the *Medical Times and Gazette*, "observed, 'There is in general much more vomiting in an affection of the brain or in disease of the kidney than in affections of the stomach, excepting cancer which has reached a certain stage. So that when you are in the presence of a patient who is constantly vomiting alimentary matters, without the digestive organs manifesting any well-marked sign of disease, your attention should always be immediately turned to the encephalon and to the organs for the secretion of urine.'"

CASE OF URETHRAL STRICTURE TREATED BY OTIS'S METHOD.¹

BY C. P. BANCROFT, M. D., OF BOSTON.

THE following case seems interesting, as it involved many of the extreme misfortunes attending gleet, and was as obstinate in yielding to the regular treatment of that trouble as a case could be. I do not offer the case as proving or disproving anything pertaining to the Otis method. Every case treated in this way is at present of interest, and I merely add mine to the list.

Mr. D., age forty-five, contracted gonorrhœa in 1854 for the first time. Was treated with injections and copalûa; was apparently cured at the time, but some months afterward a gleet appeared. For the past twenty years this discharge has been intermittent. The least sexual or alcoholic excess has always caused its return. In the summer of 1879, after a fresh accession of the discharge, he noticed marked diminution in the size of his stream, also irregularity in its course. By November he was annoyed by a constant desire to micturate; at night he was obliged to arise from ten to twenty times. Finally, his distress was so great that he applied for medical aid. I examined his urethra, and found three strictures,—one in the fixed portion, two in the pendant urethra. No. 13 French bougie was the largest that could be passed. The two anterior strictures were about one and two inches respectively from the meatus. Gradual dilatation was at once begun; the two anterior strictures were very sensitive, and progress was very slow. I gradually increased the bougies to No. 25 French. By this time the difficulty in passing water had nearly disappeared, but still the discharge persisted, and was very annoying. Moreover, on desisting from passing the bougie the strictures at once recontracted, and in addition to his discharge he had a recurrence of his old cystitic symptoms. An ointment composed of sulphate of copper and wax was used, as recommended by Ogilvie Will in his little monograph. This I passed into the urethra on a small sound, and allowed it to remain *in situ* for a while, thus bringing the astringent directly in contact with the supposed diseased portion. This had no effect whatever on either discharge or stricture. All this while a No. 25 French bougie was being passed periodically. I now advised internal urethrotomy as the only means of reaching all his trouble. He at once assented, and I endeavored to incise the stricture with Maisonneuve's urethrotome, but the stricture had already been dilated so widely that the largest blade of the Maisonneuve passed through the constriction without cutting it. As there seemed to be nothing more to do, I was obliged to advise the patient to wait a while, simply passing the No. 25 French bougie. This he did faithfully himself. Gradually the discharge disappeared, and the patient and myself were congratulating ourselves on a recovery, when the cystitis reappeared. So frequent and painful were the calls to micturition, that he was obliged to leave off work. I examined his urine, and found it ammoniacal, loaded with pus, and presenting all the features of a case of severe chronic cystitis. The patient's condition was at this time worse than at any time during the treatment. I at once put him to bed, regulated his diet, and washed out his bladder regularly. This only slightly relieved his symptoms; on endeavoring to walk they at once returned. At this

¹ Read before the Suffolk District Medical Society, October 9, 1880.

time a No. 25 French bougie could be passed, and the stream was of large size. It was therefore perfectly evident that the stricture was of large calibre, and that just enough obstruction to the flow of urine was caused by it to set up irritation in the muscular apparatus of the bladder and urethra, and that this in turn induced inflammation of the mucous surface of the organ. As Berkeley Hill says, "if the balance between the natural expulsive force of the bladder and the friction along the urethra is disturbed the bladder is irritated."

Otis's dilating urethrotomy seemed the only method left by which we could overcome the stricture and relieve the bladder. Accordingly on the 1st of May I etherized and operated upon the patient. Dr. Geo. W. Gay kindly assisted me. The flaccid penis measured three inches in circumference, and, according to Otis, the urethra should have a normal calibre equivalent to a No. 30 French bougie. The urethrotome used was one of the earlier designs, and not as convenient as the later variety, in which the blade slides in the groove after the instrument itself is dilated. The urethrotome was introduced through the deep stricture, dilated and withdrawn, closed and withdrawn to the outer strictures, then dilated and withdrawn through them. The meatus was also incised. A No. 30 French steel sound easily passed into the bladder. There was but little hemorrhage. That night he had a tendency to chill, and some pain which was relieved by ten grains of quinine and a morphia and belladonna suppository.

May 2d. Had some local soreness, but otherwise comfortable.

May 3d. Had no spasm after urinating; did not wish to pass water oftener than natural, and said he felt better than for a long time. No. 30 French bougie introduced without pain.

May 5th. Had a great deal of pain in perineum and penis. Penis red and swollen, and marked induration at peno-scrotal angle.

May 7th. Swelling and pain had diminished, and a No. 30 French sound was introduced. All the requirements of Otis's operation had thus been met up to this time. The sound had been passed until there was no blood or discharge upon its withdrawal. According to Otis, the stricture was now radically cured. The normal calibre of the urethra was restored, and it was physiologically impossible for contraction to recur.

May 9th. Patient again experienced great pain in perineum and penis. He was very restless; had a temperature of 102° F., preceded by a slight chill. Five grains of quinine were given, and three suppositories of morphia, each containing one fourth of a grain, were administered before he experienced relief.

May 10th. He felt much easier. Urine rather thick, and contained pus.

May 12th. Patient decidedly better. From this time he began to gain. His urine slowly cleared up, and by the 1st of July he resumed his work. Since his last attack of pain a No. 28 French bougie passed easily, but Nos. 29 and 30 entered with so much difficulty that I did not endeavor to pass them. Up to the present time the patient has remained very well. There is no discharge from urethra, nor is there cystitis. He does his work daily, and has gained in flesh, strength, and color.

To a certain extent, therefore, the operation was a decided success; it enabled him to work, and certainly was the means of his recovering his health, which had been greatly impaired by the prolonged urethral dis-

charge and the accompanying cystitis. I cannot say, however, that the cure is *radical*. On the 26th of September last I examined him with one of Otis's steel bulbs, size No. 30, French. This entered the meatus, and passed down the urethra, without obstruction, until it reached a point corresponding to the junction of the scrotum and penis. Here it met with marked resistance, and its passage called forth pain; it passed through a distinct band of stricture, and then met with no further obstruction. At the point of resistance can be felt a ring of inflammatory effusion. During an erection the penis bends downward slightly.

The present case seems to show, first, that the operation is not always followed by a smooth and uneventful recovery; secondly, that the cure is not always a radical one. The case also suggests the query whether it is advisable or justifiable to perform dilating urethrotomy a second time, with the view of entirely recovering the stricture which still exists. It has been said that the dangers and inconveniences of the operation are so slight, and the results so certain and positive, that it is neglect of duty on the part of the surgeon if he does not operate. Considering that at present the patient has no trouble, and that the experience of many surgeons shows that a radical cure does not invariably follow, it would seem the part of better judgment to delay and still consider the question of radical cure a mooted one.

RECENT PROGRESS IN THE TREATMENT OF MENTAL DISEASES.¹

BY THEO. W. FISHER, M.D. HARV.

LUNACY REFORM.

A NATIONAL Association for the Protection of the Insane and the Prevention of Insanity was formed at Cleveland, Ohio, July 1, 1880. A constitution setting forth the methods of the society was adopted, which proposes to encourage clinical and pathological observations by the medical profession generally; to enlighten the public as to the nature of insanity, the importance of early treatment, and improved methods of management at home and abroad; to recommend an enlightened state policy; to stimulate legislation by enlightening public meetings so as to secure efficient supervision of the insane; to perfect the laws relating to the treatment of the insane and their rights while in the asylum; and to allay public distrust by placing insane asylums on the same footing as other hospitals, in the matter of freer communication with the outer world and of a consulting medical staff of general practitioners. An address was read by Dr. George M. Beard, of New York, explaining the necessity of such an association. He thinks the future growth of insanity, due to our complex civilization, is destined to become enormous. At least one out of three hundred will be insane in the near future. Insanity he considers a part of the cost of liberty and self-government. He claims that the public need enlightenment on this subject, and have a vital interest in it far greater than that of the asylums. Dr. J. C. Shaw, of the King's County Insane Asylum, New York, read a paper on the Practicability and Value of Non-Restraint in treating the Insane, showing what had been done in his own asylum since he took charge of it. Its pre-

¹ Concluded from page 400.

vious condition he represented as disgraceful. The amount of restraint had been excessive, but it had been entirely abolished, and seclusion substituted in rare cases. Work he had found a useful adjunct in making the change.

THE RIGHT OF THE INSANE TO LIBERTY

is the title of a paper read before the National Conference of Charities and Corrections at Cleveland,¹ by Dr. E. C. Seguin. He argues in favor of shorter periods of detention for the convalescent insane in our asylums, for greater liberty while there, and for the boarding out of suitable cases in the families of farmers, under supervision of the local physician. He advocates for a large number of asylum inmates the abandonment of bars and locks and all restraining apparatus, and nominally remunerative employment, with amusements suited to their capacity for enjoyment. He thinks superintendents are not to be wholly trusted in the matter of early discharge, change of aylum, or amount of liberty allowed. He would have acute cases of mania or melancholia put in hospitals at once, but thinks the confinement should be made as easy as possible, and all restraint applied by express direction of the medical officer alone. He quotes Dr. Maudsley, Dr. Blandford, and Dr. S. G. Howe in support of his various opinions. Dr. Maudsley in his second edition modifies considerably the more radical expressions of the first edition, from which Dr. Seguin quotes. The following remarks indicate the general views of Lord Shaftesbury, for many years chairman of the British Lunacy Commission, on the present tendency of lunacy reform.

At the last annual meeting of the British Medico-Psychological Society Lord Shaftesbury attended by invitation. After contrasting the present improved condition of both public and private asylums with their former state, he congratulated the members on the conscientious manner in which medical practitioners had discharged the duties imposed upon them by the lunacy acts, as proved by the evidence adduced before the late parliamentary committee, which showed that 185,000 certificates had been issued and persons shut up on them, and though the committee sat for six months they did not discover a single instance in which injustice had been done. The present tendency, and one to be guarded against in the public interest, was to let out everybody who was shut up, and henceforward to shut up nobody at all. He hoped no further unnecessary impediments would be thrown in the way of early treatment, on account of a mistaken delicacy in regard to the "liberty of the subject."²

ABOLITION OF LICENSED HOUSES.

Dr. Bucknill in a recent address³ presents his reasons for advocating the abolition of private asylums. He draws a distinction between the physician and the proprietor of such asylums, though they may be the same person. The former is entitled to professional consideration, but the latter is not. There are ninety-eight private asylums in England and Wales, and of these one half are licensed to medical men. The pecuniary bias of these latter is, he thinks, matter for public discussion. A strong inducement to keep patients after apparent recovery no doubt exists, and may be

acted on to the prejudice of the patient. The motives of relatives are said to be, apart from separation from home and safe guarding, secrecy and perhaps the hope of cure. He thinks we have no assurance that the secrecy will be exercised when right, and not attempted when wrong. He believes no change will be satisfactory which will not abolish these asylums entirely. Every lunatic confined against his will should be sent to a public asylum, provided by the state, and managed by a board of governors. Voluntary patients might still be cared for in private, and the boarding out of insane patients in groups of two or three should be encouraged by law.

This paper was read January 21, 1880, before the South London District Medical Society. The discussion brought out many members in opposition. Dr. Newington presented statistics showing that prolonged detention was not the rule in private asylums, and claimed for their proprietors as high a sense of honor as prevailed in the profession at large.

Dr. Lush, the president of the British Medico-Psychological Society, in his annual address, opposed the hasty abolition of licensed houses or private asylums for the insane as unnecessary and harmful. A complex state of society makes variety in accommodation desirable. The allegations against them in 1877 were unsustainable, and the parliamentary committee's report favorable to their continuance. This attack on licensed houses by the so-called lunatic's friend party Dr. Lush regards as mischievous in the extreme. The constant reiteration of such radical views reacts disadvantageously on jurists, on the press, and on medical men. Doctors refuse to take the responsibility of certifying in the clearest cases, the newspapers publish sensational statements devoid of foundation, and magistrates and judges pit the "liberty of the subject" against the common weal, rejecting the plea of insanity where only obtuseness or prejudice could fail to detect it. Mr. Wilkes stated before the committee that in one year sixteen hundred suicides occurred, most of which were preventable. Coroners and the press never point out the obvious moral of the suicides, murders, and felonious assaults, many of them by recently discharged lunatics, or persons who have for some time shown signs of insanity. Projects for boarding out of paupers and the abolition of licensed houses are crudely put forward, in the haste for cheap philanthropy. If insanity is on the increase with the restrictions now in vogue, what can prevent still greater increase if no check is placed on the reproduction of the insane? Not the diminution of insanity, but the license of the lunatic, is inscribed on the revolutionary banner, and its success would be as dangerous to the state as that of any other misguided fanaticism. A true solution of the problem of preventing the growth of insanity is to be sought in increased family responsibility; in educating the popular belief in the gravity of the disease; in further state interference where possible; and in efforts to make the lot of the insane, under detention, as little irksome as possible.

The following newspaper item at the date of writing is only one of hundreds of similar accounts of tragedies annually occurring in our country. It illustrates the remarks of Dr. Lush and Mr. Wilkes, and shows the insensitiveness of the public by the fact that a similar horrible transaction had occurred four years before in the same town:—

"A shocking affair occurred in the town of Sheffield,

¹ Archives of Medicine, August, 1880.

² Times and Gazette, August 7, 1880.

³ British Medical Journal, February 7, 1880.

VL. yesterday forenoon. Byron Blake, an insane man, twenty-six years old, murdered his mother and sister and step-father with a knife, and then hanged himself. The murderer had, some six years ago, a spinal difficulty, which occasioned the loss of his reason. He was confined in an asylum two years, and when he returned home he was considered safe. The whole town is in excitement. There has been no such excitement since four years ago, when Wilder killed his father and mother, and then himself, two miles south of Sheffield."

The following resolution was passed at a meeting of the Norfolk District Medical Society, September 21, 1880: "*Resolved*, That in the opinion of this District Society the present condition of the treatment of the insane prior to their legal commitment to an insane asylum deserves a very searching investigation, and this society would therefore report the subject as worthy the consideration of the Massachusetts Medical Society, either in its corporate capacity, or by some competent committee to be appointed by its council."

This resolution opens a wide field of investigation, including the treatment of the insane at home, in almshouses and general hospitals, by the police and by medical practitioners, regular and irregular. The manifestly insane or delirious person, dangerous to himself or others, may be restrained for a reasonable time until he recovers or can be legally committed to an asylum for the insane by any interested party, and the act will be justified at common law. This is the judgment of English courts, and it would no doubt be sustained by our own. It is this alone that justifies our general hospitals in applying mechanical restraint to insane or delirious patients, as they all do, or relatives and physicians and nurses in controlling the same class of patients at home. When family restraint becomes inadequate, it is sometimes necessary in an emergency to call on the police for protection. In Boston this aid will be rendered on the strength of present violence or a physician's certificate. Our general hospitals have usually refused to admit cases of insanity or delirium tremens. At my suggestion mild or incipient cases of insanity were received for several years at the City Hospital, and are still received in some cases. Delirium tremens is only treated at the city or state almshouses, and cases generally remain a few hours in the hands of the police before reaching their destination. Insane persons escaping into the streets, or having no lodging place, are also subjected to a brief confinement in a padded cell or an ordinary one in the city prison. The accommodations here are for security rather than treatment, and might be improved with more space, such as a new court-house is expected to afford. No insane person, however, need pass through the hands of the police if he has friends willing to control him for a short time, since cases of emergency occurring on Sundays or holidays have for several years been admitted on the certificate of two physicians at the Boston Lunatic Hospital. This is done on the strength of an opinion from the city solicitor that such detention, until legal commitment is possible, is justifiable. The objects of inquiry under the above resolution are worthy attention, and the committee should have the coöperation of physicians and all public officers concerned throughout the State. Especially should this committee consider the position of insane drunkards under existing laws.

CIRCLES OF MENTAL DISORDER.

Dr. J. Crichton Browne, in the opening address before the psychological section of the British Medical Association,¹ made some interesting observations on modern nervous and mental disorders. Outside the insane circle of ninety-four thousand registered lunatics and idiots of Great Britain is a still larger number of eccentric, half-mad, crack-brained, or imbecile persons, who constitute what may be called the crazy circle. No census of this circle has ever been attempted, but its number, Dr. Browne thinks, is double that of the insane circle. The large number of crazy documents in official pigeon-holes and the frequent appearance of the partially insane in our courts charged with fraud or violence attest this. Of the seventeen hundred annual suicides in England and Wales, according to evidence given at the inquests, at least three fourths are due to mental unsoundness, of which previous symptoms had been exhibited. Of patients whom physicians are called on to certify insane, very many have been so for a long time, and patients in our hospitals with physical diseases often suffer from unreported mental maladies. Still, outside of the crazy circle is the neurotic circle of sufferers from forms of nervous disease tending more or less strongly to insanity, such as epilepsy, paralysis, spinal diseases, hysteria, and chorea. The seventy thousand deaths annually from nervous diseases in England and Wales show how large this circle must be.

Between these circles a constant interchange is going on. A person who has been simply neurotic becomes insane and rushes into the inner circle. A lunatic partially recovers and steps into the crazy circle. The insane circle has been stretched by the changing definitions of insanity in modern times so as to include many in the crazy circle, and some believe that this alone accounts for the fact that the number of registered insane has doubled in the last twenty years. Dr. Browne doubts this explanation, and is inclined to agree with Dr. Beard that nervous diseases have greatly increased in frequency, thus becoming feeders to the great body of the insane. If, as Herbert Spencer says, "intelligence is the adjustment of the inner to the outer relations," the latter having become so numerous, complex, and heterogeneous, the process of adjustment must have become proportionately more difficult and hazardous.

Dr. Browne considers the bearing of education on this problem, and shows that, while intellectual exercise is conducive to strength of mind and is prophylactic against insanity, an ill-timed forcing of any particular process is hurtful in the extreme. The intellectual centres are, he thinks, developed successively and become receptive of formative influences at different times. If, therefore, education does not take advantage of this succession, it thwarts its own purposes. If the speech centres, for instance, are being trained when the hand centres are most receptive, mischief may result from forcing in one direction and neglect in the other. There are also two kinds of cerebral activity, — nutrient and functional, — and when one is at the maximum the other is at the minimum. The schoolmaster and the psychologist should therefore take counsel together. Cerebral centres not properly exercised at the right time never fully develop, and once fully matured they do not waste or retrograde. Similar dis-

¹ British Medical Journal, August 14, 1880.

cretion should be used in training the sensory perceptions and the emotional and religious nature.

THE COLLAPSE OF SCIENTIFIC ATHEISM.

Dr. J. M. Winn closes a series of articles directed against materialism and its advocates by a paper entitled as above.¹ Dr. Winn argues rather excitedly, yet logically, against the omnipotence of atoms and physical forces, and dismisses bathybius with contempt. Spontaneous generation, he says, has been refuted by Tyndall himself, the high priest of materialism. Evolution, he thinks, is an unproven and almost unsupported hypothesis, daily losing its hold on the minds of the best thinkers, and contradicted by numerous unanswerable objections. He refutes Mr. Pengelly, F. R. S., who was selected to examine the contents of the Brixham cavern, and who stated that facts conclusively proved the existence of man in Devon during the pre-glacial period, by the evidence of Mr. Whiteley, who insists that the supposed flint implements found were merely flakes and rubble. The only real tool was taken from the soil above the cave; the charcoal bed contained no charcoal; slate was mistaken for flint, and flint for bone. The "whole hind leg of a cave bear" was of similar doubtful character.

Dr. Winn condemns physiological psychology as a pseudo-science which has proved an *ignis fatuus* to many promising young doctors. He denies that vital and mental energy are interchangeable with physical forces, and disputes the conclusions of Ferrier and his school with much vigor and some facts. He calls his system a new phrenology, and as baseless as the old. He finally quotes Dr. J. Hughlings Jackson as a convert to new and sounder views on this subject. Dr. Jackson says: "In a scientific investigation of nervous diseases it is essential to keep distinct psychology and the anatomy and physiology of the nervous system. . . . I have been misled by not having seen the distinctness of physical (nervous) states and psychological states, in my earlier studies, and thus I feel bold to point out the evil results of the confusion of the two things." Dr. Winn says, "The modern cerebral physiologists have been guilty of a serious and culpable error in their attempt to explain mental phenomena by a hasty generalization from the very few facts that are known respecting the nature and properties of the ganglionic cells so extensively diffused throughout the cortical substance of the brain. The mind is an entity, a first principle, he believes, and it is as unphilosophical as it is inconceivable that matter should think."

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. ROICH, M. D., SECRETARY.

NOVEMBER 8, 1880. DR. JAMES C. WHITE, permanent chairman, presided.

PILO-NIDAL SINUS.

Dr. R. M. HODGES presented for inspection a cast and read a paper on *Pilo-Nidal Sinus*, to be found in the preceding part of this number of the JOURNAL.

¹ Journal of Psychological Medicine and Mental Pathology, April, 1880.

² Medical Press, September 3, 1879.

Dr. T. B. CURTIS remarked that he had seen a number of these cases at the Massachusetts General Hospital, but that he had never seen or heard of them anywhere else, and that they appeared to be a new subject in medical literature, as he had been unable, after careful search, to find them mentioned even in the reports of the large Paris hospitals.

Dr. J. C. WARREN said that he had seen and treated a sinus in this location in a woman in good circumstances, and that although before it came into his hands it had been treated so much that no hair was found, yet that he had always supposed that it had originated from a cyst of this character, as it appeared to be similar to other fistulous tracks which he had operated on and found hairs several inches in length.

In answer to a question by Dr. White, Dr. HODGES said that the dimple presented by the cast was of fair average depth, and that they were best seen in young babies, where they look proportionately deeper than in adults. He also said that the tendency of the nates to close together while the cast was being taken altered the appearances somewhat.

Dr. WHITE asked if these fistulous tracks had been carefully dissected, to see whether it was necessary to refer their contents to anything outside of the skin, and whether they could not have originated in the integument itself.

Dr. HODGES replied that no integument was to be seen; he also said that this same process occurred in the umbilicus.

Dr. FITZ thought that the nature of the hairs would oppose the suggestion from Dr. White that these might have grown from the wall of the sinus. The skin of the dimple and that in its immediate vicinity was likely to produce lanugo hairs rather than the coarse variety found within the cavity.

Dr. AYER said that he had seen a number of cases, and Dr. EVES mentioned a case occurring in his practice.

Dr. C. J. BLAKE then read a paper on the Telephone and Microphone in Auscultation, which will be found in another part of the JOURNAL.

Dr. BOLLES inquired whether Dr. Blake had made any systematic attempt to measure—say, with the siren or some such instrument—the pitch of the heart sounds, and then to make a large or very thin disk of low tension that would respond readily to sound waves of the same velocity.

Dr. BLAKE said that this had been tried.

In answer to questions by Dr. F. C. Shattuck and Dr. Hodges, Dr. Blake said that the laryngeal respiration and artificial sounds, resembling respiration and heart sounds, had been tried, and in answer to a question by Dr. Greenough he said that it was possible that the extraneous sounds drowned the heart and lung sounds.

PERICARDITIS.

Dr. CUTLER presented for inspection the heart and pericardium from a patient who had been under Dr. Stedman's care at the City Hospital. The absolute dullness extended to the right of the sternum, and a trocar introduced after death in the fifth right interspace allowed fluid to run out of the pericardium, and did not wound the heart. A trocar was also introduced in the same locality, on the left side of the sternum, with similar results. Twelve ounces of fluid were found remaining in the pericardium and a pleuritic effusion on the left side.

Dr. BOWDITCH questioned whether the man's life might not have been saved if he had been tapped before death, and said that he saw no reason why the pericardium should not be tapped as well as the pleura.

Dr. C. E. STEDMAN said the specimen showed by Dr. Cutler was from a man aged thirty, who came into the City Hospital October 19th, drunk and delirious, having been drinking four days. The area of cardiac dullness extended one and one half inches outside nipple line to sternum, beginning at sixth rib; heart's action excessively irregular and tumultuous; liver dullness enlarged; great dyspnoea.

October 27th. Cardiac dullness increased; friction sound above left nipple; flatness over both bases behind; right back respiration and percussion normal to seventh rib; respiration fainter down to base; voice natural; left base bronchial voice; in front flatness in fifth right intercostal space.

October 28th. Patient climbed the fence at four P. M., and eloped.

November 2d. Returned moribund, and died in two hours.

Dr. ROTCH spoke of the interesting combination of pleuritic and pericardial effusion in Dr. Stedman's case, and recalled Professor Kussmaul's case of pericardial effusion and pleuritic effusion on the right side, relieved by tapping in the fifth right interspace.¹

Dr. ROBERT AMORY asked the opinion of the society in regard to the introduction of certain petroleum ointments in the Pharmacopoeia, and presented for the inspection of the members a number of ointments, with their melting points marked on the boxes.

Dr. GREENOUGH asked whether these melting points could be invariably reproduced.

Dr. AMORY replied that this could almost be accomplished, but that vaseline varies very much.

Dr. BOLLES believed that the true course for the Pharmacopoeia was to treat those paraffine compounds which are useful for ointments and other medicinal purposes as commercial products, describing and defining them with suitable qualifications and restrictions as to their permanence, melting points, irritating qualities, odor, and appearance, and to give them appropriate names. Then let the manufacturers produce them by whatever process they find to be most desirable, and let the apothecaries buy them of whichever dealers offer the best and cheapest articles. He had been, from their earliest introduction into medicine, greatly interested in these substances. He believed them to be one of the most valuable additions of the past ten years to our list of medicines, and that they were destined to supersede the animal fats, in all ointments and cerates. He thought it desirable that there should be two varieties of these articles, one with a melting point between 100° and 110° F., the other above 125° F., either for winter and summer use, respectively, or for admixture with different medicaments, some of which stiffen an ointment much more than others.

One of the difficulties of preparing the petroleum ointments, according to Dr. Bolles, was the liability of the paraffine proper to crystallize or separate from the softer constituents. This should be very carefully guarded against by the requirements of the Pharmacopoeia, as it is a most serious fault.

— Dr. T. G. Thomas, of New York, is building a private hospital in that city.

¹ Deutsches Archiv für klinische Medizin, October 23, 1879.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

J. B. SWIFT, M. D., SECRETARY PRO TEM.

OCTOBER 9, 1880. The meeting was called to order by Dr. HODGES at 7.45 P. M. Twenty-six members present.

Dr. H. W. BROUGHTON reported a case of

PROBABLE HYPEREMIA OF THE LIVER FROM MALARIAL INFECTION, WITH THE POSSIBLE PRESENCE OF EITHER CANCER OR HYPERTROPHIC CIRRHOSIS.

Mr. C. H., age thirty-two, a government architect, born in Glasgow. Mother died of reputed cancer of stomach at forty years of age. Family history otherwise good. At age of three months patient had an attack of bronchitis. With this exception was remarkably well till seventeen, having great recuperative power. At thirteen he entered the English navy as a midshipman. At seventeen he had a profuse pulmonary hemorrhage, unattended by cough. From this he quickly recovered, to be soon prostrated by intermittent fever, shortly after his arrival in the malarial districts of China. From this he made but a partial recovery, slight chills occurring at irregular intervals for three years, during which time he led a rough life; visiting many foreign ports, contracting gonorrhoea, buboes, and a specific sore, which seems to have been a chancre, never having been succeeded by secondary symptoms. At nineteen he had pneumonia, affecting left side. At twenty the chills ceased for four years, during which time he drank immoderately of strong spirits. Otherwise he has always been a moderate drinker of lighter liquors. At twenty-four, in Halifax, he had a second attack of intermittent fever, lasting for a few weeks, but leaving these irregular chills for two years. In 1874, at the age of twenty-six, while in California, he was taken ill with some acute affection. A swelling, painful and tender, appearing at epigastrium, pronounced by physicians to be a "tumor." A few weeks later it was examined rather roughly, causing much pain, after which it gradually disappeared. From this he recovered, and was married in 1875. During the following winter the chills were frequent, sometimes three a week. They persisted for two years. In 1877 the fever stage was followed by more profuse sweating than usual, but the chills were not so noticeable. He then traveled in Europe for a year, being much benefited by the change. Two years ago the chills again returned, mild at first, increasing to marked severity. He was so reduced that he was confined to his bed much of the time. During the paroxysms of fever he was often slightly delirious, and at times they were followed by a sort of stupor. In January, 1879, it was thought that he would never recover. But he did, and was quite well until last December, when his old enemy again harassed him, and the chills have continued ever since. He has taken quinia with benefit. Fowler's solution was also taken for a few weeks. At times the paroxysms have occurred with some degree of periodicity, the last days of the week being the sick days; but usually they come without any warning and at irregular intervals.

Seven months ago, after a strain from heavy lifting, his left testicle suddenly enlarged without marked pain, and has remained so since, not increasing in size, but if anything decreasing.

Our purpose to-night is not so much to discuss the

nature and treatment of malarial infection, but more particularly to consider the change which may arise from such infection.

Patient is of medium height, somewhat stooping, rather anemic and sallow. Tongue moist and pale. Pulse regular, 80 to the minute. Heart and lungs normal. Inspection of abdomen reveals slight fullness in hepatic region. Upon palpation a sense of resistance is felt at epigastrium and right hypochondrium. The edge of the liver is felt firm and rounded. Manipulation is not especially painful, except at epigastrium, where pressure discovers existence of several small, hard nodules, apparently in left lobe of liver. Percussion shows the liver to be moderately and uniformly enlarged. The spleen cannot be felt, although the area of splenic dullness is slightly increased, extending from eleventh rib to eighth intercostal space. The left testicle is found to be uniformly enlarged, four by two and a half inches; no nodules; epididymus not felt; not particularly tender.

Several examinations of the urine have not discovered anything abnormal. Whether albumen is temporarily secreted during a chill has not been determined, although its presence at such a time might be expected without indicating organic disease.

The examination of the blood, by Dr. Cutler, gives no evidence of increase of white corpuscles.

The temperature chart is characteristic of this condition. Before breakfast it is uniformly low, the introduction of food into the stomach and exercise soon bringing it to the normal point. During a paroxysm the temperature has risen to 102° F., when severe; when slight, temperature only rises to 99° F.

From the fact that other organs in our patient are apparently not involved, from the non-splenic enlargement, and from the normal urine, we may eliminate waxy disease with some probability of correctness. From the history, from the absence of fatty change elsewhere, from the absence of great anemia, nervous depression, etc., it is improbable that fatty degeneration is the prominent cause of the present enlargement, although a certain amount of fatty infiltration may of course coexist with the present affection.

Lukæmia. The liver is here usually large, hard, and dense, but we have no enlarged spleen, and no symptoms of lukæmia elsewhere.

Simple hypertrophy is rare, and has been chiefly observed in lukæmia, and exceptionally in diabetes.

Cancer. Primary cancer of the liver is rare. Three fourths of the cases, according to Murchison, are secondary. There are two features in this case which make it possible that cancer is present: (1) the nodular feel at the epigastrium, and (2) the enlarged testicle. With regard to the testicle, it does not seem probable that the enlargement is due to cancer, for it has decreased rather than enlarged lately. Secondary cancer affecting the testicle from the liver is rare. It would more naturally proceed from the testicle to the liver. The nodular feel at the epigastrium, with its accompanying tenderness, is to be regarded with suspicion. Cancer cannot, therefore, be eliminated.

Hypertrophic cirrhosis is a somewhat common sequel of protracted hyperæmia. We can dismiss advanced hypertrophic cirrhosis from the absence of oedema and jaundice, but the chronic malarial infection has undoubtedly induced a certain amount of hyperæmia, and this is in itself likely to produce the condition under consideration.

Lastly, we have hyperæmia. Passive hyperæmia, due to obstruction, is excluded by the absence of thoracic and other disease.

In searching for literature upon the subject of changes produced by malarial infection one is impressed by the fact that no very definite statements are easily found. In the latest edition of Ziemssen, not yet published, Thierfelder there gives the result of most recent investigation. He says that chronic hyperæmia has been observed after any irritation that may call to the liver an unusual supply of blood; for instance, he mentions malarial infection and alcohol. The enlargement may be very great without any structural change.

In our patient the long presence of the malarial poison has been noted; the positive signs of organic disease are absent. There has been also an additional factor in causing hyperæmia, namely, the prolonged use of spirits for four years, and a moderate use since. There have been apparent fluctuations in the size of the liver. The sallow complexion can also be explained by this condition, and it therefore seems most probable, in the view of the light we have, that this perplexing enlargement is due to hyperæmia.

Cancer and hypertrophic cirrhosis resulting from the hyperæmia have not been eliminated, and the possibility of the existence of one or the other of these diseases must be borne in mind.

If the conclusion that simple hyperæmia alone is present be correct, the prognosis would be favorable.

The presence of hypertrophic cirrhosis would of course render the prognosis grave. Murchison, however, reports cases of improvement, and even recovery, under treatment.

Treatment. Thus far the patient has steadily improved under the following treatment: nourishing and simple diet, fresh air, exercise, and good hygienic influences. Alcohol has been forbidden, excepting a small amount of Tarragona wine at the time when a chill is thought to be approaching. He has been taking Fowler's solution, three drops three times a day, since September 21th, when I first took the case. At that time also ten grains of quinia were given, at a time when he was anticipating a chill, repeated in two hours; and for the first time in his history, as he says, he had no chill. This treatment has been continued for two weeks, and although on the last days of each week he has felt rather uncomfortable he has had no distinct chill.

Dr. J. H. WARREN asked if the cicatrix of the sore on the penis could be seen now. He had seen cases where the primary sore did not amount to much, present afterwards symptoms of this kind. He thought that the case was either one of syphilis or cancer, and would recommend iodide of potassium.

Dr. BRIGHTON replied that the patient had studied medicine at one time, and was fully able to recognize any secondary symptoms. He had anxiously looked for them, but had never seen any.

Dr. BLODGETT inquired if there was any hysterical element in the case. The symptoms coming on towards the end of the week would be at a time when the patient would naturally be tired and nervous. He had seen such a case.

Dr. BRIGHTON answered that the question had been considered, but was eliminated. Then, besides, he had a clearly defined history of intermittent fever.

Dr. HICKS inquired as to the possibility of its being

a case of cancer, and said that cancers sometimes occurred without any glandular enlargements.

DR. FOSTER said that most of his life had been passed in a malarial district, but he had never seen a case of cancer arising from malarial origin.

DR. BROUGHTON said that he did not consider the case one of cancer arising from malaria. If cancer was present it was a complication.

URETHRAL STRICTURE.

DR. C. P. BANCROFT reported a case of urethral stricture, of large calibre, treated by Otis's method, which will be found in the first part of this number of the JOURNAL.

DR. BLODGETT asked to what Dr. Bancroft attributed the acute attack which took place eight or ten days after the operation.

DR. BANCROFT said that he could not account for it, except by supposing it to be due to some irritation caused by the passage of the sound.

DR. BLODGETT inquired more particularly as to the inflammatory band.

DR. BANCROFT said that this band was outside of the stricture. The whole penis became red, swollen, and inflamed, and when this inflammation subsided the band remained. He considered the gleet due to the stricture.

DR. J. H. WARREN spoke of a case of the same kind in his practice, where there was chronic inflammation of the bladder. The urethra was gradually dilated to admit a No. 30 French bougie, but on discontinuing the use of the instrument the gleet returned. An examination of the urine showed inflammation of the neck of the bladder. He sent the patient to mineral springs of a diuretic character, and when the cystitis disappeared the urethral inflammation also subsided.

DR. CORNELL inquired as to the way in which gonorrhoea was treated now.—whether with or without injections. Was it the general opinion that injections caused stricture? His experience had been that they did.

DR. J. H. WARREN exhibited some instruments which he presented before the British Medical Association in August last, before the Académie de Médecine, at the University Clinique Hospital, also in the Charity Hospital, and to many distinguished gentlemen of the profession in various parts of Europe. From the very flattering manner in which he was received, and the high commendation bestowed at various places upon these surgical devices, he thought it might not be uninteresting to show the same, together with some new instruments purchased this summer while abroad. Dr. Warren said: Some few of these I presented to you last winter in their crude state. I now show you a few vermicular pointed catheters in three sizes. It will be remembered that in a former paper I described the ease with which, from their peculiar shape, they penetrate through strictured urethras and enlarged prostates into the bladder.

I next show you Sir Henry Thompson's tube as I have improved it. My idea has been to have a tip, one half of which is thrown back by a spring after it has entered the bladder so as to allow the *débris* of the crushed stone to enter the tube freely. The other half, being unfointed, acts as a scoop to take up any remaining particles in the bladder. The point, or tip, may be made to revolve, or may be stationary. I use

both kinds. The same arrangement may be applied to the straight tube of Bigelow, which does not have the curve of Sir Henry Thompson's. The tip can be perforated by a few holes, to prevent closure by the suction of the aspirator. A thin rein of steel wire can be attached to the movable portion of this tip, and worked at its lower end by a thumb-screw. In this shape it can be used for removing small particles from the bladder, shot and balls from deep gun-shot wounds, or foreign substances from the throat, nose, and ear. Internal medication to the uterus, throat, and rectum can also be made by attaching a piece of sponge on a wire, and passing the sponge and wire through the tube. The tube for these latter operations may be made smaller than that used for lithotomy.

I next show you Bigelow's tube with a vermicular point. This point allows a much larger tube to be passed and with less shock to the neck of the bladder than would otherwise be possible. This can be very readily demonstrated upon the cadaver. If we now look at the tubes of Thompson and Bigelow, we shall see that where the tube opens for the admission of *débris* and fluid from the bladder the tube is more or less enlarged, and presents a concavity into which the mucous membrane folds. In forcing the tube through we injure or even denude the mucous membrane, thereby often producing a hæmorrhage, notwithstanding the utmost care. The improvements which I have applied to these instruments do away entirely with this injury and difficulty of introduction, thereby overcoming what has hitherto been one of the greatest drawbacks in the removal of stone by so large a tube. With my smooth point gliding through the parts, there is less shock to them and less tendency to cystitis. As we are in duty bound to take every measure to prevent fatality following these important operations, I think it will be found by those using these tubes of mine that the mortality from the operation will be much smaller than hitherto. I have designated this instrument the Thompson-American tube, in honor of the distinguished operator in this branch of surgery.

I next show to you a new uterine probe, with revolving point, which has been most heartily approved by all gynæcologists of Europe and of this country who have seen it. Probe No. 2 can be used for making internal applications to the uterus, since, having a fenestrated opening upon the point, which is of platinum or other non-corroding metal, a tuft of cotton can be threaded through, medicated with whatever preparation we desire, and applied to the parts in question. This same instrument when tipped with porcelain can be used for probing in gun-shot wounds.

I show you here No. 16 and 30, from the set of my revolving bulbular pointed sounds. They partake of the wedge and screw form, and are very useful in dilating the urethra. By increasing the size we can use them for rapid dilatation of the uterus, or for dilatation of the rectum or œsophagus.

I next show trocar No. 1, with revolving point, which is very useful in a large majority of cases requiring tapping, in general anasarca, etc. By withdrawing the staff bearing the vermicular cutting point, and inserting the smooth vermicular point, we have a female catheter, which I think will be very highly appreciated by the general practitioner. Trocar No. 2 is a flat oval, revolving upon the handle, and allowing the fluid to escape through the body of the instrument and out of the end of the handle, where a rubber tube

is attached to convey the fluid away. Trocar No. 3 is a large trocar, which can be used for tapping large effusions, and also for ovariectomy. The revolving point upon all these trocars allows them to be passed through the tissues far more easily than ordinary blunt-pointed trocars can be. I next present to you aspirating needle No. 1, flat oval in form and twisted. From its peculiar shape it makes a wound easy of coaptation, and working as a spiral twist it can be inserted through firm and hard tissues and ligaments with great ease, and remain in the exact position in which we leave it, nor can it be forced out. The point, being flat and lancet-shape, will not glance to one side, as the ordinary scarf-pointed needle, but will go straight to the mark wherever we wish to send it. It is very useful also in tapping about the knee-joint, in effusions of the pericardium, in the tumorification in strangulated hernia, or in hydrocele, where I have found a small needle like this far better to remove the effusion than a large trocar. Exploring and aspirating needle No. 2 is much longer and of a larger size than No. 1. It is used for deep-seated abscesses, ovarian cysts, fibroid and other tumors of the uterus, or any deep-seated abscess of the liver and abdomen. This needle was made for me by Messrs. Weiss and Son, of London.

The herniotome No. 1 is an instrument which Dr. Bryant tells me he invented some twenty-five years ago. I have had a saw cut upon the cutting edge to divide Ponpart's ligament. I thus think to avoid the possible hemorrhage resulting from the use of the ordinary herniotomy knife, as the saw working in a sheath in the body of the instrument produces a serration and laceration of the coats of the blood-vessels. I have slightly altered the instrument in several other points as well. No. 2 is an instrument devised by Weiss several years ago. Upon this instrument I have also had a saw cut on the cutting edge. A protecting slide or female sheath covers the cutting or male portion of the instrument. While the instrument is being introduced the cutting edge is covered. When well in place the sheath is withdrawn and the saw-like motion set up to cut the ligament. These herniotomes will be found very useful in the operation for strangulated hernia, since no director has to be used, and since no injury or hemorrhage will result from the introduction of the instrument or the subsequent division of the ligament.

I next show you Dr. Goldenbird's torsion forceps, which are used exclusively in Guy's Hospital. It will be noticed that the jaws are very broad. I saw several in use during operations in the hospital, and, owing to their great simplicity and strength, they are the most powerful and the best torsion forceps I have ever seen.

The last that I shall show you this evening is a triangular pus basin, with the spaces between the angles so rounded out that they will fit any part of the body. The suggestion made by Dr. Hicks, of a rubber tube and a stop-cock at the bottom to convey away the fluid, I think would be a great improvement to the basin.

These instruments are made by George Tiemann & Co., of New York, and can be ordered through any dealer in surgical instruments in this country or Europe.

Dr. BLODGETT showed two specimens of Chian turpentine, and said that he did not know how an oleoresin like this was digested in the system. One of these specimens was prepared by triturating the turpentine with sugar of milk, one part to ten. The

second preparation was merely the turpentine added to or suspended in water.

Dr. J. H. WARREN said that he had been much interested in Chian turpentine. While he was in England he took occasion to inquire into its use there, and found that it was looked upon much as condurango had been regarded here.

Dr. W. S. BIGELOW showed an instrument which had been devised for cutting plaster, or other stiff bandages. It was a small circular saw set in a stout handle. At the lower part of the handle is a beak, which serves as a guide and also as a protector to the skin. The saw is moved by a second handle. It operates very successfully.

RECORDS OF THE BOSTON SOCIETY OF MEDICAL SCIENCES, OCTOBER, 1879, TO MAY, 1880.

JAMES J. PUTNAM, M. D., SECRETARY.

FEBRUARY 17TH. Dr. A. T. CABOT showed *microscopic specimens from the wall of a fistulous tract near the rectum running from the neighborhood of the anus to that of the scrotum, which had been operated upon recently at the Massachusetts General Hospital. Sections made near the middle of the tract showed that it had an epithelial lining, with glands beneath, like a mucous surface, and the probability was that it consisted morphologically in a prolongation of the so-called pockets of Morgagni, as Chiari has shown with regard to similar fistulae.*

Dr. DWIGHT confirmed Dr. Cabot's opinion as to the glandular nature of the bodies seen.

In reply to Dr. Bowditch, Dr. CABOT said that this glandular structure ran the whole length of the tract, though not everywhere developed to this extent.

Dr. BOWDITCH said that it would be interesting to know whether chronic fistulae in other parts of the body would show characteristics of this sort.

Dr. CABOT could not answer this question fully, but could say that in cancer of bone following fistulae due to caries the epithelial formation dipped down from the surface.

Dr. DWIGHT referred in this connection to the little tracts running inward from the skin in the neighborhood of the sacrum.

Dr. QUINCY exhibited *microscopic preparations from the diaphragm of the rabbit, of which the whole circulatory system had been injected from the carotid. The preparations showed channels also injected, but entirely distinct from the blood-vessels, and resembling those described by Klein as lymph spaces.*

Dr. DWIGHT spoke in support of this opinion, and confirmed the statement as to the absence of breaks through which the injecting mass could have escaped. He agreed with Dr. Bowditch that these channels were small lymphatics rather than lymph spaces, looking, as they do, entirely different from the straight, narrow passages beneath the central tendon.

Dr. WHITE spoke of a unique case of *parasitic disease in a wild mallard duck. The duck had been sent to a gentleman's house, and returned again to the market as not good, the cook having laid bare and inspected a portion of the breast and found it diseased. The whole of the pectoral muscles and parts of the skin were packed with cysts as thick as is ever seen in hog's flesh. These cysts were little elongated bodies, three to four times the size of trichinae*

cysts. On examination they were found to be in an early stage of segmentation. The embryos had not yet begun to assume very definite form, so that it was impossible to say what species they would develop into.

The mallard is prolific in parasites, as compared with other birds, and Dising gives a dozen varieties, but no encysted form, either for this or any other bird. It is a large feeder, being called, as Dr. Cabot says, the hog among birds. The specimen has been examined at Cambridge, and is pronounced to be the *Prospormia*, the encysted stage of *Gregarina*.

DR. WHITNEY showed *microscopic preparations* from a tumor removed from the neck of a patient at the Massachusetts General Hospital, and discussed its nature.

DR. WHITE asked what distinction Dr. Whitney made between rodent ulcer and epithelioma.

DR. WHITNEY said, none histologically, but he believed there was a difference in their seat of origin.

DR. WHITE thought this was not so, at least as far as the skin is concerned, and said that it seemed to him the distinction was a purely artificial one, made by surgeons. Neither did he think the size of the cells necessarily greater in epithelioma, even when it develops, as it does, from sebaceous glands.

DR. CABOT spoke briefly of some experiments which he was making to determine *whether a one per cent. solution of carbolic acid is strong enough to be safe for use in washing out cavities*. His experiments had confirmed his own belief that the solution is strong enough to destroy bacteria if allowed to act for at least ten minutes, and thought that even a weaker solution would do if left still longer. He had found the lowest forms of bacteria less resistant than the higher forms. In reply to Dr. White, Dr. Cabot said that he had kept his fluids at the temperature of the room.

DR. BIGELOW thought that to make the experiment complete the fluids should be kept at the temperature of the body, since the difference is often enough to carry off rapidly fluids which at ordinary temperatures keep for weeks and months.

MARCH 23D. DR. GARLAND read a paper, which is published elsewhere,¹ describing some experiments made by himself and Dr. H. P. Bowditch as to *whether the heart is active or at rest during its diastole*. The method employed had been to connect the heart with tubes containing valves which could be reversed at will, so as to allow the defibrinated blood, which was used in the experiments, to pass either towards or from the heart, but not both ways, thus making it easy to determine the amount of suction exerted. The results were in favor of the theory of active dilatation.

DR. BOWDITCH called attention to the explanation of muscular contraction given by Engelmann, namely, that it is due to a sort of osmosis, fluid being transferred from one part of the muscular fibre to another. If this is true, it is easy to conceive that the cardiac diastole should be an active process.

DR. JEFFRIES showed Hohnsen's new apparatus for testing the quantitative color sense.

DR. BOWDITCH made an oral communication upon the instruments used in pneumography.

An apparatus for recording the respiratory movements may measure either (1) varying circumference of the chest, (2) the rise and fall of the diaphragm,

(3) the tension of the air in a tube connected with the machine, or (4) the volume of the inspired air. The pneumograph of Marey is an instrument of the first sort, the phrenograph of Rosenthal one of the second.

An apparatus operating as a combined pneumograph and phrenograph was exhibited. It was intended for studying the human respiratory movements. The difference between the records of instruments of the third and of the fourth classes was pointed out. Instruments of the fourth sort are of two classes: (a) those in which the animal breathes into a confined space, the air of which communicates with a registering apparatus; and (b) those in which the animal lies in a confined space, breathing the external air through an opening, while the air around him communicates with a registering apparatus.

In instruments of class a, the space into which the animal breathes must be made quite large, and the air frequently changed to prevent suffocation. Where it is desired to study the effect of asphyxia the animal may be allowed to breathe into a horizontally placed burette, in which a loosely fitting float moistened with glycerine and water slides to and fro with the respiratory movements. By connecting this float with a pen a tracing of the respiratory movements may be obtained on a revolving cylinder.

In an instrument of class b the connection between the lungs of the animal and the external air is usually made by means of a tracheal canula; but it is possible to draw the head of the animal through an opening in the side of the box, and thus enable it to breathe the external air, while a rubber collar attached to the opening fits around the neck of the animal tightly enough to secure a correct record of its respiratory movements without interfering with respiration or circulation. An instrument of this sort was exhibited to the society.

APRIL 27TH. DR. JEFFRIES showed a new arrangement of worsteds as a test for color-blindness, sent by Professor Donders.

Oblong curls were wound with worsteds of a certain color, with bands of other colors, chosen by actual experiment with the color-blind, as exactly resembling those with which they were contrasted.

There were sets arranged in this way for green, blue, and violet color-blindness. The sets used by Professor Donders himself have been chosen by experiments with some forty color-blind persons.

MAY 18TH. MR. MINOT demonstrated some microscopic specimens illustrating the *anatomy of the snake's tongue*, to be published elsewhere.

DR. BOWDITCH showed a new form of *pharoscope*, for studying the changes in the cornea and lens during accommodation, answering the same purpose with the apparatus of Helmholtz, but being more convenient. It consisted in a blackened hand-screen, about six by four inches in size, cut in which was a vertical slot, the width and position of which could be altered at will. Behind this slot two small gas-jets sprang out horizontally and parallel to each other. Thus two spots of light were thrown through the slot, and as the apparatus was mounted on a suitable handle they could be conveniently thrown upon the observed eye, and the changes in the position of their reflected images readily noted.

DR. JEFFRIES showed the new apparatus of Donders for a quantitative test of color-blindness.

¹ Vide Boston Medical and Surgical Journal, May 6, 1880.

Medical and Surgical Journal.

THURSDAY, NOVEMBER 18, 1880.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly by HOUGHTON, MIFFLIN AND COMPANY, Boston. Price, 15 cents a number: \$5.00 a year, including postage.

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Remittances by mail should be sent by money-order, draft, or registered letter to HOUGHTON, MIFFLIN AND COMPANY, Boston, Mass.

THE CARTWRIGHT LECTURES.

THE first of the Cartwright lectures* was given on Tuesday evening, November 9th, at the College of Physicians and Surgeons, New York, by Dr. Roberts Bartholow, now professor of materia medica and therapeutics in the Jefferson Medical College, Philadelphia. This is a course of lectures which is hereafter to be given annually, under the auspices of the Alumni Association of the College of Physicians and Surgeons, and the expense of which is provided for by the liberality of the late Mr. Cartwright, of Newark, New Jersey. In his will he bequeathed to the association the sum of ten thousand dollars, a portion of the income from which is to be devoted to a biennial prize of five hundred dollars, open to the profession, to be awarded to the best essay, involving original research, upon a subject duly announced by a committee for the purpose, while the remainder is to pay the expenses of an annual course of lectures before the association and the profession at large by some medical man of distinguished attainments. This is the first instance of the establishment in this country of a lectureship on the plan of the Gulstonian, Lettsomian, and other lecture courses in England, which have been of so much service to the profession, and it will be the aim of the association to maintain the same high standard in the Cartwright lectures which has hitherto characterized the English ones.

To Dr. Bartholow has been assigned the honorable distinction of delivering the first course of these, and he has selected for his subject the Physiological Antagonism between Medicines and between Remedies and Diseases. On Tuesday evening the lecture-room was crowded to excess, and a large number stood up during the entire lecture. This was because, unfortunately, a general invitation had been issued to the students of all three of the large medical schools. The students, as a rule, came very early, and almost completely filled the hall, so that many regular members of the profession, arriving just before the hour announced for the lecture, were unable to obtain admittance at all. Dr. Robert F. Weir, the president of the Alumni Association, made a statement of the provisions of the Cartwright bequest, and then introduced Dr. Bartholow, who was received with great warmth.

After a graceful introduction the lecturer gave a résumé of the various theories which have prevailed in therapeutics from the time of Hippocrates down to the present day. He then alluded to a number of the antagonisms between medicines which have been

proved to exist, in the order of their discovery, and showed that there were striking analogies to such antagonisms in the mechanism of the functions of the brain, heart, and other organs of the human economy, in physics and in chemistry. He also spoke of the brilliant achievements of Bichat, Magendie, and their followers in experimental physiology, and dwelt particularly on Magendie's researches in regard to strychnia, by means of which its therapeutical properties had been brought to light, and especially its antagonism for paralysis. Finally, he took up in detail the subject of the antagonism between opium and belladonna, and in the course of his remarks showed the fallacies of Brown-Sequard and other observers, who had attempted to prove experimentally that no such antagonism existed between the drugs. He said that one hundred and twenty cases had now been collected in which one of these agents had been employed to counteract the effects of poisonous doses of the other, and that in these there had been only fifteen failures. The lecture was concluded by the narration in detail of these fifteen cases, and in each the causes were pointed out why the treatment had been unsuccessful. In most of them the reason was shown to be that too small a quantity of the antagonistic medicine was employed. Six lectures in all are to be given by Professor Bartholow, and they will be delivered on successive Tuesday evenings.

THE MARINE HOSPITAL SERVICE.

THE report of the supervising surgeon of the United States Marine Hospital Service for 1880 again contains its oft-repeated plea for the better protection of vessels at sea from accidents by proper examination of the sailors of the merchant marine. The number of sailors treated for incurable diseases, which unfit the sufferers from active duty, by the medical officers of the Marine Hospital Service, as shown by the report, is truly appalling. The permission to ship owners and masters to avail themselves of the services of the surgeons of the Marine Hospital Service, in manning vessels, is rendered useless by the method of shipping sailors. Under existing circumstances a man with advanced heart trouble, or just sufficiently restored from some prostrating disease to be discharged from hospital, is liable to be shipped, only to break down at the critical moment when his services are most necessary for the safety of the vessel and whatever she may contain.

Much is truly said of the inhumanity of the officers of merchant vessels. One of their number has made the plea to the writer that it was absolutely necessary to get a certain amount of labor out of the incapables to prevent the utter exhaustion of the few really able-bodied men on board. "Allow us to man our ships with sound men that we pick ourselves, and one great motive for harsh treatment will be taken away."

The report also urges the establishment of a national sick harbor, or sailors' home, for disabled seamen. It does so chiefly on the grounds of humanity; it might also urge it from a utilitarian point of view.

The possibility of finding refuge in comfortable quarters would take from many an unseaworthy sailor the motive for continuing in a position for which he is no longer fit, and in which he actually endangers the safety of the ship.

Many of the men who would be candidates for such a home are men who have spent their best days in the navy or revenue marine. No longer fit for such duty, they drag out a miserable existence, alternating a few months' labor at sea with intervals of "hospital bumm-ing." The Marine Hospital Service is doing good work with its examinations of pilots for color-blindness. We hope it may soon have the opportunity to do still more towards increasing the safety of ocean travel.

Surely the supervising surgeon-general will pardon us for asking that in future reports the surgical statistics shall serve some other purpose than simply to advertise the fact that certain surgeons have done a certain number of operations. We wish particularly to refer to the tabulation of operations on the urethra. Nearly three pages are covered with a long enumeration of cases of stricture treated by division, dilatation, and internal urethrotomy, all of which, save three "partially successful" cases, were "successful." If we are to be treated to such an array of figures, why cannot they be sufficiently extended to be of actual benefit? We fail to see any special object in tabulating the amputations of the phalanges of the foot and hand, or in the separate mention, among miscellaneous operations, that tapping a hydrocele was performed by A. B. C. without an anæsthetic, and that the result was "successful."

AN IMPARTIAL CRITIC ON LITHOLAPAXY.

LITHOLAPAXY seems to have received its dues in the following review of Sir Henry Thompson's *Practical Lithotomy and Lithotripsy*; or, *An Inquiry into the Best Modes of removing Stone from the Bladder*,—a third edition of which has been recently published. It is from the *Practitioner* of October, 1880, a journal of the highest London reputation, edited by T. Landor Bruntton, M. D., F. R. S., one of the physicians of St. Bartholomew's Hospital, and a lecturer in its medical school.

"The interest in the third edition of this work centres in the eleventh chapter, on Lithotripsy at a Single Sitting, and we may confess at once that we are not thoroughly satisfied with this chapter. The small meed of praise bestowed on Professor Bigelow for his brilliant suggestion; the condescension with which Sir Henry Thompson says that his 'mind was already prepared by past experience to receive it favorably;' and the manner in which the author makes use of Bigelow's instruments (slightly modified), and at the same time condemns them, will be very gratifying to the impartial reader. In truth, Professor Bigelow's method and the instruments he has invented are not unlikely to produce a complete revolution in the teachings which have hitherto prevailed on the subject of lithotripsy. It has already been proved in America and in this country that stones of considerable size may be removed at one sitting with the hap-

piest results, even in men of advanced age, and in those whose constitutions appeared but little adapted to bear the strain of such an operation; and the question which now occupies the minds of the most distinguished lithotritists is whether the proceeding of Bigelow should be universally employed for the removal of stone in adults. Sir Henry Thompson's experience of the operation extends to thirty-five cases, in which he has performed it without a single fatal result, and almost without mishaps; yet many of his patients were very old, and some of the stones were very large. The objections made to the large size of Bigelow's instruments appear to us untenable; and the statement that the 'extra work necessary to be performed at a single sitting especially demands a practiced hand to do it safely,' although it may be true, at present requires to be proved. That the bladder will bear with impunity much rougher handling than Sir Henry Thompson appears to believe is proved by the work of other operators, bolder, if perhaps less skillful, than himself. We are ourselves aware of cases in which the operation was continued for upwards of an hour before complete removal of the stone was effected, and in which the patient recovered without a bad symptom. Nevertheless, Sir Henry Thompson is probably quite right in exercising caution, and while we should not dare to recommend to so admirable an operator a little more boldness, we have no hesitation in recommending a little more generosity in acknowledging the value of a proceeding which is likely to reflect the greatest credit on Professor Bigelow, and through him on American surgery."

MEDICAL NOTES.

—In commenting on a recent case of Death from Chloroform,¹ the *British Medical Journal* (formerly a partisan for chloroform), October 30, 1880, page 715, says: "The chloroform appears to have been administered with due skill and care, and the patient was a fit subject. Seeing, however, the lamentable frequency of fatalities following chloroform anæsthesia, and the generally admitted greater safety of ether, we think it right to call attention yet again to the advisability of preferring that which is held to be the less dangerous anæsthetic."

Without laying ourselves open to a charge of a want of generosity, we think we may permit ourselves to remind our readers that the *British Medical Journal* fought us furiously in 1870 for upholding ether. Since that time we believe its management announced a complete change of base on this question, and we call attention to the above extract merely to reiterate our joy over one repentant sinner.

We are not unmindful that an inexplicable death from the administration of ether was the subject of a manly, candid, and instructive lecture by the unlucky operator himself before a class of students in Cincinnati not long since. It is a question of comparative, not of absolute safety.

¹ Alluded to in our number for October 28th, under the head of Obsolescent Surgery.

— We copy the following from the London *Lancet*: An extraordinary account of recovery from a rattlesnake bite has been published in *Land and Water*, by Dr. Arthur Stradling, of H. M. S. Elbe, who has apparently been making some experiments, no doubt well intended, but most unwisely ordered, in the endeavor to discover an antidote. He had arranged for the snake—a small *Crotalus horridus*, about eighteen inches long—to bite his right arm above the wrist, and he grasped the creature with his left hand, protected by a thick leather glove. The snake, however, managed to wriggle through his fingers, and bit him on the back of the left forearm, leaving one of its fangs sticking in the wound. Putting it back in the box, he picked out the bit of fang with a pair of forceps, and sat down to watch the result! This was at one o'clock in the morning. He had ligatures, ammonia, brandy, and nitric acid at hand in readiness, but the value of the caustic and ligature could not be great, since he waited for the symptoms of absorption before applying them. He went on waiting for four hours, until five A. M. Then he noticed that the lymphatics higher up the arm were swollen and inflamed, and almost at the same moment he became aware of light-headedness, and of a burning sensation traversing his whole frame. There seemed to be great vascular and mental excitement, yet his temperature was down to 96° F. After this evidence of absorption he applied the nitric acid to the bite, but almost immediately became irresistibly drowsy, and then unconscious. At eleven A. M., ten hours after the bite, he was found insensible, pale, pupils contracted, feet and legs cold, but with an axillary temperature of nearly 100° F.; the intercostal muscles, arms, and legs were paralyzed; the diaphragmatic respiration was irregular. A medical man on board sucked the bites, and cauterized them freely, and gave ether and ammonia every half hour. There was no movement of the body until three in the afternoon, when a tetanic spasm occurred, followed by hicough and twitching of the muscles about the shoulders. The experimenter then recovered consciousness, slowly regained power over the limbs, and slept for twelve hours. After this he was well, except for prostration. It is hardly possible to conceive an experiment made under more reckless conditions,—an experiment with a rattlesnake in solitude, in the middle of the night, and by an observer apparently ignorant of the rapidity with which the action of the poison, once set up, develops. The result teaches nothing new, and it is difficult to understand what, under the circumstances, could be learned from it.

—The London *Lancet* thus concludes a reference to the recent Homœopathic Congress at Leeds: "At the dinner in the evening Dr. Yeldham tried to speak comfortably to his brethren on the subject of the slow progress of homœopathy. He thought great reforms were always slow, but considering the reasonableness of the age and the fast rate at which truth and falsehood are exposed, it is certainly becoming a serious argument against homœopathy that eighty years after its promulgation it is as much without

scientific recognition as it was two generations back. About the same time that homœopathy was announced Jenner announced the efficacy of vaccination. Let anybody contrast the fate of the two announcements: the one accepted by every civilized country and by every medical school in the world; the other without recognition in any European university, even in Germany, the land of its origin."

—According to the *Medical Times and Gazette*, Professor Lücke, of Strasburg, relates the case of a woman, aged twenty-eight, who, having had a canceroid tumor removed from the right submaxillary region in 1878, presented herself in February, 1880, with a relapse, a tumor having formed in the cicatrix, and a large one under the right sterno-cleido-mastoid. On removing the latter he found it intimately connected with the muscle. The carotid artery was easily separated from it in its whole length, but the jugular vein and nervus vagus were closely united to the tumor. The vein was tied close to the clavicle and above the tumor, and this last was removed with the vein and the nervus vagus attached to it. The bleeding was inconsiderable, and the portion of the nerve measured about twelve centimetres. No remarkable effects were produced on the respiration or pulse at the time of dividing the nerve. The nerve was found to be four times its natural thickness, but no effects were produced on the respiration during the healing of the wound. The patient presented herself in the July following, and manifested only an easily excitable respiration, which in other respects was normal. The right side of the face was in a hypertrophied condition.

—Remedies for bromidrosis, or, as the Germans more graphically call it, "stinking foot sweat," abound in the journals. The latest one is a solution of chloral in alcohol and water applied several times a day. An application of equal parts of belladonna ointment and glycerine we remember to have seen lately as a highly praised remedy. One great difficulty in the way of removing the odor lies in the stockings and shoes. These must be treated as energetically as the epidermis.

NEW YORK.

The annual meeting of the State Board of Health was held in Albany on the 10th of November, and there was quite a full attendance of the members. Although it has been such a short time in operation, its organization having taken place only in June last, the board has already accomplished some very good work, especially in providing for a more general and complete registration of vital statistics, and in the investigation of localized epidemics of diphtheria, dysentery, typhoid fever, and other diseases in different parts of the State. At this meeting certain sanitary orders, regulations, and ordinances, which had been previously proposed, were recommended for adoption, and among them were the following:—

That all things dangerous to human life or health are deemed to be nuisances, and any person who may retain them shall be guilty of a misdemeanor; no

privy vault to be allowed within fifty feet of a well or spring; no offal, dead animals, or refuse to be thrown on the streets, and all decaying vegetable or other putrid matter to be removed from cellars on or before the 1st of May, with a penalty of twenty-five dollars for violation; no tanner, refiner, or manufacturer of gas, starch, leather, chemicals, or fertilizers to throw refuse in any natural stream of water; that no impure fish, flesh, fowl, or vegetable, or other article for human food, be allowed within the city or village limits, the penalty for a violation being twenty-five dollars' fine, in addition to a penalty for misdemeanor. Household-ers, in whose dwellings there is a case of cholera, yellow fever, typhus, typhoid, or scarlet fever, diphtheria, or small-pox, shall inform the local board of health, and until instructions are received shall not permit any clothing or other property to be removed; physicians and attendants, also, to report to such board, and avoid exposure to the public of any garments or clothing about their own persons in which they have been in attendance on the sick; and such occupants to refrain from leaving their premises or changing their residence until all danger to the public health shall be over. There shall not be a public or church funeral of any person who has died of scarlet fever, Asiatic cholera, small-pox, yellow fever, or diphtheria, and the family are required to limit the attendance, and prevent needless assembling in the apartments where such dead person may lie.

Additional regulations were also recommended as appropriate to cities and villages only, in regard to the keeping of manufactories, the emanations from which are unwholesome or disagreeable; the slaughter of animals and the preparation and keeping of animal food; the cleansing of slaughter-houses every twenty-four hours; the inspection by the health authorities of any hotel, boarding-house, tenement house, private residence, theatre, workshop, factory, school, or other public or private building where the existence of nuisances may be suspected; and the enforcement of regulations prohibiting the sale of impure milk and other deleterious articles.

At the evening session Mr. Erastus Brooks and Dr. Eliza Harris, the secretary of the board, were appointed to attend the annual meeting of the American Public Health Association, to be held in New Orleans on the 7th of December. Resolutions were also then passed urging upon the medical profession in every part of the State the importance of a thorough prevention of small-pox by proper vaccination, and appealing to all officers and teachers of schools and seminaries, superintendents and employers of factory operatives and other companies of work people, to secure the effectual vaccination of all persons under their supervision; also stating that it is the imperative duty of the public health authorities to cause a sanitary visitation from house to house to advise and make the vaccination of all who are unprotected against the contagion.

—Four cases of small-pox were recently reported in one family in Brooklyn. On the 16th of October

a son aged nineteen years was attacked with the disease, and later three other children were taken down with it; yet, strange to say, no physician was called in until the 7th of November. On the 8th one of the patients, aged three years and nine months, died, and the body was immediately buried by order of the health commissioners. The other patients were then removed to the Flatbush Hospital, and the house was thoroughly disinfected.

—Diphtheria has been becoming more and more prevalent in Brooklyn during the last few months. In July there were eighty-six cases and twenty-five deaths reported, in August, one hundred and twenty-seven cases and forty-nine deaths, in September two hundred and fifty-five cases and one hundred and two deaths, and in October four hundred and nine cases and one hundred and sixty-eight deaths. During the week ending November 6th one hundred and sixty-one cases were reported, with the large mortality of fifty-seven deaths. The disease is especially prevalent in the fifth, seventh, ninth, eleventh, sixteenth, and twentieth wards. Three of these wards are drained by the branches of the sewer emptying into the East River, at the mouth of Hudson Avenue, and in some cases the diphtheria is attributed to the condition of this sewer. Dr. Raymond, president of the board of health, states that as the mouth of the sewer is below the high-water mark, and as perforated man-traps have not been generally adopted in the city, the sewer is for a part of every day practically a closed vault, in which dangerous gases are generated. A careful inspection is made of the premises wherever cases are reported, and in fully thirty per cent. of them defects in the sewer pipes or plumbing are discovered. Nearly four hundred children have been taken from the public schools on account of the prevalence of the disease.

—The anniversary meeting of the New York Medico-Legal Society was held on the 3d of November. The reports of officers and committees for the past year were read, and the president, Dr. C. S. Wood, made his second inaugural address, his subject being, *The Society Historically Considered*. Professor R. Ogden Doremus then read a paper on *Epidemics from a Chemical Stand-point*, and by a number of illustrations showed that the germs of disease were frequently secreted in the walls of the sick-room, whence they permeated the atmosphere and thus bred contagion. He concluded by suggesting simple plans for the disinfection of hospitals. During the meeting a delegation from Boston, consisting of Mr. Theodore P. Tindale and Dr. Hosmer, ex-president of the Massachusetts Medico-Legal Society, were introduced.

PHILADELPHIA.

—During the prevalence of the epizootic last month there was a decided increase in the number of persons afflicted with catarrhal affections of the air passages, and in the cases of acute pneumonia. Owing to the presence of a few cases of variola in the city, there is now quite a brisk demand for vaccination.

Recent Literature.

A Directory of the Charitable and Beneficent Organizations of Boston, together with Legal Suggestions, Health Hints, Suggestions to Visitors, etc. Prepared by the Associated Charities. Boston: A. Williams & Co. 1880.

This Directory of Charities gives evidence of being compiled with care in most respects. As part of the work proposed for itself by the organization of Associated Charities of Boston, it is extremely well timed, and as a book of reference, for those wishing either to dispense or procure charity, it will be found very useful. We have failed to discover on just what principle the lists given of general hospitals and general medical dispensaries are in each case headed by the homeopathic institutions. The alphabet, priority of incorporation, extent of usefulness, have each in turn failed as a key to this problem, over which, perhaps, it was hardly worth while to waste so much time. But having a certain foolish obstinacy about puzzles, we finally explained this one by recalling to mind the scriptural promise that the lowly shall be exalted.

The chapter on Health Hints is concise, judicious, and to the point, but even for the sake of conciseness the statement that impure air *causes* typhoid fever and diphtheria is objectionable. We have not yet reached that stage of knowledge in regard to these and kindred diseases where we are justified in knocking down the barrier, however slight it may appear, which still exists between what we *know* and what we only surmise.

A Treatise on the Practice of Medicine for the Use of Students and Practitioners. By ROBERTS BARTHOLOW, M. D., etc. New York: D. Appleton & Co. 1880.

The author's intention in undertaking the preparation of a Treatise on the Practice of Medicine was to write a companion volume to his work on *Materia Medica and Therapeutics*. At the time he began to write this book he was still professor of the theory and practice of medicine and of clinical medicine in the Medical College of Ohio. His extensive and varied contact with disease as a practitioner, whether in the army or in civil life, in different parts of the United States, and under different conditions, as well as his experience as a teacher, have peculiarly fitted the author for the task which he undertook, and the best proof that there was a special need for a book on this subject is this book itself. The important characteristics of definiteness of statement, conciseness, and at the same time fullness at which the writer has aimed have been secured to a greater degree than in any similar work with which we are acquainted. The attainment of these objects has been borne in mind in the make-up of the volume as well as in the composition of the text; chapters have been dispensed with, and the intervals between sections abbreviated as much as possible by this arrangement, and by giving no space to merely historical disquisitions or to the discussion of controverted points a considerable gain has been made, and the volume kept within the proper proportions of a hand-book. The author disclaims all sympathy with the therapeutical nihilism of the day, from which on all sides many signs are manifest of a reaction not by any means confined to distinguished

therapeutists; the public are beginning to demand some tangible treatment in exchange for the fee. Dr. Bartholow is plainly of the same mind with Dr. Fothergill, of London, who, in a late letter to the *Philadelphia Medical Times*, expresses the feeling that when a patient comes to us in trusting confidence, placing health and life in our hands, and with them the prospects of his wife and children, surely, in return, a medical man with a spark of manly feeling or true self-respect will meet that trust as a man ought to do, namely, by the fullness of knowledge.

The fullness of knowledge, Dr. Bartholow evidently thinks, includes therapeutics. In the remarks on treatment the young practitioner will find a comforting but not provoking dogmatism; and his senior will find that of the proved and really valuable new remedies scarcely anything has been overlooked.

For the object for which it was written the book is to be heartily commended in every way, and the publishers have contributed a fitting dress to a well-written work.

The Hypodermic Injection of Morphia: Its History, Advantages, and Dangers (Based on the Experience of Three Hundred and Sixty Physicians). By H. H. KANE, M. D. New York: Chas. L. Bernheim & Co. 1880.

The author of this book, originally intending to write several journal articles, addressed six questions to the profession through the columns of various medical periodicals. He soon found himself in possession of so much material that he changed his plan, and put it together in the form of a book.

We should say that the abuse of hypodermic injections of morphia has of late somewhat declined, and that it had reached its climax about the time Dr. Kane began to collect his materials. It is certain that this abuse of a valuable agent was very great, and is so still. The collection and publication of positive data and certified cases is a better and more efficient way of combating such an abuse than by mere vague general denunciation. Dr. Kane's cases and replies received emphasize forcibly also the extreme limits within which doses of morphia administered subcutaneously are safe or dangerous, according to the idiosyncrasy of the patient. This is a point which cannot be too strongly insisted upon. The custom of guessing at the dose of morphia in powder is one which the book shows to have been only too prevalent.

We are afraid the American predisposition for short cuts will prove stronger than its respect for the analogy of formations in Greek and for the actual usage in derivative words of this form, and that Dr. Kane will find it hard to persuade a medical world, which for the most part knew not the advantages of preliminary examinations in its youth, to substitute "hyperdermic" for "hypodermic."

The Utricular Glands of the Uterus. By PROF. G. B. EREOLANI. Translated from the Italian under the direction of HENRY O. MARCY, A. M., M. D. Houghton, Mifflin & Co. 1880. Ap. 305.

The profession are under great obligations to Dr. Marcy for the translation into English of Professor Ereolani's valuable work on the utricular glands of the uterus. In connection with it is Dr. Ereolani's monograph upon the unity of the anatomical type of the pla-

centa in the mammalia, and the physiological unity of the nutrition of the fetus in the vertebrates. It is impossible in the limited space at our command to give even a synopsis of the views held by the author. The work is the result of many years of study by one who is recognized as an authority on the subject of which he treats. The translators, M. Smead and S. S. Jacobs, have rendered the Italian into most readable English. The publishers are to be especially alluded to, since the work, so far as they are concerned, is one of the finest published medical volumes with which we are acquainted. The book is accompanied by an atlas containing fifteen plates, which are really wonderful reproductions by the heliotype process of the plates as originally engraved by Bettini.

The Ocean as a Health Resort. A Hand-book of Practical Information as to Sea Voyages, for the Use of Tourists and Invalids. By WILLIAM S. WILSON, L. R. C. P. Lond. With a Chart showing the Ocean Routes and illustrating the Physical Geography of the Sea. Philadelphia: Presley Blakiston, 1880.

A useful book for those who, without previous experience of the sea, have determined on making a long sea voyage, especially if in a sailing vessel, for health or even for pleasure. It contains many useful hints and directions with reference to the proper outfit, the hours to be kept, and the rules of life to be laid down; the things which are enjoyable and may be safely enjoyed in life at sea, and the things attended with risk, and to be avoided under certain circumstances or in certain conditions of health: these are all mentioned and judiciously commented on.

The author's views are mainly based on the voyage by sailing vessel from England around the Cape of Good Hope to Australia, though other voyages eligible for invalids are mentioned. One who has never made a long voyage around the Cape of Good Hope or Cape Horn would not be likely to appreciate the many advantages in little matters which a previous perusal of such a book as this would bring him, and one who has made such a voyage would be likely to concur in most of what our author says. In all long voyages there is inevitably a good deal of monotony, and the tendency of life at sea is to throw an individual a good deal back upon himself; and we think this is not sufficiently borne in mind in prescribing them for nervous conditions accompanied by derangement of the digestive system, where there is apt to be a disposition to introspection.

We remember of late reading in some of the English journals the outlines of a project for establishing a sort of floating hotel to cruise around the British Islands, stopping daily at various places of interest, and taking passengers by the day or week. The idea was suggested by Mr. Gladstone's cruise in the *Granville Castle*, and does not seem an impracticable one in those waters.

There could be no more refreshing or grateful change for the worn-out professional or business man, provided he were a pretty good sailor.

Miscellany.

LETTER FROM LONDON.

MR. EDITOR, — The Guy's Hospital episode has at last ended by a de-cent from the sublime to the ridiculous. The staff, in the face of the determined attitude of the governors and under the pressure of the threat of wholesale dismissal, has completely succumbed, and may now be said to be at the mercy of the governing body. In my last letter I told you that the senior physician and senior surgeon had signed a letter which had been drawn up on behalf of the staff to the governors, that the letter contained expressions stronger than was advisable under the circumstances, that the governors had demanded that the offensive expressions should be withdrawn, and that upon the refusal of the staff to recall them the gentlemen who had signed the letter were requested to send in their resignations. This firmness on the part of the governors has had the effect it was intended to produce, and the staff have agreed to the step which they had previously refused to take. The governors have accordingly withdrawn their request that the senior physician and senior surgeon should resign, but in doing so have stated their determination to govern the hospital in their own way, which determination, they significantly add, the medical staff must accept. Thus, after a hard-fought battle, the governors have come out the victors at all points, and this is mainly due to the strategic mistakes of the staff. I hinted in my last letter that public opinion, which till recently had not taken any special side in the matter, was somewhat prejudiced against the doctors by their method of conducting their case. There can be but little doubt that by their recent submission, added to the false step which led to it, they have to a considerable extent alienated even medical opinion from their side. They had so strong a case in their favor, and might have made so formidable a resistance to the action of the governors had they been able to keep their tempers, that it is vexatious to find that they have been obliged to succumb so completely. Moreover, it is difficult to sympathize entirely with a body which resists valiantly until its worldly interests are threatened, and at that point gives way. It is astonishing that the staff had not more power of foreseeing the consequences likely to arise from their refusal to withdraw their letter, and that they should not have made up their minds at the time of that refusal to meet boldly any result it might produce. The whole transaction leading to the final *dénouement* has been a complete *fiasco*, due to loss of temper; and it is certainly not very creditable that a large body of intelligent men of the world like the medical staff of Guy's Hospital should have allowed themselves to behave in this pettish way. From the senior members of the staff who drew up the letter down to the students who formed themselves in two rows in order solemnly and formally to hiss the treasurer as he passed down between them, there has been a want of dignity about the proceedings of the medical combatants which one cannot but regret.

All this, however, cannot alter the real merits of the case. However necessary it might have been to introduce some changes in the nursing system of the hospital, — and on this point I have not the knowledge of the case requisite to form an opinion, — it is quite certain that reform is loudly called for in the general

"Three faces has the doctor: longed for, he
Appears angelic; giving ease, divine;
But let him, long delaying, ask his fee,
His horrid visage Satan's doth outshine."
(Translated from the Latin in *Times and Gazette*, 1864.)

constitution of the hospital. The governing body is composed of men who have but little knowledge of hospital management, and who have no special time to give to the hospital affairs. The power really lies in the hands of the treasurer, who is practically an autocrat. As in the case of other autocracies, so long as the autocrat is a man combining intelligence, business capacity, and a due regard for the feelings and wishes of those over whom he has to exercise control, this mode of government is a very convenient one. It is much more easy under these circumstances to introduce modifications in existing arrangements than when all proposals for such modifications have to pass through the hands of a nondescript committee; the modifications are more likely to be made in a definite direction and according to a regular scheme, and the systematic development of the hospital resources is thereby greatly furthered. But when the autocrat introduces changes of a doubtful character, and in spite of the protests of those who are likely to know infinitely more than himself about the question he is attempting to decide, the intrinsic demerits of this method of government are fully displayed. This is exactly what has taken place at Guy's Hospital. For twenty years it enjoyed happiness and prosperity under the mild but judicious rule of Mr. Turner, the late treasurer. This gentleman having resigned his position, he has been replaced by a ruler of the opposite kind, and hence the present trouble.

The system of government by a treasurer is not confined to Guy's Hospital. It exists also at the two great royal hospitals, St. Bartholomew's and St. Thomas's. In these also there have been good despots and bad despots. But there are features in the governing arrangements at Guy's which place it in a far worse position than either of these others. In all three hospitals the treasurer is responsible to the governing body, and in the two royal hospitals this governing body has a very real existence. Any one who contributes fifty guineas to the funds of the hospital becomes, by virtue of his gift, a governor, and it is therefore open to any one to obtain a place on the governing body. Consequently the governing body is composed of a miscellaneous set of men, and amongst its members it is quite certain that there will be a considerable number who take a real interest in the institution, and who in the case of any difficulty arising will be fully qualified to go into the matter and adjudicate upon it. At Guy's Hospital the case is far otherwise. The governing body is there self-elective; it is considered a compliment to be asked to join it, and the invitations are confined almost exclusively to men who have made their mark in politics, in law, or in other pursuits, which must of necessity occupy the greater part of their time and thoughts. A body so constituted is far more likely to delegate its power to the treasurer, and to allow him to have his own way, than a body composed of men able and willing to devote a considerable portion of their time to hospital affairs; and when called upon to decide between the treasurer and the staff it is much less likely to be able to enter into the feelings and wishes of the medical officers. So it has proved in the present instance. Notwithstanding that the united staff protested against certain alterations, the governors have allowed these alterations to be carried into effect. They have practically backed up the treasurer in everything he has done, and have turned a deaf ear to all that the medical men have

urged against the changes. Instead of constituting themselves into an impartial tribunal they have become heated partisans; and, ignoring the long and valuable services rendered them by the members of the staff, they have held themselves aloof from the latter, until the mutual relations between the two bodies had reached the tension indicated by the final struggle.

There can be no doubt that a change in the system of government at Guy's is urgently needed, and it is to be hoped that before long it may be introduced. Whatever may be set up in its place, the self-elective governing body ought certainly to be abolished. The staff ought, moreover, to be well represented in the newly-constituted body, and the powers of the treasurer ought to be greatly reduced. It is not altogether improbable that the attention of Parliament may be directed to the whole question of hospital management at no distant date, and any alteration in the management of Guy's may perhaps be postponed until the larger question can be inquired into. It is a question loudly calling for inquiry, not only from the point of view of the internal arrangements of hospitals, but also of their relationship to one another and their adaptability to the work required of them. I shall hope to revert to this subject in another letter.

POISONOUS MILK.

MR. EDITOR, — I wish to call the attention of the board of health and of the public, through the pages of your valuable journal, to the fact that in riding over Chester Park from Columbus Avenue to Beacon Street may be seen, upon the vacant lots on either side of the street, quite a number of cows feeding every day. The grass which these cows feed upon is soaked and saturated by stagnant water covered with the tide, which is mingled more or less with the *débris* and foul matter that is poured into the basin and Charles River. As this grass must be reeking with filth and slime, it has occurred to me that it might be the means, through the medium of the milk, of conveying disease to the various households supplied by this milk.

It is a well-known fact, and one reported by the chairman of the former board of health, Dr. H. I. Bowditch, that typhoid fever was conveyed in England to all consumers of milk from a certain dairy. In this case the cans had only been washed in spring water into which had flowed refuse from a house where typhoid fever was. In the *British Medical Journal* of October 16th of the present year, the medical officer for Shoreham had specimens of water and milk put under examination to attempt to account for the occurrence of typhoid fever in that town, and the town council of Rochdale actually found infected milk, and traced it to a farm having very bad sanitary arrangements. In the issue of October 9th, we find that an outbreak of scarlet fever at Paddington is alleged to be due to infected milk sold to the households. It is well known, too, that sanitary science has made discoveries of great practical importance to the well-being of every community. It has been proved by Dr. John S. Bristow and by others of great eminence in the profession in England, as well as by our own faithful and worthy board of health, that the poison of disease may be contained and conveyed in polluted drinking-water and various kinds of food, and that contagious diseases may be largely conveyed

through this medium. Many outbreaks of enteric fever in London have been traced to adulterated and impure milk.

We notice also in the *Gazette médicale* of Paris that Prof. Bouley lately presented a communication to the Académie de Médecine on the transmissibility of tuberculosis through the medium of milk. This he demonstrated by showing tubercles on the lungs, liver, spleen, and submaxillary glands from a five months' pig, killed after being fed sixty-seven days with four litres of milk per diem, taken from a cow suffering from tuberculosis. The same was noticed in rabbits. "I have considered," says M. Bouley, "that these incontestable proofs of the transmissibility of tuberculosis from the cow by the use of unboiled milk and by inoculation with the juice obtained from uncooked meat should not remain unknown, particularly as similar experiments have been made in Germany and with like results, but do not seem to have attracted the attention they merited." He recommends that a rigorous inspection of the abattoirs should be made concerning the existence of phthisis in cows, and thinks it would be prudent to boil the milk before using, especially for children, since boiling kills parasites and cell life in milk and meats.

If, on the strength of these authorities here quoted, to say nothing of others that might be quoted, we can say that infectious diseases can be conveyed in the milk of infected animals to human beings, is it any more than reasonable to suppose that cows fed upon vacants lots near or in a large city, whether around Chester Park or not, should yield milk deleterious to mankind? Is it unreasonable, moreover, to infer that animals fed upon such grass as grows in these places I have mentioned will receive further food in the shape of refuse and swill? Are they, then, proper animals to furnish milk to our children and families?

It is hardly supposable that one who has not made sanitary science a special study could add anything particularly new or suggestive to the testimony and investigations of Dr. Bowditch, who may be considered the father of sanitary preventive medicine in America, or to the work of our honorable board of health, who have labored so faithfully for the public weal in this direction. Still I would suggest that the board of health cause an investigation to be made at once to see whether any disease is likely to be conveyed by the milk of these cows feeding, as they do, upon lands reeking with filth, and sending forth most noxious odors, as we all know. If they have power to cause unhealthy houses and streets to be closed, have they not the same power to cause these lots to be vacated, and to prevent all animals from feeding upon them? Yours respectfully, JOSEPH H. WARREN, M. D.



A SMALL LIPOMA ON THE ANTERIOR LABIUM UTERI AS THE CAUSE OF STERILITY.

BY OSWALD STROINSKI, M. D., OF CHICAGO.

THE following extract from the *Chicago Medical Review* in its medico-legal aspects is of striking interest:—

Mrs. N. M., an English lady, aged twenty-eight, has been married for seven years, and although her husband is in perfect health, has had no children. The healthy and intelligent lady consulted me as regards the cause of her sterility. She has had no sufferings

like those complained of by sterile women; she menstruates regularly and without difficulty, and is much attached to her husband, who had two children by his first wife. The examination of the sexual organs revealed no anomaly, but perfect development and regular forms. The uterus, of normal size, was in the virgin position (anteversion flexion). Its cavity could easily be entered by the probe; there existed no inflammation in or around the organ. Bimanual palpation showed the ovaries normal. The heart was likewise perfectly healthy; no nervous affection existed. Almost willing to end the examination as perfectly negative, I discovered finally an apparent elongation of the anterior part of the neck of the uterus. On examining with Sims's speculum, this proved to be due to a small, movable tumor at the edge of the anterior lip, which, on pressure with a rod, could be easily forced into the external os, closing it like a valve. On releasing the pressure the tumor returned to its former position, simulating an elongation. I excised the small tumor, which the microscope showed to be a lipoma. Within three months pregnancy occurred, leading to the birth of a healthy child.

This case proves strikingly that the fruitful coitus does not occur in the manner taught by Beigel and his school. Beigel claims that the pouch-like portion of the vagina next to the cul-de-sac of Douglas serves as a receptacle for the semen, and that the cervix subsequently dips into this pouch, and thus permits the spermatozoa to enter its cavity. This view is not supported in view of the fact that we frequently see pregnancy occur in spite of retroflexion, which, according to Beigel, should be a mechanical obstacle. It is, however, contradicted flatly by the present case, in which the cervix could dip freely into the pouch, but still no pregnancy occurred till after the removal of the tumor. The lipoma evidently acted as a valve during coitus. The case shows that the pregnancy could only occur when the semen was directly injected into the cavity of the uterus. It supports the old view of the continuity of the cavity of the cervix and the male urethra, and confirms what I have previously said about the action of the retractor uteri.

A point of medico-legal interest may yet be referred to. When rape is attempted no pregnancy will follow, according to our theory, in the case of a normal virgin uterus, since it is only in the erected state of the uterus that the telescopically elongated cervix can assume the proper position relative to the penis. If, hence, pregnancy is claimed to be the result of rape, the normal position of the uterus will contradict the story of a forcible attempt, and will show that consent was given. But in women who have passed child-bed the uterus has changed its position, and is so situated that conception may occur without erection of the organ.

Touching this case and these conclusions the *Review* says:—

"The report in this number of a very interesting case by Dr. Stroinski closes with a medico-legal conclusion of questionable accuracy. The view of Beigel does not necessarily exclude the possibility of spermatozoa entering the cervix, in whatever position the cervix may be. It may be said only that impregnation is more liable to occur when the os uteri lies in Beigel's reservoir for the seminal fluid, the posterior vaginal cul-de-sac. Therefore pregnancy in retroflexion is not necessarily incompatible with the view of Beigel, nor is it necessarily contradicted by this case, because the

lipoma may have obstructed the passage of the semen after coition, or, what is more probable, it may have produced so much irritation of the endometrium as to preclude pregnancy. Objections may be urged against both the premises and conclusions of our author's medico-legal point. The premises are probably incorrect; certainly not proven. The occasional occurrence of pregnancy without rupture of the hymen would almost disprove them. But, assuming the premises to be correct, the conclusion that the normal position of the virgin uterus renders pregnancy an impossible result of the forcible attempt would not follow, because if resist-

ance were offered up to and during the first part of coition, and the act were completed without resistance, pregnancy might occur, according to the author's theory, and yet legally rape would have been committed no less than if resistance had been offered throughout. Moreover, we have yet to be convinced that the physiological congestion and erection of the uterus, which the author deems necessary to impregnation, may not occur in the purely forcible attempt. The author's views, if incorrect, are capable of working serious injustice. This consideration, we doubt not, will lead him to overlook the liberty with which we offer this criticism."

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 6, 1889.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diphtheria and Croup.	Lung Diseases.	Typhoid Fever.	Diarrheal Diseases.
New York.....	1,209,561	583	229	26.07	14.41	16.47	2.06	3.60
Philadelphia.....	901,380	313	106	19.49	5.75	4.79	4.47	—
Brooklyn.....	566,689	253	102	34.78	28.46	18.58	—	1.19
Chicago.....	503,298	—	—	—	—	—	—	—
St. Louis.....	—	112	33	24.11	4.46	3.57	4.46	6.25
Baltimore.....	393,796	142	61	28.17	10.56	5.63	3.52	1.41
Boston.....	363,938	153	48	24.18	13.07	11.11	5.23	4.58
Cincinnati.....	280,000	80	26	10.00	3.75	15.00	2.50	—
New Orleans.....	210,000	121	34	19.83	—	4.13	1.65	4.96
District of Columbia.....	180,000	63	29	30.16	14.29	9.52	3.17	1.58
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,649	62	29	29.03	9.68	8.06	3.23	4.84
Buffalo.....	155,159	45	19	42.22	28.89	6.67	6.67	4.44
Milwaukee.....	127,000	52	25	30.77	9.62	5.77	3.85	1.92
Providence.....	104,862	34	6	20.59	—	14.71	5.88	5.88
New Haven.....	63,000	14	3	—	—	14.29	—	—
Charleston.....	57,000	22	6	13.64	—	9.09	9.09	—
Nashville.....	43,543	11	2	9.09	—	9.09	—	—
Lowell.....	59,340	21	8	9.52	—	14.29	4.76	4.76
Worcester.....	58,040	28	18	17.86	3.57	14.29	7.15	—
Cambridge.....	52,860	15	4	6.67	—	—	—	6.67
Fall River.....	48,626	27	14	14.81	3.70	3.70	—	3.70
Lawrence.....	39,068	—	—	—	—	—	—	—
Lynn.....	38,376	18	7	27.78	16.67	16.67	—	—
Springfield.....	33,536	13	8	15.38	7.69	—	7.69	—
Salem.....	27,347	6	1	16.67	—	—	—	—
New Bedford.....	27,268	9	3	11.11	11.11	—	—	—
Somerville.....	24,964	4	1	25.00	25.00	—	—	—
Holyoke.....	21,961	6	2	33.33	33.33	16.67	—	—
Chelsea.....	21,780	5	2	40.00	40.00	—	—	—
Taunton.....	21,145	7	3	—	—	—	—	—
Gloucester.....	19,288	5	3	—	—	—	—	—
Haverhill.....	18,478	3	0	—	—	—	—	—
Newton.....	16,994	—	—	—	—	—	—	—
Newburyport.....	13,470	3	0	—	—	—	—	—
Fitchburg.....	12,270	6	2	—	—	16.67	—	—
Seventeen Massachusetts towns.....	132,955	43	12	23.26	11.63	6.98	6.98	—

Deaths reported 2279 (no returns from Chicago); 837 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 556, consumption 343, diphtheria and croup 267, lung diseases 247, typhoid fever 68, diarrheal diseases 60, scarlet fever 55, malarial fevers 53, small-pox 22, whooping-cough 15, cerebro-spinal meningitis nine, erysipelas six, measles one. From *scarlet fever*, New York 11, Baltimore 12, Pittsburgh seven, Milwaukee six, Philadelphia four, Providence three, Brooklyn, Cincinnati, and Worcester two, St. Louis, New Orleans, and Nashville one. From *malarial fevers*, New Orleans 15, New York 11, St. Louis eight, District of Columbia seven, Brooklyn six, Baltimore three, Boston, Charleston, and Salem one. From *small-pox*, Philadelphia 22. From *whooping-cough*, New York six, Brooklyn two, Philadelphia, Boston, Cincinnati, Buffalo, Lynn, Brockton, and Milford one. From *cerebro-spinal meningitis*, New York, Philadelphia, and Fall River two, St. Louis, Milwaukee, and Lynn one. From *erysip-*

elas, Brooklyn three, New York two, Baltimore one. From *measles*, Milwaukee one.

One hundred and nine cases of diphtheria, 40 of scarlet fever, four of measles, four of typhoid fever, two of whooping-cough, were reported in Brooklyn; diphtheria 49, scarlet fever 20, in Boston; scarlet fever 32, diphtheria 22, in Milwaukee; diphtheria three, scarlet fever two, measles one, in Providence; scarlet fever five, diphtheria one, typhoid fever one, in Cambridge; diphtheria nine, scarlet fever five, in New Bedford. Measles very prevalent in all parts of Cambridge.

In 34 cities and towns in Massachusetts, with a population of 995,612 (population of the State 1,783,086), the total death-rate for the week was 19.54, against 18.83 and 19.33 for the previous two weeks.

For the week ending October 16th, in 140 German cities and towns, with an estimated population of 7,716,373, the death-rate was 22.9. Deaths reported 3399; 1704 under five; pulmonary consumption 461, acute diseases of the respiratory organs

221, diphtheria and croup 153, scarlet fever 105, typhoid fever 81, whooping-cough 44, measles and röteln 27, puerperal fever 14, small-pox (Königsberg, Schweidnitz) two. The death-rates ranged from 13.2 in Hanover to 33.7 in Danzig; Königsberg 27.3; Breslau 28.8; Munich 30.9; Dresden 19.1; Berlin 25; Leipzig 19.3; Hamburg 20.9; Bremen 18.1; Cologne 21.7; Frankfurt 16; Strasburg 23.2.

For the week ending October 23d, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 22.6. Deaths reported 3249: acute diseases of the respiratory organs 323, diarrhoea 159, scarlet fever 147, fever 59, measles

39, whooping-cough 39, diphtheria 22, small-pox (London) seven. The death-rates ranged from 17 in Birmingham to 33 in Leicester; Bristol 19; Sheffield and Leeds 20; London 22; Manchester 25; Liverpool 30. In Edinburgh 16; Glasgow 20; Dublin 33.

In the 20 chief towns in Switzerland for the same week, population 522,856, there were 20 deaths from diarrhoeal diseases, acute diseases of the respiratory organs 16, diphtheria and croup seven, typhoid fever three, scarlet fever two, small-pox two.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.		
		Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
Oct. 31	29.510	51	65	40	100	64	66	77	S	W	W	12	25	15	R	O	F	F	8.30	.78
Nov. 1	29.958	48	59	33	61	32	51	48	SW	SW	W	8	8	9	C	F	F	—	—	—
" 2	30.195	43	54	37	81	34	58	58	W	NW	NW	6	10	4	C	C	C	F	—	—
" 3	30.465	43	53	33	70	58	76	68	NW	E	0	4	4	0	C	C	C	F	—	—
" 4	30.531	46	53	37	91	72	85	83	0	E	E	0	10	10	O	F	O ₂	—	—	—
" 5	30.250	53	57	47	93	100	98	98	E	SE	SE	8	6	11	O	R	R	2.20	.17	—
" 6	29.910	59	64	56	100	100	94	98	S	S	SE	2	4	7	G	O	G	4.45	.12	—
Week.	30.114	49	65	33					S	SW	S							15.35	1.07	

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OBITUARY.

DR. AUGUSTUS TORREY died at Beverly, Mass., on November 1st, in the seventy-sixth year of his age. He was the son of Dr. Joseph Torrey, who was well known as a physician in Salem and vicinity for the first half of this century. He was a grandson of Rev. Manasse Cutler, of Hamilton, and a descendant in the sixth generation of William Torrey, of Weymouth, who came from England in 1640. He was the youngest of five brothers, the eldest of whom was the late Joseph Torrey, D. D., president of Vermont University. Dr. Torrey was graduated at Harvard College in 1824, and from its Medical School in 1827, and settled in Beverly. He married, in 1834, Deborah Cox, a niece of Hon. Nathan Dane. The shock of her sudden death, a few weeks since, prostrated him, and he failed gradually, though retaining his consciousness till his death. Dr. Torrey was a member of the Massachusetts Medical Society, serving it with the best of his ability, especially as counselor. He was also a member of the Massachusetts Horticultural Society, and a frequent contributor to its exhibitions. He was a man of fine literary tastes and a skilled practitioner. He leaves two daughters and five sons, one of whom, Dr. S. W. Torrey, has for many years been a prominent practitioner in Beverly.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM NOVEMBER 6, 1880, TO NOVEMBER 12, 1880.

KING, WILLIAM S., colonel and surgeon. His leave of absence still further extended six months on account of sickness. S. O. 240, A. G. O., November 9, 1880.

WORTHINGTON, J. C., captain and assistant surgeon. Granted leave of absence for six months. S. O. 241, A. G. O., November 10, 1880.

BOOKS AND PAMPHLETS RECEIVED. — A Practical Treatise on the Diseases of Women. By T. Gaillard Thomas, M. D. Fifth Edition. Philadelphia: Henry C. Lea's Son & Co. 1880. (A. Williams & Co.)

Contributions to Nervous and Mental Pathology. By Edward C. Spitzka, M. D.

Contributions to Encephalic Anatomy. By E. C. Spitzka, M. D. New York.

The Dangers incident to the Simplest Uterine Manipulations and Operations. By George J. Engelmann, M. D. St. Louis, Mo. (Reprint.)

Time of Conception and Duration of Pregnancy. Supplementary. By George J. Engelmann, M. D.

Walsh's Physician's Combined Call-Book and Tablet.

Walsh's Physician's Handy Ledger. A Companion to Walsh's Call-Book and Tablet.

Annual Report of the Supervising Surgeon-General of the Marine Hospital Service of the United States, for the Fiscal Year 1880. Washington: Government Printing Office. 1880.

The Orthopagns of the Spine. An Essay on the Curative Mechanisms applicable to Spinal Curvature. By Robert Heather Bigg. London: J. and A. Churchill. 1880.

Clinical Observations on the Radical Treatment of Fibroid Tumors of the Womb. By William Goodell, M. D. (Reprint.)

Lateral Lithotomy, with the Successful Removal of a Calculus and seven Pieces of Necrosed Bone from the Bladder of an Indian Scout, nineteen Months after the Reception of a Gun-Shot Wound. By J. M. Bannister, M. D. (Reprint.)

Lectures.

LECTURES, BOOKS, AND PRACTICAL TEACHING.¹

BEING AN INTRODUCTORY LECTURE TO A COURSE OF PRACTICE OF MEDICINE, 1877-78.

BY W. T. GAIRDNER, M. D.,

Professor of Practice of Medicine in the University of Glasgow.

A QUESTION which has been of late a good deal discussed in medical councils and societies has been this — Whether lectures, as compared with books on the one hand, and strictly practical studies on the other, have not been allowed to assume a too prominent position in medical education? Or perhaps it would be a more correct way of representing the views of some persons to say, Whether lectures (that is, oral instruction *ex cathedra*) be not an exploded and effete system, soon to be elbowed out, or displaced entirely, by the other methods just named? As one holding a commission to teach by lectures in this university a subject of the widest range, and of the most far-reaching practical importance to all of you; as one, moreover, who has for fully a quarter of a century had this problem constantly presented to his mind amid all the changing lights of experience, and amid the actual necessities arising out of the teaching of large classes of students, — not one of which many and varied groups of pupils has at any time appeared at all unwilling to be so taught, — I have thought that it might be not uninteresting to you, and certainly not unbecoming in me, to anticipate our course of instruction in the present session by a few words on this matter, and to point out its bearing on the serious business we have before us — the study of the practice of medicine.

I begin with one concession to the view that tends to look upon lectures as obsolete and effete. There have been, nay, perhaps, there still are, lectures of which it might very well be said that they encumber the curriculum of study. The whole processes and methods — I do not say of *medical* teaching only, but of the discipline of the human mind in almost every science and every art — have undergone immense changes even with the present generation, still more since the invention of printing made a great revolution in learning, and since modern inductive science carried the “dry light” of exact observation and experiment into every department of nature. In medicine, as in everything else, we simply cannot stand still, for stagnation is annihilation. If we have failed to accept the lessons of experience, and to adapt our teaching to the wants of the human mind, not to speak of the needs of the human body, in this nineteenth century of ours, then for us, truly, there is no room in a scheme of modern medical education. Call the instruction we pretend to give *lectures*, or call it what you will, it must be such as not only conveys to you the bare facts and doctrines of modern medicine, but such as is fitted to impress these upon your minds, and to inspire them with the spirit of modern medicine. Nay, I will go even farther in the way of concession. It will not do for a lecturer merely to preach to or at his students nowadays, in

however elegant or appropriate words he does so. The end of a lecture (supposing that lectures are to continue to exist) is not to be attained merely by taking notes of it, and transcribing these or getting them by heart. I have, indeed, in my time, known and attended lectures which were nothing but articulate textbooks; and of such lectures it might very well be said that they were neither better nor worse than textbooks; or, if anything, worse, seeing that they cost the labor of listening and transcription, while the textbook is procurable for a moderate sum, in the very words of the author, and is always at hand for consultation. Of lectures constructed on this plan I am no apologist. They belong to the past, and may be justly considered as superseded in the present day, when text-books are abundant and good, and when the time of students has become valuable in consequence of the multiplication of subjects. It is impossible even to conceive, now, of a professor of physic after the type of the great Hermann Boerhaave, of Leyden, whose fame, in the earlier part of last century, filled Europe, and whose system of doctrines, widely propagated after his death by Van Swieten and others, may be said to have dominated the whole academic teaching of most of the greater universities, at least down to the time when Cullen occupied this chair in Glasgow, and afterwards the corresponding one in Edinburgh, that is, till the latter part of the century.² Between Sydenham, in the middle of the seventeenth century, and Cullen, at the end of the eighteenth, there is certainly no name whose authority can be compared with that of Boerhaave as an expounder of medical doctrine; and yet so great have been the changes in the interval that his voluminous works are now, to us of the present day, almost as antiquated as those of Galen, whom he greatly resembled in the character of his intellect, and also of his influence over the minds of men. The causes of this immense influence, as an historical fact, and of its nearly complete extinction, it would be tedious to discuss at present in such a way as to make them intelligible to you; but in general terms it is safe to say this — that Boerhaave was essentially what I have elsewhere called a *system-builder*; an eclectic and a genuine system-builder, it is true, equally removed from charlatanism and from one-sided enthusiasm, but still essentially a dogmatist, — that is, one whose influence as a teacher depended largely upon the acceptance of his fundamental doctrines, or *dogmata*, as regards the nature of disease in the abstract, its causes, and its cure. The aim of Boerhaave was obviously to build up a coherent and all but complete structure of preliminary doctrines or aphorisms, on which, as on an hypothesis, all the detailed investigation of individual cases or diseases was thereafter to rest. His method, therefore, was essentially that of the theologian; like that of Calvin in the Institutes, for example, or of Augustine in that great system of mediæval doctrine which was called Catholic, because it was supposed to be for all time and for every place alike, and which, in fact, has thus far corresponded with the title, that it was adopted in its main features and logical sequence by the Reformers no less than by the Church of Rome. The system of Boerhaave

¹ The previous lecture of Professor Gairdner which we published was received with so much favor, that we have yielded to urgent pressure that we should give place to another lecture by the same teacher, which, in point of fact, should have preceded that on Clinical Instruction. — *Ed.*

² Boerhaave was born in 1668, and died in 1738, having lectured on the Institutes of Medicine from 1701 onwards, and been elected to the chair of Medicine and Botany, at Leyden, in 1709. Cullen began to lecture on the Practice of Physic in Glasgow, in 1751, and died in Edinburgh in 1790. His First Lines of the Practice of Physic was published in Edinburgh in 1777.

was eclectic; that is, it professed to be drawn from a comprehensive study of all previous doctrine in all ages, but especially in the immediately preceding age; it adopted freely whatever seemed to be well founded in the teaching of the mathematical (or rather mechanical) and of the chemical schools, and did not disclaim the acknowledgment of its obligations to the past; but the ultimate end was to be a *system*, that is, a scheme of doctrine so absolutely true, complete, and logically coherent as to have a reasonable look of *finality* about it. Hence the very language of Boerhaave, and of all his school, has become obsolete, because men have ceased to think of disease in general, or of diseases in detail, in terms of his underlying hypothesis. Take, for example, the primary divisions of his classification: Diseases of a simple solid fibre; of a weak and lax fibre; of stiff and elastic fibre; of weak and lax viscera; of too strong and rigid viscera; from an acid humor; from a spontaneous gluten; from an alkaline cause,—all these are terms which convey absolutely no meaning, or scarcely any meaning at all, to a pathologist of the present day; and yet they are of the very essence of the doctrinal system of this great teacher, whose authority extended at one time from Vienna to the "*penitus toto orbe divisos Britannos*."

You will not, I trust, suppose me to be making these references to Boerhaave with the view of unduly depreciating one whose character and immense erudition, added to vast stores of personal experience, give him an ample claim to all the fame he acquired, and to a permanent and honorable place in the history of medical doctrine. My object is not to undervalue Boerhaave, but to show you wherein the modern spirit and method differ from his. Even in the middle of the eighteenth century such methods and systems as that of Boerhaave are already, to use a Darwinian phrase, a *survival* from the past; the great original masters of research, Morgagni, for example, are found to repudiate, or rather to set them aside almost without effort; they refuse to be bound by an hypothesis or by a system of doctrine, be the authority for it ever so eminent. Systems, it is true, continue to spring up; Stahl and Hoffmann divide the schools in opinion almost contemporaneously with Boerhaave, and system-building goes on, pretty steadily, up to the very close, at least, of last century, when it has, however, degenerated for the most part into a kind of discredited charlatanism; the pretentious systems of Brown and Hahnemann, for instance, being distinguished chiefly by their abnegation of all genuine science, and indeed almost unconcealed contempt for it. The aim of these theorists was to establish such a general series of postulates with regard to the origin of all diseases as should dispense with all knowledge in detail of the real facts; so that the treatment might be decided upon *a priori* considerations, almost without reference to experience. Even during the present century there have been more or less similar attempts, as those of Broussais in France, Rasori and others in Italy, to proclaim absolute first principles of disease and of its treatment; but in general it may be said that the characteristic of the period which includes the great names of Laennec and Louis, Abercrombie, Richard Bright, Addison and Stokes, Skoda and Oppolzer (to mention no more recent ones), has been a growing distaste for dogmatic assumptions and a growing reliance upon the absolute facts of experience, collected with all the aid of new methods of investigation, and submitted to a cau-

tious and searching, often a precise and numerical analysis.

I need not stop at this stage to explain the brilliant results of the modern era of investigation, as inaugurated by these and other great names, nor to insist on what has been done for us by the stethoscope, microscope, ophthalmoscope, thermometer, test-tubes, and other instruments of modern clinical research. These will be the very material, as it were, of the present course of lectures, and we need not anticipate by enlarging here upon the grand discoveries in diagnosis, and in medical practice generally, which have emerged during the last fifty years. What I have to insist on, however, is the change that has become necessary, as a result of these discoveries, in the method of conveying instruction.

I have said already, that in my opinion, no teacher or professor of the type of Boerhaave is ever again likely to attract the attention and occupy the mind of his generation as he did. We may rest assured that no system of medical doctrine will ever again be worth recording after the fashion of the aphorisms of this great man, illustrated in the lengthened and exhaustive Commentaries of his pupil Van Swieten, who tells us that he attended the lectures of his "great master, both public and private, for the space of nearly twenty years," in order to have the opportunity of reducing to order, and promulgating in their fullness, all the wise sayings of so great an authority. I fear it must be admitted that in these perhaps degenerate days so gigantic a task would be unavailing, were it even fulfilled, as regards the greatest of our professors, in a compilation as unwearied, exact, and, on the whole, as readable as that of this learned Hollander. And this, because no body of aphorisms whatever, "concerning the knowledge and cure of diseases," has any chance of enduring for twenty years without becoming in some important, and perhaps vital, points open to serious correction or revision; or perhaps antiquated altogether and obsolete. Within the last ten years, for instance, of our present experience, the whole doctrine of fever, of tubercular disease, of infection and contagion, to take only three examples out of a multitude, has been, and is, undergoing changes of which it may justly be said that we know not what an hour may bring forth. How is this body of floating doctrine to be crystallized into aphorisms, and endowed with what may be called dogmatic authority and stability by even the most energetic of professors and commentators?

Again, the application of the ophthalmoscope, the thermometer, the laryngoscope, the sphygmograph, and other graphic methods, to clinical research in various internal diseases, is at this moment rendering the most advanced text-books written even ten years ago comparatively valueless over a large field of medical observation. How are the aphorisms of any professor, if collected into a system such as is found in Van Swieten's Commentaries, to escape from the influence of "*tempus edax rerum*" for double that period of time?

Again, the researches of Drs. Fraser and Crum Brown, of Lauder Brunton, of Rutherford, Dewar, and McKendrick, seem to be not only introducing new remedies, but entirely new experimental data and principles for guiding us in the use of the oldest and most familiar remedies, amounting to a probable revolution in our existing science of therapeutics. How is the "cure of diseases" to be formulated in aphorisms, even

for a single generation, in the face of these facts? You have only to compare the first with the last edition of Sir Thomas Watson's famous and most admirable book, and to read carefully what is written in each edition on such subjects as the treatment of pneumonia, of diarrhoea and cholera, etc., to see that even short of what may be called the most unsettling novelties of modern doctrine in therapeutics, a period of twenty or thirty years is now equivalent to a revolution, or rather a series of revolutions, in all that may be taken for established doctrine in the treatment of some of the most important diseases. And in nothing is the reputation and character of that venerable physician more justly esteemed than in the remarkable and rare openness of mind which has enabled him to yield frankly and without any false pride of authority to the force of evidence, and to abandon successive positions which had become untenable, without thereby impairing in the least the regard that men have all along paid to his mature and highly cultivated judgment on those subjects on which he is still an authority of the first class, whereon a lifetime of carefully cultivated experience entitles him to speak to us in language as lucid as are the ideas from which it springs.

(To be concluded.)

Original Articles.

THE SIGNIFICANCE OF FREQUENT MICTURITION.¹

BY T. B. CURTIS, M. D.

FREQUENT micturition, or "irritation of the bladder," is a very common complaint, occurring in patients of both sexes and of all ages, but most often observed in adults. It is *never a disease, but always a symptom*; and, as such, deserves close attention and careful elucidation in every case.

The causes of unduly frequent micturition, which it is the object of this communication to set forth, or, rather, the diseases of which it may be a symptom, are very numerous and diverse. Of these diseases, some are local, others general. The former may concern the secreting organs, or the evacuating apparatus; the latter may involve the nervous system, or the digestive and nutritive functions of the body, and, through these functions, the crasis of the blood and the composition of the urine.

This short glance at the large field of causation before us gives an idea of the multiplicity and diversity of the morbid conditions to be passed in review in an attempt to establish the semeiotic value of over-frequent micturition. It is at once evident that the subject is one which interests equally the surgeon and the physician, for the diseases which are attended by this symptom, and which underlie its causation, are as often medical as surgical in character. Moreover, patients suffering from a form of the trouble calling for medical treatment are quite as apt to consult a surgeon as a physician; and patients with a disorder of a purely surgical character, demanding local surgical treatment, mechanical and perhaps operative, are not unlikely to place themselves under the care of a physician. It is therefore evident that the medical attendant, whether

physician or surgeon, should be prepared to discriminate between medical and surgical diseases giving rise to this symptom; and that, if not competent to treat a case lying outside of his own professional limitations, he should be able to ascertain, or at least to suspect, the character of the disorder before him, and to put his patient in the way of getting elsewhere the useful diagnosis and treatment.

This desideratum, however, is very far from being fulfilled in every case. No one who has much experience of urinary cases in practice can fail to be struck by the hap-hazard way in which a patient — suffering, may be, from some readily recognizable and easily curable disorder — will wander from one medical adviser to another, trying a great diversity of medicines, ending, possibly, with a despairing resort to some "safe kidney cure," or with the trial of a "liver pad" or electric belt, worn over the supposed site of the organ presumed to be at fault, and all the while, perhaps, without a correct diagnosis of the disease ever having been remotely approximated, — or even attempted!

Before entering upon our subject, it may be of advantage for us to recall, as briefly as possible, a few essential facts relating to the *physiology* of the function whose disturbances are to be considered.

Micturition, as every one knows, consists in the natural periodical evacuation of the bladder. The urine, which is essentially a watery solution of urea, serving to eliminate certain important products of dissimilation from the body, is secreted by the kidneys continuously, at the rate, in health, of about fifty ounces, or three pints, in every twenty-four hours, with considerable variations in quantity, depending chiefly upon the amounts of water passing off from the surfaces of the skin and respiratory mucous membranes. In damp and cold weather the quantity of urine secreted is greater than in warm and dry weather; and in diseased conditions this influence of atmospheric changes is often very keenly felt.

The bladder serves as a reservoir in which the urine is stored up during the intervals of micturition, until a sufficient quantity has accumulated to produce a slightly uncomfortable feeling of distention. As a general rule, the capacity and tolerance of the vesical reservoir, in health, are such that the organ has to be emptied from three or four to five or six times in the twenty-four hours, the amount which can be comfortably retained varying from six or eight to twelve or even sixteen ounces.

"When the bladder has become full," says Michael Foster,² "we feel the need of making water, the sensation being heightened, if not caused, by the trickling of a few drops of urine from the bladder into the urethra. We are then conscious of an effort; during this effort the bladder is thrown into a long-continued contraction of an obscurely peristaltic nature."

The neck of the bladder and the prostatic mucous membrane, according to Professor Küss³ of Strasburg, are the seats of a special and exquisite sensibility, which plays an important part in the physiology of micturition, both in health and in disease. Any irritation of this mucous surface, whether by the contact of liquids, of foreign bodies, or of instruments, gives rise

¹ A Text-Book of Physiology, by M. Foster, London, 1879, page 379.

² Physiology, Professor Küss, American translation, Boston, 1875, page 470.

³ Read before the Suffolk District Medical Society, October 30, 1880.

to sensations which are perceived almost exclusively in the form of urgent calls to urinate, and which, moreover, are transmitted as reflex motor stimulus, through the lumbar enlargement of the cord, to the evacuating apparatus of the bladder, the effect being to produce inhibition of the sphincteric or "cut-off" muscular fibres surrounding the membranous portion of the urethra, while, at the same time, the muscular layers of the bladder wall, and occasionally also the abdominal muscles, are stimulated to active contraction.

The desire to urinate being thus experienced, the obstacle residing in the reflex *tonus* of the sphincter being raised, and the expulsive forces, both of the unstriated involuntary muscular fibres of the bladder and of the voluntary abdominal muscles, being brought into play, the urine makes its escape from the distended reservoir. As the contained bulk of liquid diminishes, the bladder walls become less tense, and soon the unstriated muscular fibres entering into their composition, having reached the limits of their contractile power, cease to contribute to the further compression of the vesical contents. Then the part played by the intra-abdominal tension, resulting from the *tonus* of the parietal abdominal muscles, or due to their more or less energetic contraction, acting upon the bladder through the superincumbent mass of the intestines, becomes the predominating agency of evacuation. The vesical walls no longer close in centripetally upon their contents from all the points of their periphery, but the dome-shaped roof of the bladder collapses under the pressure exerted from above, just as a foot-ball flattens out between the hands when the vent-hole is open. The evacuation thus effected is so complete, with healthy organs, that not only the last drops of urine, but even a few bubbles of accidentally admitted air, are unfailingly expelled. Such is the manner in which the healthy bladder empties itself when full.

Let us now consider the numerous diseased conditions in which the apparatus and mechanism thus summarily described are liable to derangements leading to a necessity for unduly frequent evacuation of the urinary reservoir. In the exposition of the details, a certain method must be observed, without which the subject would become involved in hopeless and inextricable confusion.

The causes of increased frequency of micturition may be divided into two great categories: the first comprises the various disturbances of the retaining and evacuating apparatus which interfere with the functions of the bladder as a reservoir requiring periodical evacuation at fairly long intervals; while the second category comprehends the cases in which the undue frequency results from a considerable increase of the quantity of urine to be disposed of.

A. *The disturbances of the retaining and evacuating apparatus* are of two distinct kinds: one class of cases being characterized by diminished ability of the bladder to *evacuate*, the other by diminished ability to *retain*, its contents. Let us consider successively these two classes of disturbances.

1. *Inability to empty the bladder*, constituting the frequent and serious disorder called *chronic partial retention*, most commonly results from the presence of some permanent obstruction to the exit of urine, caused by urethral stricture or by hypertrophy of the prostate; it may, however, also be due to an impairment of the expulsive forces, such as results from paraplegia, or from

vesical atony consequent upon over-distention of the bladder.

The most frequent cause of chronic partial retention being *obstructive hypertrophy of the prostate*, I will describe briefly some of the characteristic features of this very common and distressing malady. The age at which the disease becomes developed is about sixty years. Sir Henry Thompson, with all his experience, has never met with it until after the age of fifty-four. With regard to the frequency of the disease, he found, by the examination of about two hundred bodies of male patients over fifty-five years of age, that about one in every three exhibited some enlargement of the prostate; only one in about every seven, however, having had any symptoms of obstruction, slight or severe. He infers from his researches that only one in every fifteen or twenty men who reach their sixtieth year is liable to need treatment for this affection. Prostatic obstruction may be suddenly complete; but most commonly the beginning of the disorder is gradual and insidious, the first and only sign for a long time being an increased frequency of micturition, due to the fact that only a portion of the vesical contents is evacuated at each passage of water. A characteristic feature of these cases consists in the fact that urination takes place more often by night than by day, in consequence of an increased nocturnal activity of the kidneys, as observed in several other forms of polyuria, to be spoken of later. In addition to the vesical irritation, which may hardly be sufficiently marked to arrest the attention of the patient (though often he complains grievously of the loss of rest occasioned by the frequent calls to pass water at night), other disturbances, of a remote and misleading character, first noticed, I believe, by Trousseau,¹ may constitute the earliest and most conspicuous results of the habitual stagnation of urine. The patient suffering from chronic partial retention due to prostatic obstruction may first be led to seek medical assistance on account of certain disorders apparently dependent upon, or suggestive of, dyspepsia: such as loss of appetite, dry and red tongue, with or without thrush, emaciation, fits of nausea and vomiting, derangements of the bowels (constipation or diarrhoea), together with repeated headaches, occasionally hemicranial. This form of *urinary dyspepsia*, as it is called by Professor Guyon,² who first described it fully, can be remedied only by the removal of the underlying cause: in other words, by relieving the partial retention by means of the habitual use of the catheter. The diagnosis of obstructive hypertrophy of the prostate can be made sure only in one way, namely, by testing the ability of the bladder to empty itself by natural micturition. If the patient, having reached the age of fifty-five years, suffers from unduly frequent urination, especially at night, when quiet in bed, it may fairly be suspected that his troubles are due to prostatic obstruction, entailing partial retention. A digital examination of the prostate by the rectum, commonly considered indispensable to diagnosis in such cases, can throw little or no light upon the nature of the trouble, as Civiale³ has shown, for a degree of hypertrophy inappreciable by this test may suffice to cause complete obstruction, while the most extreme degrees of enlargement may not only fail to prevent the bladder from

¹ Clinique médicale de l'Hôtel Dieu, A. Trousseau, Paris, 1868. vol. iii. p. 29.

² Revue mensuelle de Médecine, etc., Paris, January and February, 1878; also in the JOURNAL, April 4, 1878, page 441.

³ Civiale, Maladies des Organes génito-urinaires, Paris, 1858, vol. ii. p. 226.

emptying itself, but, in certain very exceptional cases, may even cause a true incontinence with empty bladder. Therefore, the diagnostic and only conclusive test consists in the introduction of a catheter (preferably a soft rubber or Mercier gum catheter) into the bladder immediately after all attempts at complete natural micturition on the part of the patient. The presence of residual urine, or "back-water," under these conditions justifies the suspicions of the physician, and settles his diagnosis and treatment. In every case of otherwise unexplained irritation of the bladder, occurring in a man of a suitable age, this test should be resorted to as the only means by which a correct diagnosis and an efficient treatment can be attained.

II. *Inability to retain urine*, or diminished retentive power, on the other hand, constituting *vesical incapacity*, operates as a common cause of unduly frequent micturition. Such incapacity may be physical or functional.

(1.) *Physical incapacity* consists in a diminution of the capacity of the bladder, rendering impossible the accumulation of ordinary amounts of urine. Such a condition may be observed, on the one hand, as a result of inveterate chronic cystitis, eventuating after years of continuance in a fibroid transformation which renders the vesical walls incapable of distention; or, on the other hand, it may be due to pressure exerted upon the bladder by some neighboring organ or growth, such as a gravid or displaced uterus, or an abdominal tumor.

(2.) *Functional incapacity* is one of the most common forms of vesical irritability. Owing either to an abnormal sensitiveness and impatience of the retaining apparatus, or to an unduly irritating quality of the urine, the bladder is urgently stimulated to expulsive efforts by the presence of small quantities of liquid, and a condition of irritation or "intolerance," culminating in vesical tenesmus, may ensue.

(a.) The diseases of the retaining and evacuating apparatus causing functional incapacity, consist in affections of the bladder and prostatic urethra, either inflammatory or neurotic in character. It may be useful to recall here that the prostatic urethra, whether in health or in disease, is functionally a part of the bladder, being situated behind the true vesical sphincter, and serving as the sensitive origin of the reflex motor stimuli by which the functions of the bladder are regulated and brought into play; hence the name of "neck of the bladder," by which this first portion of the urethra is sometimes called.

The *inflammatory affections* of the bladder and of its neck causing vesical irritation comprise all the forms and degrees of cystitis, prostatitis, and cysto-prostatitis, acute and chronic, however originating. The causes and the corresponding forms of disease are exceedingly multifarious, the most important being the following: idiopathic cystitis, due to cold or to lithæmia (Spencer Wells, Garrod, Murelison); calculous cystitis; retentive cystitis, resulting from chronic stagnation or over-distention, and due to stricture of the urethra or meatus, or to obstructive prostatic hypertrophy; tubercular cystitis, occurring as one of the localizations of genito-urinary tuberculosis (the latter constituting an occasional exception to the well-known law of Louis, according to which tubercle exists in the lungs if elsewhere). Prostatitis or cystitis of the neck of the bladder, attended by extremely frequent micturition or by painful and distressing tenesmus,

may exist without implication of the vesical mucous membrane proper, as a result of the retrograde extension of gonorrhœal urethritis. In all these inflammatory affections of the bladder and prostatic urethra over-frequent micturition is produced in the same way, namely, by the pain resulting from commencing distention of the inflamed bladder walls, and by the morbidly heightened sensibility or hyperæsthesia of the inflamed prostatic mucous membrane.

The *neurotic affections* of the retaining and evacuating apparatus which occasion functional incapacity of the bladder comprise all the various forms of cystalgia, cystodynia, or neuralgia of the vesical neck, whether idiopathic (that is, inexplicable), resulting from onanism,¹ or symptomatic of diseases of the nervous system, such as hysteria, locomotor ataxia, etc. A few details in relation to some of these forms of vesical irritation may be of interest.

It is questionable whether a truly idiopathic cystalgia exists. The distinguished Austrian surgeon, Von Pitha,² in 1875, described himself as having then been afflicted for two years with a cystalgia, which so closely simulated stone in the bladder that he was actually sounded for stone five times. For several years he suffered, as he relates, from "the most excruciating eccentric neuralgia, which, with three exception of the head, neck, and back, affected in turn every part of the body." He experienced "the most violent boring pains." Then, he says, "the pain darted off to the pelvic region, affecting the bladder, especially its neck, and then the entire urethra, — producing the exact sensation of a heated wire being passed along it into the bladder." A severe paroxysmal neuralgia at one time affected the heel. Later, he adds, *omalgia*, *cystodynia*, *proctalgia*, and *neuralgia*, *intercostalis*, *ulnaris*, *ischialica*, *peronea*, *cruralis*, and *digitorum manus et pedis*, tortured him one after another, and often several simultaneously, — sometimes only for a short time, and at others for days together, — causing an amount of suffering that was difficult to endure, and altogether insupportable without the assistance of injections of morphine. Von Pitha died at the close of the year 1875, not long after the publication of the account from which the above extracts are borrowed. His graphic description of the very painful paroxysmal neuralgiae and of the vesical paroxysms from which he suffered so acutely recalls strikingly the early stages of locomotor ataxia, characterized by the well-known lancinating and boring pains, and by the distressing "vesical crises," so often observed in that insidious disease, and so elaborately described by Vulpian, Charcot, Trousseau, Erb, and others, as constituting, together with sudden attacks of rectal pain or tenesmus, forms of the "visceral crises" of paroxysmal pain. In hysterical females, also, attacks of cystalgia, with vesical irritation or tenesmus, are occasionally observed.

(b.) The last form of functional incapacity or vesical irritability to be mentioned is that which is due to no fault of the retaining and evacuating apparatus, but to an *abnormal condition of the urine*, in consequence of which this fluid irritates the bladder, and stimulates it prematurely and with undue frequency to evacuate its contents. Such alterations of the urine may occur as results of certain constitutional diseases or *dyscræsiæ*, or as symptoms of renal inflammations.

¹ See Baker Brown on the Curability of Certain Forms of Periphæral Irritation, etc., London, 1896.

² Medical Times and Gazette, September 25, 1875, page 358.

The *dyscrasie* alluded to as causes of over-frequent micturition are those in which the urine contains an excess of certain ingredients, imparting to it an unduly irritating quality. Such is not uncommonly the case in lithæmia or gout, the excessive acidity of the urine and the abundant precipitates of uric acid, urates, or oxalate of lime having the effect of stimulating the bladder to over-frequent evacuation, as stated by Todd, Spencer Wells, Charcot, Draper, and many others. So, also, in another condition, dependent upon an obscure form of dyspepsia, in which the urine, being deficient in acidity, neutral, or even alkaline, is rendered turbid by the precipitation of the amorphous phosphates, unduly frequent calls to urinate occur, as recently described by Dr. Rallie.¹ This functional disturbance of the bladder, together with the cloud in the urine, produced by boiling and due to the precipitation of the phosphates, and also the whitish sediment, resembling pus to the naked eye,—all these familiar symptoms not uncommonly cause cases of this description to be mistaken for renal disease or cystitis. The vesical irritation, however, is but slightly marked; the morning urine is apt to be clear, the turbidness and sediment being chiefly observed in the day time, during the process of digestion. In doubtful cases a microscopical and chemical examination of the most elementary kind would be immediately conclusive.

The *renal inflammations* which communicate to the urine a quality rendering it irritating to the bladder, and thus occasioning undue frequency of micturition, are chiefly acute parenchymatous nephritis and pyelitis.

Acute parenchymatous nephritis, or acute Bright's disease, at its first onset is often attended for a few hours, or during the first day or two of its duration, by excessively frequent calls to urinate, so urgent and so distressing as to simulate an attack of acute cystitis (Roberts, Charcot, Leconte, Bartels). *Pyelitis*, also, whether acute or chronic, idiopathic, due to cold, retentive, calculous, or tubercular, is very commonly accompanied by unduly frequent micturition, occasioned by the irritating quality of the purulent urine sent down from the diseased pelvis to the bladder. This fact, vouched for by many authorities, among whom I will mention only Rayer,² is set forth with useful emphasis by Van Buren and Keyes³ as follows: "One symptom of pyelitis is very liable to lead to error of diagnosis, especially if the pain in the back has not been prominent and no tumor exists in the flank. This symptom is frequent micturition. The irritating properties of the pus in the urine stimulate the bladder to repeated contractions, and many a case of pyelitis has been treated as chronic cystitis, powerful injections being thrown into the bladder in the vain hope of controlling the formation of pus, which is supposed to have its origin there."

The recognition of pyelitis is often difficult, the diagnosis being based, in many cases, only upon presumptions, more or less strong. The first step towards a correct interpretation of the symptoms in any given case consists in suspecting the possible existence of pyelitis. The next step consists in eliminating apparent disease of the bladder in cases of simple primary pyelitis, or in correctly allotting to each disorder its characteristic signs in complicated cases, where the pyelitis is secondary to some other urinary disease,

such, for instance, as a chronic catarrh of the bladder. In simple cases of pyelitis we must avoid being misled by the functional disturbance of the bladder into taking for granted, without further inquiry, that we have to do with a mere cystitis. This too common error will perhaps be avoided if we consider carefully the course of the symptoms: noticing how, in spite of the long continuance of the disorder, the urine, though purulent and perhaps, also, at times bloody, remains acid,⁴ and free from the ammoniacal fermentation which is the rule in chronic catarrh of the bladder, especially when occurring in females. Micturition, though unduly frequent, is not very painful; and an examination of the bladder and urethra shows the absence of all organic diseases capable of originating and perpetuating a cystitis. Then, too, a circumstance which in some cases is not without significance is the entire failure of all means of treatment directed against the supposed catarrh of the bladder. Sooner or later paroxysmal pyrexia in the form of chills and fever occurring mostly in the evening, are commonly observed, and in themselves afford strong presumption of advanced pyelitis. Still later, pain and tenderness, and, above all, a swelling in the loin or flank, are conclusive evidence of renal disease, showing the existence of pyonephrosis or perinephritis.

In complicated cases the symptoms of pyelitis may be more or less obscured or masked by those of the other coexisting affections of the urinary tract, especially when chronic disease of the bladder exists. The diagnosis may then be very difficult or even impossible, as Sir Henry Thompson⁵ has shown at length in a clinical lecture On the Influence of Renal Disease in the Choice of Operation for Stone, written in defense of his management of the case of Napoleon III. A correct and complete diagnosis in such cases is of the highest importance for prognosis, since the success of all operations upon the bladder or urethra, whether for stone or for stricture, whatever operative method be employed, is strictly and almost exclusively dependent upon the degree to which the kidneys and pelvis are implicated. Operations for stone or for stricture scarcely ever prove fatal unless the condition known as "surgical kidney," consisting in an inveterate suppurative pyelo-nephritis, be present. Nevertheless, however valuable a correct knowledge of the condition of the kidneys would be in such cases, we are generally forced to content ourselves with presumptions based upon the long duration of the primary disorder and the general condition of the patient. Among the most ominous signs of deep-seated mischief are polyuria, urinary dyspepsia, and a liability to chills and fever, occurring with or without apparent cause.

B. We have passed in review the various forms of frequent micturition dependent upon disturbances, functional or physical, of the retaining and evacuating apparatus, and we now have to consider the second of our two leading categories, embracing all the cases in which the overfrequent passage of water results from an excessive secretion of urine, causing the bladder to become too rapidly distended in the short intervals of micturition.

Polyuria, consisting in the overabundant secretion of urine, is observed in several distinct morbid conditions. It may occur as the first and most prominent

¹ See the Lancet, July 17 and 24, 1880, pages 86 and 127.

² Rayer, *Maladies des Reins*, Paris, 1841, vol. iii. pp. 92, 93.

³ Van Buren and Keyes, *Genito-Urinary Diseases*, etc., New York, 1874, page 365.

⁴ See Urinary and Renal Diseases, by Wm. Roberts, Philadelphia 1879, page 471.

⁵ Clinical Lectures, by Sir Henry Thompson, London, 1879, page 214.

symptom of diabetes, whether saccharine or insipid. It may result from renal disease, being dependent either upon a chronic interstitial nephritis, or upon an amyloid degeneration of the kidneys. Lastly, the polyuria may be due to a little suspected and only lately recognized agency, namely, to a chronic mechanical irritation of the vesical mucous membrane.

1. *Diabetes*, when of the saccharine, mellitic, or glycosuric form, offers well-marked symptoms, and is hardly likely to remain long undetected. The insipid form, characterized almost exclusively by a simple polyuria, occurs more rarely, and is a less familiar disease to most practitioners. One of the features which distinguish this form of chronic idiopathic polyuria from the symptomatic forms still to be considered is the presence of abnormally large quantities of uræa in the overabundant pale urine of low specific gravity. According to Dickinson, Lecoreché, and other authorities, diabetes insipidus resembles saccharine diabetes in the excessive elimination of uræa which takes place, the daily total quantity of this substance being often as much as three or four times the normal amount. In the other forms of polyuria, dependent upon renal or vesical disease, the reverse is true, the amount of uræa being mostly below the normal.

Of the renal diseases accompanied by polyuria and frequent micturition, the most important is *chronic interstitial nephritis*, otherwise known as renal cirrhosis, granular or contracted kidney, or simply as chronic Bright's disease. It cannot be necessary that I should here do more than allude to this very common malady, save to lay stress upon the marked and annoying polyuria which attends its onset and accompanies it nearly to its fatal termination. An abundant flow of pale urine of low specific gravity, more copiously secreted by night than by day, and compelling the patient to rise from bed several times, is in some cases almost the only disturbance complained of for a long period. Albumen and casts may fail to be observed at all, unless the urine is examined with much care and frequency; in fact, the disease may proceed to its termination in cerebral uræmia without these supposed pathognomonic signs ever being detected, as was the case with a patient under the care of Bartels.¹ Dropsy also may be absent, or if present it occurs in a slight degree, and only in the last stages of the disease. Cases exist in which the other disturbances upon which the diagnosis may be based, — namely, the antecedent signs of gouty dyspepsia or lithæmia, the enlargement and functional disorders of the heart, and the symptoms dependent upon increased arterial tension, — are so slightly marked as to cause the disease to pass for diabetes insipidus. Bartels records several instances, in one of which the daily secretion of urine amounted to six litres in twelve hours; in another the quantity voided in twenty-four hours was seven and a half litres.

In the disease known as *amyloid or lardaceous degeneration* of the kidneys, occurring as a complication or sequel of certain constitutional diseases (scrofula, tuberculosis, syphilis), or succeeding long-continued supuration, a polyuria resembling that of chronic Bright's disease not unfrequently exists, unless there be a profuse diarrhœa. In such cases the antecedents, together with the various other localizations and manifestations of the amyloid degeneration, cannot fail to cause the true condition to be recognized, provided

only that the attention and suspicions of the physician are aroused and exerted in view of a complete and careful diagnosis.

Yet one more form of symptomatic polyuria remains to be considered, namely, that which accompanies and results from *chronic irritation of the bladder*. Professors Guyon, of the Necker Hospital in Paris, and his pupils, Jean¹ and Masson,² have called attention recently to the frequent occurrence of a superabundant flow of urine, complicating the sufferings of patients affected with stone in the bladder, prostatic obstruction, stricture, or tuberculous cystitis. In all these cases the pathological physiology of the polyuria is the same. In conformity with a well-known physiological law, according to which all irritations of excretory ducts stimulate the corresponding secreting gland, so in such cases the chronic irritation of the bladder causes an excessive flow of urine, just as a foreign body in the conjunctival mucous membrane excites lachrymation. The polyuria so caused is most abundant and troublesome at night, except when due to the presence of a vesical calculus.

The most common cause of this reflex polyuria, resulting from irritation of the bladder, is obstructive hypertrophy of the prostate, with chronic partial retention of stagnating and perhaps decomposing urine. The diuresis is occasionally very profuse, especially at night, constituting a grievous addition to the sufferings of the patient. It may be interesting and instructive, now, to rehearse all the complex conditions which, by increasing the frequency and urgency of the calls to urinate, conspire to harass and torture a patient afflicted with chronic prostatic retention. In the first place, he fails to empty his bladder, and, being able to expel at each passage of water only a portion of the vesical contents, the evacuation of the total urine of every twenty-four hours is subdivided into an increased number of acts of micturition. Secondly, the chronic irritation of the bladder caused by the stagnating residual urine occasions a reflex diuresis or polyuria, chiefly nocturnal, which may be so marked as to simulate diabetes insipidus. Thirdly, inflammation of the bladder walls, sure to supervene, sooner or later, becomes permanent, and by entailing a condition of functional incapacity, lessens the already small margin between the retaining and the evacuating power of the urinary reservoir. Prostatitis, acute or chronic, may singularly exasperate the sufferings of the patient by adding a ceaseless and painful tenesmus to the vesical irritation already experienced. Lastly, in the ultimate stage of this most distressing and incurable disease, the condition described as contracted bladder, with physical incapacity, establishes itself, as a consequence of the long-standing cystitis. The bladder is then converted into a small pouch, with thick, rigid, undilatable walls, incapable of either retaining or evacuating its contents. Fortunately, death does not long delay when this stage is entered upon.

Such, hastily passed in review, are the chief causes of unduly frequent micturition. It is evident that this conspicuous and annoying symptom, which hardly ever fails to be promptly noticed and complained of by the patient, may be dependent upon a great number of ex-

¹ Dr. Alfred Jean, *De la Retention incomplète d'Urine*, etc. Paris, 1879.

² Dr. Noël Masson, *De la Polyurie dans quelques Affections chirurgicales des Voies urinaires*, Paris, 1878. See, also, the *Journal*, April 1, 1880, page 316.

¹ Ziemssen's *Cyclopædia*, American Translation, New York, 1877, vol. xv. page 440.

ceedingly diverse disorders; and that the exigencies of a correct diagnosis are complex and often embarrassing. Cases occur where it is by no means easy, even for a medical man, to decide whether the physician, the surgeon, the gynaecologist, or the neurologist should be consulted. Under these circumstances, the patient of course is very liable to go astray in his attempts to guess the seat and nature of his malady and to select a suitable adviser. Considering, once more, certain of the urinary diseases entailing a necessity for unduly frequent micturition, we have seen that an affection of the bladder, by engendering a reflex polyuria, may simulate renal disease or the insipid form of diabetes; while a disease of the kidney or pelvis, such as acute nephritis or pyelitis, may occasion a functional disturbance of the bladder sufficiently marked to cause both patient and physician, without hesitation, to attribute the sufferings experienced to cystitis. Is it not evident that we have here a field, as it were imperfectly allotted, lying between the boundary lines of medical and surgical practice; and that it would be far better for all concerned if mutual encroachments should cause these two domains to overlap instead of remaining separated by a wide and deep hiatus?

From the foregoing facts and considerations this practical conclusion is to be drawn; that, as said at the outset, unduly frequent micturition is never a disease, but always a symptom. It should never be regarded merely as an infirmity, to be palliated by anodynes, or or to be acquired in as an inevitable accompaniment of advancing years. On the contrary, it should in every case, receive attention as a *significant symptom*, indicating the existence of some disorder which calls for careful elucidation and appropriate treatment.

THE "ABDOMINAL METHOD" OF SINGING AND BREATHING AS A CAUSE OF "FEMALE WEAKNESSES."

BY CLIFTON E. WING, M. D.

THE following cases, all happening under observation within a comparatively short time, have seemed to me sufficiently interesting to warrant their publication. The calling of attention to a possible danger that, as a rule, is not suspected or dreamed of by singers or their instructors may lead to the use of the ounce of prevention which in the case of uterine troubles is often worth much more than the pound of cure. At the present time so many of our young women are practicing, and so many instructors are teaching, singing (and in courses in elocution breathing) by what is termed the "abdominal method" that the matter is not without importance.

CASE I. The first patient was a young unmarried lady, a resident of this city, who had previously enjoyed excellent health. Eleven months before she consulted me she began to suffer with pain in her back and sides, "bearing down," and with these local symptoms, great depression of spirits. At about the same time her menses, which previously had come regularly each four and a half weeks, became more frequent and profuse. She found that occasionally after walking her symptoms were aggravated. For three months she had been troubled with frequent desire to pass water. She suffered with constipation, and movements of the bowels were at times painful.

The lady had come to consult me because, as she said, she felt sure, from having heard from other sufferers with uterine troubles their symptoms, that she had the same trouble herself. Upon my asking what she thought could have induced such a difficulty, she at once replied that she felt certain that she had injured herself by singing by the "abdominal method," which she had taken much interest in and had practiced a good deal; that from the first it had made her feel badly, when she had previously been well; that, finding she always was worse after singing, she gave it up for a while, when her symptoms at once improved and menstruation became less frequent; that, getting better, and thinking that, perhaps, after all, her singing exercises had had little to do with her past symptoms, she again resumed them, when her troubles returned, and she finally became worse than ever. She ended by asking me if I did not think she was right. Knowing nothing about singing, and not really understanding what she meant by the "abdominal method," I did not express a decided opinion. In fact, I gave little attention to her idea. Proceeding to make my examination, I found a well-marked displacement of the womb, that organ being thrown completely backward.

There is nothing particularly instructive in the further history of the case. A prolapsed ovary gave considerable trouble in the fitting of a comfortable supporter, but there were no adhesions; the parts were finally replaced, and the uncomfortable feelings in the back of the neck and the top of the head, and, as the patient expressed it, "the total inability to think properly," which were at times marked, as often (although not always) is the case with uterine ailments, were greatly relieved. For a time the patient could scarcely believe that the improvement in her mental feelings was all due to improvement in the local condition; but when, not long ago, she dispensed with her supporter for a while, with the result that the womb again fell backwards, with a return of all the head symptoms, which again disappeared with the readjustment of the pessary, she became convinced.

CASE II. The lady was thirty years old, and had been married seven years. Never pregnant. Menstruation, which was established at the age of thirteen, before marriage had always been painful. Since her marriage she has been free from pain at those periods. She consulted me the first time for leucorrhœa and local irritation, which I judged from her story to be due to a simple inflammation of the vagina. She at this time had no marked uterine symptoms, and I did not deem an examination necessary, but prescribed some simple injections, telling her if she did not get better in a short time I would then investigate the case more thoroughly. In a few days she reported herself as so much relieved that she thought further treatment unnecessary. I did not see her again, professionally, for about five months, when I was called to the house, and found her in bed, suffering with acute pain in the small of her back and across her hips, and unable to stand, walk, or even move in her bed without increasing her sufferings. Making a uterine examination, I found the womb turned backward toward the hollow of the sacrum, pressed low down in the pelvis, acutely congested, and very tender. There was no inflammation in the neighborhood.

Here, again, I was asked if "abdominal singing" could have produced the displacement, and, on inquiring into the matter, learned the following story: The

¹ Read before the Boston Society for Medical Improvement, at its meeting, November 22, 1880.

lady had been taking instruction in singing for some months. Hearing of another teacher who was said to be remarkably good, and to have a "new method," she had gone to her, taking her first lesson on the previous Friday (I was called to see her on a Monday morning). She had gone to the teacher, according to directions, wearing no corsets, that she might be free to go through the necessary movements and manipulations. After the lesson she went home, feeling "dreadfully" in the pelvic region, but never for a moment supposing that she could in this way do herself serious harm, she repeated the exercises on the next day, after which she felt still worse, and taking a horse-car home was scarcely able to get from the car to the house, on account of the pain in her back and sides, "bearing down," and "feelings as though she was coming to pieces." Symptoms such as these she had never before experienced. She immediately took to her bed, where she remained up to the time that I saw her. The parts were replaced and a supporter fitted. The patient wore it for a few months, after which it was dispensed with. I recently met her, and she told me she remained perfectly well. It was lucky for her that her symptoms were so acute at the outset, for had the case not received the early attention which it did she would not have been able to do without the supporter so soon. It is unnecessary to add that she has not resumed the singing exercises.

CASE III. Miss B., aged twenty, single. Menstruation began at fifteen, and always is pretty regular. Time of flow, four days. Amount normal. Has always had some pain the first day when unwell, but lately the pain has been getting worse, and has a longer. For some months she has noticed that she has not been able to walk as she formerly could without getting tired out. Lately she has had pain across the abdomen and low down in each side, and has been unable to sit any length of time without a severe pain in the back, which latter pain makes it difficult for her to rise after having been seated, and is always worse when she is unwell or after she has walked any distance. Suffers with constipation. Micturition not especially troublesome. Is "depressed in spirits."

Six months before seen she began a course of instruction in singing by the "abdominal method." At this time, as she states, she was in excellent health. At about the time she began the method she was warned by the lady whose case is the first one I report, with whom she was acquainted, to be careful and not injure herself, as she had done, and this friend even went so far as to see her teacher and ask her to take especial care to prevent such a result. The latter, although she did not believe such harm could result from these singing exercises, undoubtedly was as careful as she could be. Under the course of instruction the voice was thought to be decidedly improved, and it became much more powerful. (A like result was noticed in the case of the first patient.) Her progress, so far as the singing was concerned, was eminently satisfactory, and she was told that she had "got the method right;" but soon after she entered upon the course her local symptoms began to appear, and they grew gradually worse, until she was so poorly that she deemed it best to take medical advice. On uterine examination I again found a complete displacement of the womb backward.

I asked the patient, who was quite positive as to what had brought on her trouble, if she could not

think of some cause other than her singing. She replied that she could think of nothing else. She had noticed that she always felt worse after singing, and lately it had really hurt her each time.

I fitted a proper supporter, which the patient is still wearing. She is now feeling quite nicely. Recently, as an experiment, she sang a little, when her old symptoms again began to show themselves.

CASE IV. The fourth case is of value here as evidence in the same direction. The patient was seen by me in consultation with a physician of this city, who had recently been called in, and who requested me to assume the case. The lady was twenty-three, married, and the mother of two children, the youngest eighteen months old. She was having backache, "bearing down on walking," "pain in the womb," etc., etc., which were easily accounted for by the large, congested, tender, "sagging uterus" found on examination. Under appropriate treatment she was getting along nicely, and had become quite free from pains and aches, when one day, at my office, she said she wanted to ask me a question, which was this: "Doctor, can I do myself harm by singing? Is it possible for any one to cause uterine trouble in that way?" Rather surprised, I asked her if she had heard so. She replied that she had never heard the subject mentioned, but was disposed to think so because, having recently sung, a thing she had not attempted before for a considerable time, she had noticed that "bad bearing down" followed. Asking what method she used in singing, the reply was, "The abdominal method."

I would call attention to the fact that each of these patients, of her own accord and without my having suggested the idea, advanced the opinion that the singing had caused the troubles. Indeed, until the cases repeated themselves, knowing nothing of the method in question, I was not disposed to adopt their opinion.

Becoming interested in the matter, I applied to Dr. S. W. Langmaid, of this city, thinking he would be able to give me the information I desired, and he has kindly permitted me to publish the following contents of his letter in reply:—

"I have no doubt that injuries such as you describe have been produced by attempts at 'abdominal' (diaphragmatic) respiration.

"I have known the digestive functions disturbed, pain and soreness in various parts of the abdomen produced, and, in one case, the occurrence of prolapsus uteri brought about during the act of attempting to use the abdominal method of breathing in singing.

"The injuries result, not from properly conducted abdominal respiration, but from a wrong method of using it and a misconception of its legitimate use and limit. Such misconception is common enough among singing teachers and their pupils.

"Abdominal respiration gives the singer the greatest control of the column of air to be used in vocalization. If, however, the proper action of the muscles (relaxation) during inspiration does not precede the respiratory effort (contraction), the contraction is not only productive of imperfect sounding processes, but may be the cause of the injury to organs which are so situated as to be influenced by the pressure exerted by the contraction.

"The tendency of the abdominal walls to return to a normal position, out of which they have been carried during inspiration, is sufficient to regulate the flow of air during ordinary singing. A forced contraction re-

sults in an increased blast of air, which is needed to give greater intensity to tone.

"The common fault consists in the attempt to contract from an already retracted abdominal wall, the inspiration having been limited to a superficial thoracic ('clavicular') respiration. If, now, there is added the restrictive action of a close and unyielding corset, any of the movable organs in the abdomen or pelvis must yield to the *vis a tergo* of the abdominal contraction. *A priori* with regard to the effect upon the uterus, retroflexion or retroversion would be the common form of displacement, unless a tendency to prolapsus existed."

Lately I have talked with a number of ladies, and have been surprised to find how many of those acquainted with the subject, on my mentioning the matter to them, have at once said that they had no doubt whatever that the method was often injurious. Several had attempted it themselves, and finding that they did not feel so well after it had given it up. Others knew of its bad effect upon friends. From one lady I got the following story: Five women were taking instruction from one teacher at the same time. One, previously well, gave out entirely, and was afterward treated for uterine displacement. A second, after four weeks of practice, began to have leucorrhœa and pain upon walking, symptoms she had never before had. In two others dysmenorrhœa made its appearance, when formerly menstruation had been painless. The fifth one—the only one of the five who went through the process without developing more or less of what are in general terms called "uterine symptoms"—became a good singer, and is now teaching the method to others.

The opinion seems to be general that this method "brings out the voice" in a marked degree. Several have asked why some (and a number of the most celebrated professional lyric artists of the day have been named to me as singing in this way) can practice the method, while others cannot without injury to themselves. The law of "the survival of the fittest" may be a partial explanation. Possibly they have acquired the "right method" and have avoided the "wrong methods," although what constitutes the "right method" seems to be a matter of dispute among singing teachers, each thinking his (or her) method the one, and I must leave the decision of this point to those who are competent to settle it.¹ Probably some who have been injured in this way go on singing, in total ignorance of the cause of their sufferings. Perhaps in certain instances the reputation and the income derived from the possession of a wonderful voice by the professional singer may be sufficient to induce the latter to bear with physical aches and pains. This last idea has been suggested by the fact that I have been recently informed that a teacher of this city, when told by a pupil that since beginning the method she was unable to walk as formerly, replied, "A singer must expect to be unable to walk if she is to sing well," and I have heard of a somewhat similar remark made by a noted prima donna.

It may be well to call attention here to the tissues which normally sustain the uterus, and to the forces which, on the other hand, tend to press it down out of its proper position. In general terms, the tissues which

hold the womb in position are elastic, and although their strength is undoubtedly somewhat affected by the general health, as that of all ligaments and tissues must be, *they are not like the common muscles, contractile and capable of being greatly strengthened by exercise.* Ignorance of this fact is very common among the laity, and often leads to futile attempts at remedying uterine displacements by general gymnastic exercises, which often, perhaps as a rule, *increase the downward pressure,* and thus not infrequently make a bad matter worse. Indeed, general muscular strength and development is by no means a sure protection from "uterine weakness," as every physician knows.

Barnes, in his well-known and excellent text-book on the Diseases of Women, writes, "The downward force is always acting. It is exerted at every expiratory effort, and is exaggerated by coughing, . . . by every exertion, in short, which fixes the chest. . . . Then the force of gravity is added, and is always at work when the body is in the upright posture." He points out how naturally it follows that when the sustaining tissues are, from any cause, weakened, displacement ensues; and then, discussing the opposite side of the matter, says that even in virgins "*force alone exerted upon healthy structures is enough to cause prolapse.*" The force obviously comes from above. It is produced by the pressure of the intestines, bladder, and broad ligaments propagated from the *diaphragm and abdominal walls.*" He cites cases of displacement brought on by coughing. The married and those who have borne children are of course more liable to such displacements than virgins. Again Dr. Barnes writes (page 553), "In the great majority of cases prolapsus is accomplished by small forces acting continuously or with brief intermissions over a long period of time." The conditions which, according to this able writer and noted practitioner, produce the majority of cases of prolapsus would seem to be exceedingly well fulfilled by the abuse of the "abdominal method." What he says of prolapsus applies equally well to all displacements downward.

That serious uterine troubles should be caused in this way will not therefore surprise physicians once informed of this method and the manner in which it is practiced at the present time. I am assured by good authority that one Boston teacher boasts that by "*proper practice*" such power may be acquired that if the person be placed back against the wall, and a full-sized piano be moved up against the retracted abdomen, the latter, by the "abdominal method," can be so forcibly expanded that the piano will be pushed rapidly away. A medical education is hardly necessary to enable a person to understand that by such procedures injurious pressure must come upon the internal organs, especially in the female. In the cases I have reported, however, no such extreme measures were practiced. The teachers seem to have been quite careful with their pupils, so far as they knew how to be so.

As a specialist, practicing exclusively the treatment of uterine affections, doubtless more of these bad results have come to my notice than would have been the case in the same short time had I been in general practice, but from the number I have heard of since my attention was directed to the subject, I am disposed to think that upon investigation such cases will be found common enough to render the subject worthy the attention of the family physician. I strongly suspect that we have in the abdom-

¹ It is a noticeable fact that the pupils invariably consider their own instructor the best of all, and always feel certain that the method they are acquiring is the only correct one. This, however, is but natural, for did they think otherwise they would take other instruction.

inal method, as now practiced, a fruitful source of those common troubles, uterine displacements.

[NOTE. Since the foregoing has been written another instance, which is worth reporting, has come under my observation. In the course of my inquiries I was told by a patient that one of her lady friends—with whom it so happened I was acquainted—knew all about the subject, having taken instruction in elocution (which, by the way, appears to have been “quite the rage” of late), in the course of which she was taught “the proper method of abdominal respiration,” and she agreed to tell her that I wanted information about it. A few days later I met the lady on the street. She told me my patient had spoken to her, and she kindly volunteered to call at my office at some future time and talk with me upon the subject, expressing herself as quite sure that my patients had not acquired the “right method,” and that all their troubles were due to this fact. I saw nothing more of the lady until a few days ago, when, going to my office in the morning, I found her awaiting me. Supposing, of course, that she had come to give me the desired information, I was very much surprised to hear that she wished to consult me professionally. She was a lady of rather exceptional muscular strength, of which she was rather proud; was fond of gymnastic exercises, and had taken much interest in “abdominal breathing.” This latter she had lately practiced quite assiduously in connection with her elocution. She had the mistaken notion—previously referred to—that it would tend to strengthen the “muscles which support the womb,” and thus be rather a safeguard against future uterine trouble. The week previous she had practiced the method a certain length of time on four successive days, feeling on each occasion a “pulling in the back.” The fifth day she became used up, and could not go through the exercise. Since that she had become sleepless and very nervous, and remembering her conversation with me on that subject, concluded to consult me at once. I found a marked prolapse of the womb, the cervix being very near the vulva. As the result of her experience the lady has changed her opinion, and intends to give up elocution and the “abdominal method.”]

RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.

BY E. G. CUTLER, M. D.

THE SENILE KIDNEY.

SADLER¹ has examined the kidneys of twenty-eight aged persons who had died of different diseases, both acute and chronic, and found them atrophied in twenty-six cases. He says that the atrophy may attain an extreme degree, and may amount to two thirds of the original volume; usually it implicates both kidneys. The cortical substance is the portion chiefly affected, and it shows the lesions of an interstitial nephritis. Senile atrophy appears to stand in connection with the atheromatous process of advanced age; it is the result of atheroma of the renal arteries. The senile kidney is distinguished from interstitial nephritis by a change in the quantity of urine and by the absence of albumen. The oedema which exists in many cases is caused by disturbances of the circulation on the side of the heart. Uræmic phenomena are always absent, and hæmorrhages are explained by the atheromatous condition of the arteries.

¹ Gazette des Hôpitaux, No. 132, 1879.

THE ANATOMICAL CHANGE OF THE BLOOD IN INFLAMMATIONS.

Hayem² says that an increase of the white blood corpuscles occurs directly in the commencement of the disease, and attains regularly or with fluctuations a maximum which coincides with the height of the same; for example, with the formation of pus in cases of suppurative inflammation. In inflammations at the stage of decline the number of white blood corpuscles diminishes, following more or less closely the progress of the disease. In suppurative inflammations the number decreases at the moment when the pus is evacuated externally, to increase again when the evacuation is accompanied by a secondary inflammation. At the commencement of convalescence from the acute forms we frequently see, during a variable but short time, the number of the white corpuscles sink considerably below the normal limit before the physiological mean is reached.

The variations in the number of the red corpuscles in inflammatory processes depend on so different conditions, and are therefore so little uniform, that it is difficult to give a general description. We can only say that an acute inflammation of eight or ten days' duration (for example, pneumonia) almost always causes a loss of two hundred thousand to one million red blood corpuscles in one cubic millimetre. But this estimate is not exact, because it can only be made with the aid of a figure which is found after the complete restoration of health.

The number of hæmatoblasts, which in the normal condition amounts to two hundred and fifty thousand, is only slightly modified during the height of acute inflammations with rapid development. In genuine pneumonia the number is usually somewhat increased, while in the majority of the other inflammatory diseases it is diminished. Towards the end of the inflammation the number is lowest; then there suddenly appears a rapid and progressive increase of the hæmatoblasts, and this increase is the most important and most constant fact which enumeration of the elements of the blood shows.

In two or three days the number of these corpuscles attains a maximum which exceeds the normal number two, three, or four times.

ON PARASITIC HÆMOPTYSIS (GREGARINOSIS PULMONUM).

Professor E. Boelz (Tokio, Japan), in a “preliminary communication” to the *Centralblatt für die medicinischen Wissenschaften*, No. 39, 1880, says that there occurs in Japan a hitherto undescribed and even to the native physicians unknown disease, which consists in a coughing up of bloody sputa by otherwise perfectly healthy people constantly or at intervals for a long time, often during many years. These bloody sputa have nothing to do with phthisis pulmonum or any other affection of the lungs demonstrable by percussion. Even after the affection has lasted ten years the person concerned shows no subjective or objective symptom of disease, except sometimes a little scratching of the throat or a very slight cough. The author has thus far seen nineteen cases of this disease, of which twelve were observed in the last year, and he supposes that thousands of Japanese suffer from it. It has hitherto been observed only in men, mostly youthful persons of from fifteen to twenty-five years.

² Gazette hebdomadaire, No. 13, 1880.

It stretches over the whole Japanese empire, covering ten degrees of latitude, but appears to be somewhat more frequent in the south.

The sputa have a characteristic dirty red color, and are very viscid. The red color comes chiefly from the presence of blood, and varies with its amount; sometimes the color is dark red; at times, though rarely, it is very pale red. The presence of *specific parasites* also exercises an influence on the color. There are two forms of parasites: (1.) Deep yellow-brown, perfectly egg-shaped bodies, .13 mm. long and .07 mm. broad, with a transparent wall, .02 mm. thick, having a sharp, double contour, and, with a different focus, having a greenish or reddish lustre under the microscope. At the blunt end there is a sort of cover, and the cyst or "egg" opens. The contents is a tenacious jelly, in which are bedded three to five, usually four, clumps. Each clump consists (a) of a very sharply bounded colorless ball, double the size of a white blood corpuscle, with its inside in constant motion. Around these bodies, more or less inclosing them, lies (b) a coarsely granular yellow substance scattered loosely in the jelly, in which molecular motion is frequently seen. The balls continue the movement already mentioned for a time after they have left the covering; then they become surrounded by the granular substance, and appear motionless. (2.) These motionless balls have quite the same character as numberless granulated, roundish to egg-shaped, colorless or yellowish-brown, wallless blood corpuscles, .01 to .04 mm. in diameter, which frequently form the greater part of the sputum.

The larger egg-shaped bodies are psorosperm cysts; the smaller wallless balls are young psorosperms, as Boelz maintains, exactly like those which Waldenburg and Eimer figured from the intestine and liver of the mouse and rabbit. Since, according to the investigations of the authors mentioned and other observers, what are called psorosperms represent only a stage of development of gregarine, and since the name gregarine is very applicable to the kind of appearance, Boelz would name the disease *gregarinosus pulmonum*, and the parasite *gregarina pulmonalis*, or perhaps soon, on account of its color, *gregarina fusca*. Boelz hopes soon to go into the subject more in detail.

THE AMYLOID DEGENERATION.¹

The result of these investigations, which were carried out on twelve cases of amyloid degeneration, methyl-violet being chiefly used, is that the amyloid degeneration attacks not without distinction the most different elements, preferably the gland cells, but that it is a disease of markedly progressive character, confined solely to the connective substance. In lymph glands the arteries and capillaries are concerned; of the parenchyma most frequently the follicles and follicular cords. In the star-shaped frame cells the first stages of the amyloid degeneration could be proved by coloring primarily in the form of circumscribed spots; gradually amyloid swelling occurred, transformation of the frame cells into varicose lines, irregular globular bodies, which often exhibit on their surface bare nuclei or isolated star-shaped cells. At the same time the production of lymph corpuscles in the glands ceased; the lymph cells did not share the degeneration themselves, and for the most part disappeared through atrophy due to pressure. The amyloid degeneration commences in

the spleen, in the same way as in the glands in the stroma; it remains confined to it—aside from the blood-vessels—without attacking the lymph corpuscles. In one case Eberth also found the arteries and capillaries in the fat portion of the marrow of bones degenerated in spots. The hepatic cells do not undergo the amyloid degeneration, so that the change, which is often extreme, leading to an entire destruction of the parenchyma of the gland, is to be ascribed to the enormous amyloid swelling of the capillaries alone. In the beginning the amyloid spots appear as small spindles, which are sharply bounded towards the endothelium, and externally run out into the delicate stroma fibres. Gradually the amyloid layer gets larger; the endothelium is preserved, although the vessel becomes very narrow. The neighboring hepatic cells become deformed, and finally are destroyed. In the kidneys amyloid degeneration, aside from that of the vessels, was seen most frequently in the collecting tubes and the looped tubules; yet the degeneration was never found in the epithelium cells, even when the tunica propria was very much thickened. In the thyroid gland also the only change seen was in the capillaries and stroma of the gland. The arteries and capillaries of the heart, as well as the connective tissue between the muscular fibres, was found affected. The degeneration begins on the border-line of the connective tissue towards the muscular fibres, which may finally be destroyed themselves. In unstriated muscle the connective tissue between the fibres first becomes diseased; and the fibres themselves probably simply perish. The same thing appears to occur in the muscular coat of the vessels. Eberth found amyloid places in the adventitia of the larger arteries. In the capillaries the degeneration commences in the form of small hump-like protruberances on the surface (in the delicate capillary sheath); the endothelial nuclei may disappear through simple atrophy. In the fat tissue of the mesentery degeneration of the membrane of the fat cells was seen, and in places also the connective tissue between the groups of fat cells. In the intestine, the stroma of the mucous membrane and the villi (besides the vessels) were especially affected; the cells of the villous tissue did not appear to be diseased; also the villous and glandular epithelium were always unchanged.

THE PATHOLOGICAL ANATOMY OF THE SPINAL CORD IN PHOSPHORUS POISONING.

S. Danillo² found that in animals which he killed by acute phosphorus poisoning a peculiar affection occurred in the spinal cord, namely, besides abundant extravasations, a deposit of enormous masses of dark-red, almost black, pigment, both in the white and in the gray substance. If a slow poisoning were produced by the exhibition of small doses continued for a long time, myelitis followed, granular cells were seen around the vessels, in the ganglion cells cloudy swelling and formation of vacuoles, later contraction, once even total disappearance of the cord.

HYPERTROPHY AND DILATATION OF THE HEART.

To get at the question experimentally whether the development of dilatation and hypertrophy of the heart could be brought about purely by excessive muscular labor, Sassezky³ instituted the following investigations: Four kittens from the spring litter of the same cat

¹ Eberth, *Archiv*, lxxx. page 138.

² *Petersburger medicinische Wochenschrift*, No. 17, 1880.

³ *Petersburger medicinische Wochenschrift*, No. 33, 1880.

were selected and brought up under precisely similar conditions. Starting on a fixed day, two of them were chased about in a large room for an hour and a half or two hours twice every day (morning and evening) during six months. The other two were not chased about, and with this single exception all were treated exactly alike. Once a month during the time of the experiment the four animals were weighed, and finally were killed by having their throats cut. The result of careful examination of the hearts showed that in the chased animals there was an increased circumference; thickening of the wall on the right side, thinning of the same on the left; increased breadth of the muscular fibrils of the right side of the heart, and diminished breadth of the same on the left. The aorta in the chased animals had a greater diameter; the pulmonary artery, on the other hand, had similar dimensions in all the animals. The weight of the heart in the chased animals was somewhat diminished in comparison with the others. The whole weight of the body was altered, so that the increase in weight of the chased animals was far less than in the others. With regard to the heart, the author believes the physiological explanation to be as follows: Under the influence of great exertion hypertrophy of the left ventricle occurred; later, on account of too great distention, a diminution in the thickness of the walls followed; then came hypertrophy of the right side of the heart, and the section was made at a time when the walls of the right side of the heart had not yet been able to become thin.

THE PATHOLOGICAL HISTOLOGY OF ACUTE PAROTITIS.

Dr. Wendt,¹ of New York, has published a contribution to the minute anatomy of this disease, based upon the study of an inflamed gland. He found that the morbid process passed through several stages, with the ultimate possibility of complete restoration of the gland to its normal condition. The first stage of the disease was one of congestive hyperæmia, the arterioles and capillaries being packed with blood elements. Then came a stage of exudation, accompanied with the emigration of many leucocytes. Rupture of capillaries occurred simultaneously with this action. Then followed a period of epithelial hypertrophy and hyperplasia, caused, according to the author, by the stimulus of excessive blood supply to its secreting acini. Soon, however, the epithelial cells underwent cloudy swelling, and then fatty degeneration. The products of this process accumulated in the meshes of the interstitial connective tissue. Active proliferation of the secreting cells went on simultaneously with these changes. For this reason the writer expresses his belief in the power of complete glandular restoration. The question whether the disease was a case of mumps or an instance of so-called secondary parotitis was left undecided.

Hospital Practice and Clinical Memoranda.

A CASE OF SHOT WOUND OF THE BLADDER.

BY GEORGE H. BIXBY, M. D., BOSTON,

Late Senior Medical Officer United States Navy Hospital, Mississippi Squadron.

J. C., aged forty-five, native of England, an engineer in the Confederate service, was rescued from the wreck

¹ New York Medical Journal, September, 1889.

of one of the enemy's ships, the boiler of which had exploded during the engagement before Memphis, June 5, 1862. Temporarily cared for on one of the iron-clads, he was transferred to the hospital ship June 11th, six days after, in a very feeble condition. No urine had passed by the urethra since his rescue. He was unable to furnish any information in regard to the circumstances of his injury, having been found in an unconscious state, at least thirty feet from his post of duty near the engine. Inspection showed the following conditions:—

Great swelling and extensive ecchymoses of the left lumbar and gluteal regions; three inches external to the tuberosity of the ischium a circular, ragged wound, fully an inch in diameter, from which a fluid (apparently urine) constantly oozed.

His feeble condition precluded the use of an anæsthetic. Careful explorations with a probe failed to elicit the presence of a foreign body or any evidence of a fracture. Judging from his feeble condition at this stage, the shock had evidently been very severe. There were no data in regard to hæmorrhage. The peculiar form and depth of the wound and the absence of all the ordinary signs of a foreign body were suggestive of splinter wound, not an uncommon occurrence in naval warfare. The patient's condition preventing farther investigation, the diagnosis was pronounced penetrating wound of the bladder from causes unknown.

The treatment consisted in absolute rest in the dorsal position; a catheter left in the urethra, with a vial attached, in order to favor and also to note any signs of a return of the functions of the bladder.

June 16th, fifth day. Fast recovering from the shock; absence of febrile manifestations; urine passing freely and uninterruptedly from the wound.

June 21st, tenth day. Complete recovery from shock; free escape of urine from wound; appetite excellent; no fever; marked general improvement; decided flow of urine from the catheter, much less from the wound.

July 5th, twenty-fourth day. Wound contracting; flow from catheter continues, correspondingly less from the wound.

July 10th, twenty-ninth day. The wound contracted down to a fistulous opening, with slight oozing only; free escape by the catheter.

July 18th, thirty-seventh day. The wound entirely closed; escape of urine in normal quantity and quality without discomfort; catheter removed; general condition excellent.

July 20th, thirty-ninth day. Having hitherto retained the recumbent position, and feeling unusually well, he attempted to sit erect in bed. This effort and change of position occasioned a sudden and acute pain in the pelvis, which compelled him instantly to resume the former position. He compared the sensation to a prick or thrust from a pointed instrument.

This circumstance dispelled all doubt respecting the presence of a foreign body. Accordingly, the following morning the patient was etherized, and a careful exploration of the now healed and consolidated track undertaken. At this stage an entirely different condition of affairs obtained. The swelling had completely subsided, rendering the track not one third its former depth. A probe introduced four inches along the track was arrested by unmistakable evidences of a metallic substance, apparently firmly imbedded in the tissues.

After freely enlarging the opening already made by means of a small lithotomy forceps, I seized and, with considerable difficulty and no little force, removed a fragment of shell of the following form and dimensions: two inches long by one and one half inch in thickness; anterior surface smooth; posterior surface showing points of fracture more or less sharp; weight one ounce.

The treatment which followed was substantially a repetition of the first. Briefly, at the end of six weeks, the wound had firmly healed, and the functions of the bladder were fully and naturally restored.

Five months from the date of the injury, a month at least after he had been walking about the decks, he was discharged and paroled, cured, with the exception of a slight limp, which gave him no pain or inconvenience.

From a careful study of the anatomical relations of the parts involved in the injury, it is evident that the projectile entered the body lengthwise and by its pointed extremity, its course being through the margin of the gluteus maximus, the body of the obturator internus muscles, thence through the obturator foramen, penetrating the bladder, and finally lodging in its walls. If we compare the diameter of the foramen with the greater dimensions of the foreign body, it will become apparent how narrow must have been the escape from a fracture of the pelvis. It is, I think, reasonable, also, to infer that the organ, being distended at the time, offered sufficient resistance to arrest the progress of the intruder, thereby preventing the penetration of both walls of the viscous, and the inflicting of what very likely would have proven a mortal wound.

The late war furnished many cases of shot injuries of the bladder, a large number of which have been carefully collected and graphically described by Surgeon Otis, United States Army, in Volume II, Part 2 of the Medical and Surgical History of the Rebellion. A perusal of this most valuable contribution to surgical literature will richly repay any one interested in this department of military surgery.

Reports of Societies.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

J. B. SWIFT, M. D., SECRETARY PRO TEM.

OCTOBER 30, 1880. The meeting was called to order by Dr. HODGES at 7.45. Sixty members present.

Dr. T. B. CURTIS read a paper on the significance of frequent micturition, which will be found on page 51 in this number of the JOURNAL.

Dr. WHITE inquired whether Dr. Curtis could suggest any reason for the more frequent micturition during the night.

Dr. CURTIS said that he could not; but it was a recognized fact. Contrary to what would be expected, there was an increased secretion during the night.

Dr. CORNELL related a case of frequent micturition in a man seventy years old. He was obliged to rise as many as twenty times during the night. He used the catheter to empty the bladder and obtained great relief.

Dr. AYER thought that the increased frequency at night was due to nervous irritation, and found that in

many cases he could relieve it by an anodyne remedy. The best that he had used was a mixture of the bromide and iodide of potassium in camphor water. It was not always successful, but gave relief in many cases.

Dr. CORNELL inquired if these were cases with enlarged prostate.

Dr. AYER said they were, and thought that the good was accomplished by allaying the general nervous irritation.

Dr. HARLOW had found benefit follow the use of an opiate in some of his cases; the frequency being diminished. He inquired what was Dr. Curtis's treatment.

Dr. CURTIS replied that the treatment depended on the cause. In many of the cases there was inability to empty the bladder without artificial means. The catheter must be used in these cases, and the patient taught to use it. In instituting the treatment, great care should be manifested, as at first cystitis is apt to be excited. He would advise the use of a soft rubber or a Mercier's catheter.

Dr. LYMAN thought that the important practical point was to empty the bladder. He did not think it best to quiet by an opiate. Physicians must be on their guard so as not to allow the bladder to fill, and to do this the catheter must be employed. Must not be deceived by the patients passing water, for they could do this, but could not get the bladder empty. He asked if there was any way of making a differential diagnosis when a fluctuating swelling was found above the pubes, in these cases, except by using the catheter.

Dr. CURTIS thought there was not. The patient could pass urine easily, though the force of the stream may be diminished, and there may be frequent stops; but these were merely presumptive signs, the use of the catheter being the only reliable one.

Dr. HODGES said that in obstructive disease of the prostate one often failed to get relief by not using the right kind of a catheter. We often see patients passing a catheter for years, but still suffering from retention. The trouble was that they were using a silver or stiff catheter. A soft catheter should be used. They may have more trouble in passing it, but Mercier's was generally easily introduced.

Dr. CURTIS said that in some old chronic cases the bladder became so changed in shape that it could not be emptied. The walls are thickened, lose their suppleness, and the floor becomes irregular.

AORTIC ANEURISM.

Dr. F. W. DRAFER presented a specimen of aneurismal dilatation of the arch of the aorta, with indirect hemorrhage into the pericardium. The patient was a woman, sixty-five years old, spare and ill nourished. She was found dead in bed. So far as could be learned, she had not presented any symptoms referable to the heart or great vessels the day before her death; she had followed her usual pursuits, and had retired in her customary habit.

At the autopsy, the pericardium was found fully distended with mingled fluid and clotted blood to the amount of ten fluid ounces. The ascending portion of the arch of the aorta was symmetrically dilated along its convex border, the dilatation being inconsiderable, not above the size of a small lemon. At the upper portion of the arch, immediately to the right of the

opening of the innominate artery, there was a transverse fissure in the intima of the aorta; the edges of the rent were quite regular, and their length was about one inch. The blood escaping through this rent, instead of passing directly upward and outward into the anterior mediastinum, took an indirect course downward and backward, dissecting the sheath of the artery away from the middle coat and, backing nearly an inch beyond the line of union of the pericardium with the aorta, ruptured the pericardium and filled its sac. The rupture was one inch and a half long, with irregular edges, but in general direction parallel with the axis of the artery. The sheath of the artery adjacent to the rupture was extensively dissected from the subjacent coats by the effused blood.

The heart was hypertrophied to a moderate degree, although the aortic valves showed no change beyond very slight thickening of their free margins. The lining of the aorta, not only near the rupture, but above and below, showed distinct atheromatous degeneration, some of the plates being calcareous.

Both lungs were engorged. The other organs of the body presented nothing noteworthy.

DR. DRAPEL remarked that the rupture of an aneurism of such small dimensions must be infrequent, while hæmorrhage into the pericardium from such a source was confessedly very rare.

DR. E. M. BUCKINGHAM reported a case of poisoning by nutmegs. The patient had taken two nutmegs powdered and steeped in water, one of them at nine A. M. and one at one P. M. No symptoms were observed until six P. M., when they appeared suddenly; the head seeming to swell and the extremities to become partially numb. Drowsiness soon followed, but on lying down there was an uncomfortable sensation at the heart, to avoid which she forced herself to walk about. Two grains of tartar emetic, prescribed by the next apothecary, were followed by vomiting at intervals all night. When seen in the morning there was no symptom that could be fairly attributed to nutmeg, except a little numbness, and that wore off in the course of the day. The literature of the subject is limited, but one or two nutmegs have produced drowsiness and delirium, and larger quantities are said to have been fatal.

DR. WHITE asked the result, saying that the oil of nutmeg was an irritant, and was used as a rubefacient.

DR. BUCKINGHAM said the patient recovered. There was vomiting; but whether from the nutmeg or tartar emetic he could not say.

NOVEMBER 13, 1880. The meeting was called to order by DR. HODGES at 7.50. Twenty members present.

DR. H. D. HICKS reported a case of mitral disease with compensatory hypertrophy. After reviewing the anatomy and physiology of the heart, he gave the history of the case as follows: The patient was a merchant, fifty years old. His father died of old age, his mother is still living. With the exception of the last few years his health has always been good. He has been an active business man, exposing himself for years to great fatigue and nervous excitement, doing everything under great nervous pressure. During the last few years he has been exposed to debilitating sicknesses, having suffered with typhoid fever, congestion of the lungs, and intermittent fever. Has had palpitation of the heart for fifteen years. In the prog-

ress of his business he has been accustomed to put great strains upon his heart in running to catch trains, in ascending long flights of stairs, and, above all, in depressing the action of his heart by the habit of excessive smoking. In November, 1878, just after his recovery from intermittent fever and congestion of the lungs, he ran one third of a mile over a rough road, encumbered with a bag and his overcoat. When he reached his destination he was so exhausted, his heart beat so forcibly, and his respiration was so difficult that he was obliged to lie down on the platform of the car, where he remained an hour before he recovered. About a year afterwards, while at lunch, he was seized with a most agonizing pain in the centre of the sternum. This did not last a great while, but upon going back to his business he had another attack of pain over the region of the heart, so violent as to make him stagger. He went home immediately, perspiring profusely, and in the utmost agony. One week later he began to be short-breathed.

On January 1, 1880, after visiting the theatre, he had another attack, which began with a chill. His breathing was difficult, panting in character, and any attempt at lying down was accompanied by symptoms of suffocation. This continued for six days, when his feet and legs began to swell. He was all this time under the care of a homœopathic physician, who at the end of this time was discharged.

Under his new treatment by digitalis he improved so much as to be able to lie down in two days. About January 14th thoracocentesis of the left chest was performed, and a large amount of fluid withdrawn. During these two weeks the digitalis had been given with good effect, but after the tapping he complained of greater dyspnoea than before, and also of violent palpitation of the heart. On suspicion that it might be caused by the digitalis that agent was withdrawn, with relief both to the dyspnoea and the palpitation. On renewing the medicine the troubles immediately returned, and were relieved by withdrawing it again.

The physical examination showed mitral disease with compensatory hypertrophy, and the chief peculiarity of the case was the apparently contradictory action of the digitalis. This was explained by showing that when the drug was first given the hypertrophy was not sufficient to regulate the pulmonary circulation. The withdrawal of the fluid from the chest relieved the lungs, and then the digitalis, by increasing the force of the heart, caused the same condition of engorgement in the lungs which before it had relieved.

DR. F. I. KNIGHT said that the physical signs, a præ systolic followed by a diastolic murmur, mentioned by the reader were very unusual. In the first place, the mitral præ systolic murmur was almost always of a rough, vibratory character, and not a blowing sound, as described by Dr. Hicks; in the second place, there was not sufficient force in the current of blood, when it began to flow from the auricle to the ventricle, to cause a murmur, and hence a murmur distinctly diastolic, that is, beginning with diastole, could usually be set down as due to aortic regurgitation, pulmonic regurgitation being very rare.

In this case the possibility of the præ systolic being due indirectly to aortic regurgitation would naturally suggest itself. As pointed out by Flint, free aortic regurgitation may so float out the mitral valve at the beginning of diastole that when auricular contraction takes place the blood coming from the auricle impinges

on the mitral valve, and sets it into vibration, causing a præsystolic murmur.

This was hardly likely in Dr. Hicks's case as the symptoms (dropsy, etc.) were those of mitral rather than aortic disease.

The reader had done good service in calling attention to the indiscriminate use of digitalis in all cases of heart disease. It was indicated only when the heart was weak, and was decidedly prejudicial in predominant hypertrophy.

Dr. A. N. BLODGETT asked if Dr. Hicks knew of actual disease of the heart produced by tobacco.

Dr. HICKS did not, but thought that it might act as a predisposing cause by weakening the heart, and thus rendering it more liable to disease.

Dr. H. I. BOWDITCH said that he had seen a great many cases of what he called tobacco heart, but never saw one with a valvular murmur. He had seen cases of valvular disease in persons who used tobacco. Considered that the action of tobacco was the same as tea and coffee: all caused functional trouble, but he had never seen a case of valvular disease which he could attribute to either. There is sometimes a slight blowing murmur heard that should not be regarded as due to mitral disease.

Dr. KNIGHT thought that in a case of disease with murmur the question of the effect of tobacco was not sufficiently considered. He thought that organic disease might result from prolonged functional disturbance.

Dr. HICKS did not regard the trouble in his patient as a direct result of his habits, but that the heart had been so weakened that when the strain came it could not stand it.

Dr. J. HOMANS presented an ovarian cyst which he had removed a week ago. The patient was a widow, thirty-two years old, and knew that she had had the tumor four years, though probably it was of much longer duration. It was of the multilocular variety, and weighed twenty-two pounds. The operation lasted twenty minutes, and there had been no untoward symptoms since. She had had one hypodermic injection of one sixth grain morphia the evening of the operation. Her temperature had reached 100° F. only once, and her pulse had been 100 once. In treating the pedicle, he both ties and burns with the cautery.

Dr. BARNES presented a number of round worms which had been found in the feces of a hen.

Dr. BOWDITCH reported a case in order to derive some information in regard to the nomenclature of disease. The patient, a gentleman seventy-four years old, generally enjoyed robust health. He has grown stout lately, which interferes somewhat with his walking. About three weeks ago he had not been well for a few days, but continued attending to his business. Being worse than usual one day, he was obliged to return home. He complained of feeling extremely debilitated, and was found to be suffering with great prostration, the pulse being very feeble. He also had slight pain in the right side. At the base of the right lung behind the respiration was found to be slightly roughened, and it was thought that he was going to have an attack of pleurisy or pneumonia. In a few days fine râles were heard at this place, which soon became coarser. There was no dullness except one day over a small spot in the middle of the back. Never any bronchial respiration nor bronchophony. No cough nor sputa. Pulse rarely over 80 or 90; tem-

perature, taken regularly, varied from 99° F. in the morning to 100° F. at night. Never had any head symptoms.

Bowels were regular, having a healthy, well-formed discharge each day except once, when for twenty-four hours he had nausea accompanied by diarrhœa. As at this time the abdomen was a little flatulent and distended, it was thought that he had typhoid fever, but there were never any rose spots or enlargement of the spleen. Although there was some trouble in the lung, it was not pneumonia. From the first there were no symptoms which are common in typhoid fever, but his colleague called the disease typhoid pneumonia. He wanted to know why it should be called this, when neither disease was present. He thought that it was a misnomer, and rather should be called simple continued fever.

Dr. HODGES asked if anything had been noticed about the perspiration.

Dr. BOWDITCH replied that lately he had perspired profusely, so much so as to annoy him. It had been controlled by atropine and rubbing with a salted flannel.

Dr. HODGES asked if continued fever did not terminate in this way, and if typhoid is not rare at this age.

Dr. HOMANS thought that typhoid and other diseases are not seen in elderly people, because they have had them when they were younger.

Dr. BLODGETT spoke of two cases of cancer in which Chian turpentine had been used. In the first, five hundred pills had been given without any appreciable effect on the disease. The second case had been treated in the same way. After taking between seventy-five and one hundred pills the patient vomited a mass resembling the turpentine, which, on examination, it proved to be.

Dr. BOWDITCH said that he had had no experience with the drug, but a friend had told him that he thought he had seen benefit follow its use, although the disease was now returning.

Dr. CORNELL asked if any physician who was an authority had ever seen any benefit following its use.

Dr. BLODGETT said that Mr. John Clay, of London, introduced the drug, and claimed that he had cured cancer by its use.

Dr. FOSTER spoke of the different temperatures in a heated room on a cold day. He had made some observations on the subject, and found that the temperature was different on the floor, half-way up, and at the ceiling. In some of the rooms he had found a difference of forty degrees between the top and bottom.

Adjourned at 9.20.

— In an exchange we find that Dr. Shorthouse, in the *British Medical Journal*, August 21st, says that, according to his observation, intoxication from wine or malt liquor is likely to cause its subject to fall on his side, whisky brings him down on his face, and cider or perry invariably lays him on his back. He supposes that the different drinks act on various organs of the cerebro-spinal system. A contemporary suggests that, according to this theory, a carefully adjusted mixture of beverages might be devised which should have the effect of exactly balancing the im-

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THE CARTWRIGHT LECTURES ON THE PHYSIOLOGICAL ANTAGONISM BETWEEN MEDICINES AND BETWEEN REMEDIES AND DISEASES, BY PROF. ROBERTS BARTHOLOW, M. D.

NO. II. THE ANTAGONISM BETWEEN OPIUM AND BELLADONNA, CONTINUED.

In his second lecture, Dr. Bartholow completed the discussion of the antagonistic action of opium and belladonna. He said he, in the fatal cases in which the antagonist had been the principal agent employed to counteract the effects of the poisonous dose taken, it could be shown, as he had attempted, that there were good and sufficient reasons to explain the failure, the evidence in opposition furnished by such cases was vastly lessened in importance. When a careful examination of the fifteen fatal cases was made, it would be found that in all of them one of the three following propositions was true: (1) the toxic dose was excessive, acting upon the tissues so long and so profoundly that they were unable to react under the influence of the antagonist; (2) the antagonist was not adequately administered, the quantity given being either too small or too large; or (3) the success of the antagonist was defeated by the failure of some vital organ. In a majority of instances the quantity of the antagonist given was insufficient, and in two the antagonist was given in excess (so that death was undoubtedly due to its preponderating influence), while in six the patients were already in a pathological state. If all the sources of fallacy were eliminated in the fatal cases, therefore, they offered no ground whatever for an adverse opinion as to the reality of the antagonism between the two agents.

The next point was to determine, as near as might be, what was a lethal dose of either poison. This was a difficult matter, and, indeed, it was practically impossible to fix upon any exact quantities, since the tolerance of the drugs varied so greatly in different individuals. In Taylor on Poisons, cases were given where very small doses of morphia, comparatively, proved fatal; and, on the other hand, it was shown that eight ounces of laudanum had been taken without injury. So, a drachm of the fluid extract of belladonna had not proved fatal, while two grains of atropia had destroyed life. Harley had collected a number of cases in which lethal doses had not been fatal, even when no antagonist or other adequate agents had been employed to counteract their effects. In the one hundred and six reported cases in which the antagonistic action of opium and belladonna had

been successfully resorted to in the treatment, it was necessary to ascertain that lethal doses had been taken, and an investigation of them as to this point revealed that in all but two the dose was certainly lethal. In one of the cases thirty grains of crude opium were taken, in one an ounce and a half of laudanum, in one from twelve to fifteen grains of morphia, in one six grains of morphia, in one five grains of morphia, and in one a teaspoonful of belladonna liniment. It was true that a source of fallacy existed in the fact that in the greater number of these cases various agents, such as the stomach-pump, emetics, faradization, ambulation, flagellation, etc., had been resorted to, in addition to the use of the antagonist; but the action of the heart, the respiratory movements, and the state of the pupil exhibited in all of them the recognized special influence of the antagonist. It was a question, indeed, to what extent such violent measures as these just mentioned were actually injurious instead of beneficial to the patient, by exhausting his strength and interfering with the quiet and regular action of the antagonist upon the various organs and tissues. In this connection he quoted Dr. Johnson, of Shanghai, China (who has had an exceptionally large experience in opium-poisoning), who states that when the system is fairly under the influence of atropia, with the breathing regular and tranquil, however slow, it is not only unnecessary but positively injurious to resort to artificial respiration.

The lecturer now proceeded to discuss the results which had been arrived at by experiments on animals, and in the first place he stated that the data furnished by the experiments of the first observers, such as Brown-Séquard, Harley, and others, were unreliable from the fact that the lethal doses were not determined by them. Harley, however, found from his experiments on dogs that when belladonna was given simultaneously with opium it prevented to a greater or less extent the nausea and vomiting occasioned by the latter; that when it was given previously to the opium it completely prevented these effects; and that, whether given previously, simultaneously, or subsequently, it always controlled the state of the pupil and respiration, and relieved impending syncope. He spoke at some length of the later experiments of Koning, Fredrich, Corona, and others, and particularly of those conducted with so much care upon rabbits by the special committee appointed by the British Medical Association in 1871, of which J. Hughes Bennett was chairman. The results derived from all these experimental researches were found to be singularly uniform, although some of the observers had differed materially as to the interpretation of the facts thus determined and the inferences which were to be drawn from them. The experiments, he thought, showed conclusively not only the nature of the antagonism, but the method of this opposed action.

He then went on to examine the nature of the antagonism as it existed in man. In order to do this it was necessary to understand what the action of each agent was, in which particulars their actions agreed, and in what points they differed. In the first place,

what was the action of each in full and in lethal doses? In answering this inquiry Dr. Bartholow gave a minute description of the effects of a full and then of a lethal dose of opium, and followed it with a similar description of the effects of a full and of a lethal dose of belladonna. In man, he continued, it had now been incontrovertibly demonstrated that there was the most marked antagonism in the action of the two agents upon the brain, the pupils, the lungs, the heart, the stomach, and the skin. When they were given together in the proper doses the respiration was maintained in a tranquil and sufficiently natural manner to convince the intelligent observer of the absence of danger. This was well illustrated in the case of Dr. Legg, and in a case which he had personally seen in connection with Dr. Mussey, of Cincinnati. In the latter, a boy eight years of age, the son of a physician, swallowed by mistake an anodyne application, prescribed for earache, which contained two grains of morphia and a grain and a half of atropia. When he was seen, the pupils were fully dilated, the face was flushed, and there was active delirium present. Afterwards sopor succeeded, but as the respiration was calm and deep, it was determined to await the result without making any interference whatever. Both the medical men were agreed as to this being the proper course to pursue, and the event of the case abundantly confirmed its wisdom. In another accidental case, reported by Dr. Cotter, the patient took twelve grains of opium and twenty-five grains of extract of belladonna, and the antagonism between the two agents was very remarkably and beautifully exhibited in the course of the symptoms which followed. At first there was a period of excitement and delirium, when the preponderating influence of the belladonna was easily recognized, and then a period of stupor, in which the opium gained the ascendancy. Then followed another period of excitement, similar to the first, and finally the patient sank into a deep but more natural sleep, from which she awoke relieved.

Such being the results of accidental experiments upon the human subject, he next glanced at the clinical results obtained by experiments made expressly for the purpose of observing the effects of the two agents upon the brain. Mitchell, Morehouse, and Keen concluded that the phantasms and hallucinations caused by atropia were effectually controlled by morphia. These phantasms were perhaps the most constant symptom produced by the former, one twenty-fifth of a grain of atropia almost invariably giving rise to such manifestations; and they found that they were completely dissipated by opium. Harley insisted upon the marked controlling action of morphia over the cerebral effects of atropia; but, strangely enough, he did not regard the cerebral action of the two as antagonistic. Yet he had attained the same practical results as Mitchell, Morehouse, and Keen. In therapeutics opium and belladonna were now frequently given conjointly, in order to get hypnotic effects which were not attainable by either alone. After alluding to the physiological differences in development between the brain of man and that of the infe-

rior animals, on account of which agents like opium and belladonna acted with less severity and in a greater variety of manifestations upon the former than upon the latter, the lecturer announced his conclusion, based both on experimental and clinical researches, that as regards the brain the two agents were antagonistic in their action. When the two were administered simultaneously, if the belladonna preponderated there would be long periods of great excitement, while the more the opium preponderated the less would be the excitement and the more prolonged and marked the periods of sopor.

As a rule, the antagonism was seen in the effect upon the pupil, and Graus had been the first to propose the state of the latter as an indication for treatment; but there were occasional exceptions to this. There were two of these in the one hundred and twenty cases reported: one among the successful cases, where the pupil remained dilated after sufficient opium had been administered to antagonize the belladonna which had been taken, and one among the unsuccessful cases, where the pupil remained contracted in spite of the free use of atropia. As there were no less than twenty cases out of the one hundred and twenty (sixteen of which were instances of belladonna poisoning) in which the state of the pupil was comparatively little affected by the action of the antagonist, the indication afforded by the pupil was correspondingly weakened. Dr. Bartholow then treated at length of the action of the two agents upon the circulation, the respiration, the stomach, the skin, and the kidneys; after which he spoke of the disposition of the poison which was effected. This was accomplished by means of elimination, the antagonists simply being opposed until the process had been completed. Furthermore, the separation and excretion of the poison was greatly promoted by the action of the antagonist in maintaining the tissues in such a condition that they could perform their normal functions. The principal route of elimination was through the kidneys, and it was therefore of great importance that free diuresis should be kept up by means of diluents, though the action of the skin and bowels was by no means to be neglected. Another point of importance was to empty the bladder as soon as any urine had accumulated, since there was reason to believe that alkaloids contained in the urine might be reabsorbed into the blood through the mucous membrane of the bladder. No exact rule could be laid down as to the quantity of the antagonist required in any given case. The best guide was not the condition of the pupil (which, as had been seen, might be deceptive), but the state of the respiration and circulation. If the pulse were full and strong and the respirations deep and rhythmical, the narcotism and the state of the pupils were of little significance. As a rule, it was best to give the antagonist in small doses, frequently repeated, and it had been found that it took almost one twentieth of a grain of atropia to counteract the effects of one grain of morphia.

From a careful consideration of the whole subject, the lecturer submitted the following conclusions:—

Opium and belladonna are antagonistic in their effect on the cerebrum. They are antagonistic in their effect on the pupil, though this is not constant. They are antagonistic in their action on the heart; but the effect of the belladonna is more profound and prolonged. They are antagonistic in their action on the respiration; belladonna promotes the excretion of carbonic-acid gas, while opium diminishes it, with the result of causing carbonic-acid narcosis to be superadded to the primary narcotism. They are antagonistic in their action on the arterial tension; opium slows the heart and paralyzes the arterioles, while belladonna counteracts these effects. The action of belladonna preponderates, however, so that when both agents are given, the rate of the pulse is greater than the mean. They are antagonistic in their effect on the kidneys; opium diminishing the excretion of urine, and belladonna stimulating the action of the organs. They are not, however, antagonistic as regards the bladder, though they act differently upon it. When the system is under the influence of opium, the evacuation of urine is interfered with on account of the action of the latter in dulling the mucous membrane and weakening the power of the muscular coat; while, when it is under the influence of belladonna, the free flow of urine is prevented by the stimulating effect of the drug upon the sphincter.

In therapeutics these agents can be used with great advantage in combination, since certain effects can thus be secured which are not attainable by the employment of either one singly.

MEDICAL NOTES.

—That our readers may have the advantage of an early perusal of Dr. Bartholow's second Cartwright lecture we have been compelled to postpone our editorials and abridge our Medical Notes.

—“In connection with the subject of serial digests, mention may here be made of work which was begun in 1872 in the Boston Medical and Surgical Journal, entitled Reports on the Progress of Dermatology, by Dr. James C. White. These semi-annual reports have been marked by well-selected abstracts of the more important papers of the time, and have proved a reliable guide to the general practitioner.”—*Dr. Duhring's Address before the Dermatological Association.*

—The late Dr. Edward I. Sparks, who is the subject of obituary notices in the English medical journals, was a man of unusual activity. Since 1865 he was a sufferer from pulmonary phthisis, and since 1876 from Bright's disease. From his twenty-second year he has never been really well. Instead of yielding to despair and hopeless invalidism, he has been a most indefatigable worker. In 1863 he gained a traveling fellowship, and was known to many Americans in Vienna as a most industrious student, chiefly in Hebra's clinic. Of his own case he made a careful study, and recorded his experience for the benefit of others. For months together he subjected himself to experimental dieting, conducting at the same time an

elaborate chemical examination of his urine, recording his investigations in a paper on the effects of diet, rest, and exercise in albuminuria. In 1877 he published a translation of Binz's Therapeutics, and quite recently The Riviera: Sketches of the Health Resorts of the North Mediterranean Coast of France and Italy. In addition he has been a frequent contributor to the medical journals.

His whole life was a “protest against ignorance, idleness, and doubt.”

—“*Guy's Hospital Gazette* pertinently remarks,” says the *Medical Press and Circular*, “The nursing difficulty will be altogether obviated when the hospital is emptied of patients. The wards are in a somewhat chaotic condition in consequence of the closing of so many beds.”

—Gratifying expressions of pleasure at the success of our educational number come to us from various professional pens as well as from students, who find its information valuable. Good authority in one of our largest medical centres calls it the most successful effort at a student's number ever published by an American journal.

—The most simple and reliable test for arsenic in wall papers is the immersion of a piece of the suspected paper in strong ammonia in a white saucer or plate; if the ammonia turns blue the presence of a salt of copper is proved. Then drop in a crystal of nitrate of silver; if arsenic be present the crystal will become coated with yellow arseniate of silver.

NEW YORK.

—Just before sailing for England, Mr. Thomas Hughes was given a very handsome reception by Dr. C. R. Agnew, at his residence on Madison Avenue, and most of the distinguished men in New York, of all professions, were present on the occasion.

—Brevet Brigadier-General Richard S. Satterlee, United States Army, died at his residence in New York on the 10th of November, in the eighty-third year of his age. He was born in New York State, but entered the army from Michigan, as assistant surgeon, in 1822; from which time until his retirement, in 1869, he was in active service. In 1837 he was appointed medical director for the force of General Taylor in Florida. Afterward he served in the Cherokee campaign under General Scott, and in the Mexican war he was chief surgeon of the first division of the regular troops under General Worth. He was also medical director of General Scott's army during the advance on the City of Mexico and during the occupation of that city. He was one of the survivors from the wrecked troopship, San Francisco. During the civil war he was stationed at New York as chief medical purveyor to the army, and his administrative ability, involving the faithful disbursement of over twenty million dollars, gained for him rapid promotions to brevet lieutenant-colonel, colonel, and on September 2, 1864, to brigadier-general. His funeral, at the Church of the Holy Communion, on the 13th of November, was attended by the Fellows of the New York Academy of Medicine, of which he was an honorary member.

Recent Literature.

The Nature and Treatment of Syphilis and the Other So-Called "Contagious Diseases." By CHARLES ROBERT DRYSDALE. Fourth edition. London: Baillière, Tindall and Cox. Pp. 172.

A little book, published in 1863, with the title, *On the Treatment of Syphilis without Mercury*, being a Collection of Evidence to prove that Mercury is a Cause of Disease, not a Remedy, was, to the best of our knowledge, the first edition of the present volume. In the same year Dr. Drysdale read a paper on the same subject before the Harveian Society, which gave rise to a discussion which lasted over two meetings and was the cause of several communications in the medical journals. In this first edition utterance was given to the sentiment that "mercury now holds its place among the list of remedies solely from its having been used by the practitioners of the past, without any sufficient evidence that it is ever of the slightest service." During the intervening years the author has come to hold a somewhat different—certainly a modified—opinion. On page 88 he says, "As I had found syphilitic sarcocele, tertiary sore throat, ozæna, and ulcers of the skin occur frequently enough in my own non-mercurial treatment, I resolved to give the mercurial treatment a fair trial, and see whether it would prevent the dreaded tertiary stage." Had he then proceeded to give us his own conclusions or a detailed account of his cases, treated with and without mercury, from which the reader could draw his own inferences, he would have produced a book whose value would far exceed that of the present volume. Unfortunately, however, he "hopes that any honest student will be able to make up his mind from the evidence before him without any need of dogmatic assertion" on the author's part. The chapters on treatment are made up for the most part of undigested extracts from various authorities of their opinions, *pro* and *con*, in regard to the use of mercury. The opinion of the author himself is apparently summed up in the following somewhat indefinite extract taken from the last page: "It is now well known that hosts of cases do well without mercury. At the same time it is now clear that mercury in very small doses does not damage the health, and as there is a very great consensus of opinion as to its antidotal value in hard sore and in true syphilis, the rational solution of this question would seem to be that mercury is only to be administered in these very small doses, and never pushed as it used to be. . . . In short, the mercurial treatment of syphilis, is one which, in many cases, is of doubtful benefit, and which, if made use of, must not be expected to do too much."

He has used for the past three years at the Rescue Society a pill of one centigramme of the iodide of mercury twice a day. There have been no unpleasant symptoms from this dose. Patients have done well, and there have been few cases of severe complications.

The book is in general a compact history of venereal, with extensive references to a very wide circle of writers, and would prove a very valuable guide to any one desiring to acquaint himself with the literature of the subject, though scarcely intended for a text-book. The glimpses we obtain of the author make us wish he had shown himself more freely and at greater length.

P.

Miscellany.

LETTER FROM LOUISVILLE.

FROM OUR SPECIAL CORRESPONDENT.

Societies in Louisville.—*Revival of the College of Physicians and Surgeons.*—*Reminiscences of an Ethical Period.*—*No Pharmacists need Apply.*—*Low-Fee Culprits.*—*The Biggest Fee taken in Kentucky.*—*Charges that Miscarried.*—*A Lively School Fight.*—*Stormy Petrel.*—*Reformation and Good Resolves for the Future, etc., etc.*

LOUISVILLE is well provided with medical societies. There is the Medical Section of the Polytechnic, which meets every now and then, and talks to the shorthand reporter; the Medico-Chirurgical (limited), which convenes every fortnight at members' houses, and discusses supper and physics with much earnestness, I am told; the Pathological, which sits with closed doors; and there is, or was at some time, the Obstetrical Society of Louisville. I have not seen it, nor seen anybody yet who has seen it, but now and then, coming across its name in the inverted pyramids of title-page honors which accompany the names of several foreign and domestic specialists, I judge that it must be somewhere hereabouts. Greatest of Louisville societies, however, is the College of Physicians and Surgeons. The other bodies are more or less limited in scope and membership, and are all of comparatively modern date. The college has been the common rendezvous of the profession for nearly these fifty years,—that is, barring the intervals when its doors have been closed. It is a champion sleeper. Its last drowse extended through a period of more than three years,—the longest slumber that it has ever indulged in, though on sundry occasions it has taken a twelve months' nap. But the society, when it does live, lives lively,—drains the wine of life to the bottom; and its periods of rest follow not unnaturally upon debauch. My earliest recollections of the profession are connected with the revival of the College of Physicians and Surgeons, and I learned then that this was only one of a series of such occurrences. A crack speaker was up, and, growing eloquent upon his theme, said, "Mr. President, I do not want this society to die. I was present at its birth; I witnessed the throes of its delivery; I saw it christened and dedicated to its work; I"—But here a painfully statistical member interrupted him, and showed him the date of its charter,—some time in the thirties,—at a time when the orator himself was not far removed from obstetrical procedure. Abashed for a moment only, however, the gentleman added, "It is evident, Mr. President, I was not present at the birth of the college." We laughed a great deal, but the speaker was not wholly wrong in what he had said. It was simply a previous revival which he had in remembrance,—one of the periodic new births which the society had been going through. Since the event referred to, the college has had two additional revivals: one after the lapse of a year, and the other which took place last week, when it was called together for the first time since the spring of 1877. Two meetings have been held, with fair attendance and excellent debates, and I have no doubt that I shall have occasion to send you interesting items from the future work of the society; but it occurs to me just now that an account of some of the past episodes of the college may prove

more readable and instructive than the record of its opinions on typhoid, which subject it has just been employed in discussing. You were so lately engaged in reviving or originating—I don't know which—your code of ethics for Boston, that you may care to have a clinical report upon a kindred subject. The College of Physicians and Surgeons was fearfully ethical once. I trust its members are still not behind in performing their duties to each other and to the profession, but eight or ten years ago it had a most extraordinary run in this direction. If I remember rightly, about that time an ethical wave swept over the country, and it beat with full force upon the profession of Louisville. The college had always an eye open—its best eye—for the detection of any infringement of the code, and it was seldom that its docket was cleared of real or fancied culprits. The first notable event of my times was in connection with a celebrated chemist and pharmacist,—a man somewhat on the "Doctor Squibb" order. He was very well received in medical circles: had been, in fact, a professor of chemistry in the University, and was a member of the college. Some one discovered, however, that he sold drugs, after his sign to that effect had been hanging out for a dozen years. I believe, too, it was charged that he had invented a hair oil, or tonic, or something or other, and he was hauled up to show cause why he should be a member of the college. There was a rattling debate about his case for several evenings. He had quite an influential backing. One of his friends was a scientist who is now a corresponding member of the French Institute, and another was the wealthiest practitioner of the city. The latter gentleman unfortunately let slip the word "tomlology" in some side remarks he was making. The house grew painfully quiet, and a moment or so passed before one of the Fellows recovered sufficiently from rage and emotion to call him to order. The chairman, with the air of all the Doges, demanded instant apology. The objectionable term was withdrawn, but we never saw the member again after that evening, nor the future correspondent of the Institute, nor yet the doctor, chemist, and pharmacist, as he was given the grand bounce.

Just after this occurrence another opportunity for discipline arose on the question of fees. A very well-known practitioner had done some service for which he had been paid the sum of seventy-five dollars. How the particulars of the case came to the ear of the college I never knew, but the exact number of visits was reported, together with the amount paid therefor. This was below the schedule, and the college took the matter in charge. The accused gave as his defense that a number of the visits had been of a friendly and not professional nature, but the college held that it could not make such discriminations. In mercy to the prisoner, they entrusted the affair to a committee composed of his personal friends. They slaughtered him, however, and made him eat humble pie in the shape of a written apology. The penalty was total taboo, and it was a brave spirit that could defy it.

Quickly following on this case came the bout with the insurance companies. The American Medical Association had recommended that the fee for life examinations should be five dollars. The mass-meeting of physicians had indorsed it, and the college determined that its members, at least, should observe the decree. Two of these disobeyed, one the vice-president. They refused to appear, and were promptly expelled and

put beyond the pale of recognition. One of the gentlemen brought suit, retaining for his counsel an ex-attorney-general of the United States, but the college won in both lower and upper courts. Years afterward, weary of bearing the scarlet letter of the college, the two expelled members apologized, and were received back in the fold. Several other minor offenses against the schedule were tried, and then, low-fee culprits becoming scarce, the college happily lighted upon a couple of preternaturally high ones.

It was a curious episode. A celebrated lawyer from Pennsylvania, once not wholly unconnected with Mr. Buchanan's cabinet, was traveling towards Texas to look after a land case in that land-abounding territory. Rumor said that his expectant fee was fifty thousand dollars. Cogitating upon this, perhaps, or some other pleasant topic, with his arm resting on the sill of a Louisville and Nashville railway coach, it was brushed by a passing train. Of course it was not a very proper place for an arm to be, but unfortunately for the railway the trains themselves brushed, showing there was not a proper space between the tracks at that point. At any rate, the arm of a forensic giant was broken, and broken badly. The case fell into the hands of one of our great surgeons. There were a score or so of fractures, compound, comminuted, and complicated, not to mention incidental sprain. The magnitude of the injury was great, and lost nothing in the imagination nor in the recital of its young and longing and admiring friends of the party of the surgical part. Quoting now from the rumor of ten years ago, I probably may have recorded a break or two in excess, but it was a big case and a good cure. The fee charged was three thousand dollars for the principal surgeon and fifteen hundred dollars for the consultant. Other items brought the charges up to the neighborhood of five thousand dollars. The road demurred, but the surgical gentleman, equally at home in diplomacy as in splints, quietly informed the complaining president, who had visited him concerning the matter, that he had no account against the company; that simply as a matter of courtesy, at the company's request, he had exhibited the amount of his fee against the patient. The patient had declared the sum to be a mere bagatelle, and was ready at any moment to pay it. He had deferred doing so only because the company had requested that privilege. Moreover, it was unpleasant to his feelings that there should be any biggling about the matter. There was no more, and the checks bore the signature of the company's treasurer. They were the biggest fees ever taken by Kentucky doctors, and created much talk. As I have said before, the college, being out of business at the time, droning along on some pathological affairs, seized on the matter as an admirable opportunity. The members who had bagged the dollars were hauled up on the charge of extortion, and there was a lively time again. I do not remember how many nights and intervening days were spent in the matter, but there rises vividly before me now the full benches and the acrid speeches of the occasion. The envy of the extortion crowd was ill concealed, and the principal prisoner at the bar was able to turn the opportunity to his further advantage. Skilled as he was, however, in such tactics, he came near losing his ground. He was reviewing the code of ethics under which the charges had been made, and in an unfortunate moment cast some doubt upon its justness. Had a member of presbytery in Calvin's time called in question plenary inspiration of the Script-

ures, the effect could not have been greater. A watchdog of the constitution and the code, who had previously intimated that he had at one time done similar service for two hundred dollars, and failed to make impression thereby, now seized the opportunity of calling the gentleman to order for reflecting upon the organic law of the society, and the hit was tremendous. The speaker was staggered. His eloquence flowed but a few minutes longer, and in more conservative channels, and then he took his seat. The extortion charges never came to a vote, and the college is not committed against any fee, beyond the minimum, which a member may be so fortunate as to secure.

The affair of charges, however, did not all go one way. There was one notable exception that I remember. A man had fallen out of a hotel window, and had broken his thigh. A couple of neighboring doctors had taken him in charge and moved him to an infirmary. The wife of the injured man, who was not present at the time, on hearing of the accident, had sent for the surgeon of her choice to repair to her husband's assistance. He went to the infirmary, sent up word that he was in the building, and awaited the pleasure of the attending physicians. Answer was brought back that his services were not desired, and he retired. While musing upon what might have been the occasion of such treatment, information was brought to him that charges would be preferred against him for "interference with the case of a brother practitioner." The college was to meet that evening.

The surgeon was a small man, but exceedingly prompt. He invaded his accusers' offices. They were separately sorry that they had misunderstood matters, but separate sorrow did not satisfy him. He demanded conjoint contrition and aggregated apology from the two, and he got it. So beyond the rumor that the delicious event would probably transpire, the college was denied the pleasure of the affair.

There were many other ethical troubles about this time. A member was up for being examiner of a co-operative insurance company at a fee of one dollar, and defended his position on the ground that it was a charitable association. After worrying him a while they allowed him to resign. There was an anatomical row, curious and unpleasant, and a big tilt between the specialists, one of whom had underrated another's ability in solving some visual equation.

One of the principal causes of all these troubles was of course the schools, which are found in vast numbers in this community. These were not often named in the encounters, but it was plain to see what was the spirit of individual prosecution. One of the hottest encounters, too, was directly over a school matter. A very young man had been appointed to the chair of chemistry, and a journal edited by one of the members had decreed the policy as detrimental to the general good of education, public welfare, etc. A veteran in the profession, an ancient warrior, too, who had for many years occupied the chair to which the young man in question had in time succeeded, defended the general policy of such appointments before the college. He was tart enough, to be sure, to include in his remarks an attack as well as a defense, but he was a skillful parliamentarian, and got in his work under strict rules of order. Of course the answer was to come, and at the next meeting the arena was crowded. It was a carefully prepared answer, full of gall to the brim. Taking for a text *The Injury of the Public*

Welfare by the Appointment of the very Young to Important Offices, the gentleman drew entirely upon his antagonist's career for illustration. He had been made a professor when very young, and every ill imaginable had followed as a necessary sequence to the profession and society in general. He was more than an hour in reading his brief. We did not have to wait another week for a reply. The gentleman was scarcely seated before the veteran rose, and for a half an hour or more, to put it in classic phrase, the fur flew from the prosecutor of youth. Order had been too flagrantly violated in the speech which had preceded for the chairman to interpose now with any appearance of fairness, and the return fire was as pointed as it was hot. It closed with the old distich, —

"On one so lame I scorn my sword to draw,
On one so poor I cannot take the law."

And then the college adjourned, amidst great confusion.

If such events as these did no other good, they kept the benches of the college full. There was no staying away. It was made a matter of personal and party fealty to be on hand. The red cross was sent around regularly for the field nights, and there was no escaping the party whip. Dozens of men attended who never opened their mouths except to say aye or nay. I remember especially a very amiable gentleman, who did not take a great interest in society affairs, but who was in the "hands of his friends," and could always be counted on for important divisions; we used to call him "stormy petrel," for his pre-ence was a sure indication that the wind was expected to rise.

This is a long letter to write about reminiscences, and they may not be as interesting to those who read them as to him who, sitting by his quiet fireside to-night, recalls those troubled times and restless spirits of years ago; some have sobered down to plodding ways, and many are asleep on the hill side over against the town. They were all honest, I hope, and thought they were doing best for the profession in which we are all striving to win remembrance and bread; but there is a moral in the tale. I beg you to believe that it is not the picture particularly of professional life in Kentucky. I dare to think that similar scenes have transpired and will transpire when ethical blood is up elsewhere. That crimination will lead to recrimination and charges to counter-charges is a trait of human nature which even angelic doctors on Beacon Street may not escape. In Louisville the evil worked its own cure. Possibly, everybody who needed reforming was attended to; at any rate, the College of Physicians and Surgeons removed the consideration of ethics from the general body of the society, and placed such matters in charge of a special committee, which soon found little work to do. It is seven years now since we have had a medical trial in this city. In the absence of the party whip, meetings were not so well attended, but such as did come generally contributed to excellent and instructive debate. Why the college has lapsed during these last three years I will not detain you to consider. School interests have ceased to clash; the profession is at a peace positively lamb-like when we consider that there are four colleges here and three journals, which might be thought to disturb it; and we can fondly indulge the hope that the meetings of our great society may, during this new lease of life, be characterized by all the quietude, dignity, and usefulness which should belong to such a representative body.

TENDON LIGATURES.

MR. EDITOR.—In a recent number of the JOURNAL Dr. Otis has called attention to the use of whale tendon for ligatures.

I confess to never having used or seen properly prepared animal ligatures, but it occurs to me that the strong tendon from the back of the ox could be used to serve the same purpose.

This part of the buffalo or ox is commonly dissected out by the American Indians. It is simply allowed to dry, when it serves the purpose of a hank of thread. Small pieces are split off for sewing, and used without twisting, while bow-strings are formed by twisting together larger portions. They are made flexible by moisture. I inclose a few fibres obtained from the butcher shop, and remaining in an entirely unprepared state.

I would be pleased to learn from some expert whether or not ox tendon is suitable for animal ligatures, and, further, if suitable, whether it is of any special advantage to twist together many finely split fibres. Apparently, all that is necessary is to split out portions of the sizes desired, which may be kept dry, and moistened for use or immersed in carbolized oil. Perhaps a twisted ligature could be tied more securely. Whale tendons are not yet in the market, at least not so far from salt water as Iowa, and we would like to

know if the ox may not furnish a substitute. Very truly,

IRVING W. SMITH, M. D.

CHARLES CITY, IOWA, November 3, 1880.

MEDICAL EXPERTS.

MR. EDITOR.—I have read with interest and general approval Dr. Draper's paper and proposed act on the subject of Medical Experts. But does it not do some injustice to the general practitioner? According to this act, the attending and consulting physicians of a person injured or said to be injured by the neglect or crime of another can be summoned only as ordinary witnesses, and receive only the ordinary fees. They may be as learned and skillful as the court experts, their time may be just as valuable, they may have to testify on points involving great professional knowledge, may be detained days in court, may be, in many cases, the only witnesses from whom trustworthy medical evidence can be obtained, yet their services must be practically given away, and they themselves placed in a position of professional inferiority before the court. This seems hardly a pleasant prospect. Yours respectfully,

EDWARD T. WILLIAMS, M. D.

ROXBURY, November 5, 1880.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 13, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diphtheria and Croup.	Lung Diseases.	Scarlet Fever.	Typhoid Fever.
New York.....	1,209,561	605	240	20.66	11.40	14.21	4.63	.33
Philadelphia.....	501,380	287	87	19.16	5.23	5.92	2.79	4.53
Brooklyn.....	566,689	248	107	31.85	25.00	19.76	1.21	.40
Chicago.....	503,298	178	81	27.53	20.23	7.87	2.25	.56
St. Louis.....	—	—	—	—	—	—	—	—
Baltimore.....	395,796	130	49	19.23	6.15	5.38	4.62	3.08
Boston.....	363,938	170	60	20.59	16.47	13.53	—	.59
Cincinnati.....	280,000	77	28	19.48	3.90	9.09	3.90	3.90
New Orleans.....	210,000	—	—	—	—	—	—	—
District of Columbia.....	180,000	66	30	15.15	4.55	1.52	—	—
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,649	56	16	30.56	12.50	8.93	10.71	7.14
Buffalo.....	155,159	54	23	33.33	20.37	3.70	5.56	3.70
Milwaukee.....	127,000	60	29	23.33	10.00	11.67	8.33	1.67
Providence.....	104,862	39	7	25.64	12.82	2.56	7.69	5.13
New Haven.....	63,000	28	10	21.43	7.14	3.57	—	—
Charlotte.....	57,000	28	5	7.14	—	17.86	—	7.14
Nashville.....	43,543	13	3	30.77	7.69	7.69	7.69	—
Lowell.....	59,340	19	7	15.79	10.53	—	—	—
Worcester.....	58,040	25	10	28.00	—	16.00	16.00	8.00
Cambridge.....	52,860	13	5	15.39	7.69	—	—	—
Fall River.....	48,646	19	6	21.45	—	10.53	—	5.26
Lawrence.....	39,068	8	5	37.50	12.50	—	—	12.50
Lynn.....	38,376	18	7	27.78	22.22	—	—	5.56
Springfield.....	33,536	7	3	42.86	28.57	14.29	14.29	—
Salem.....	27,347	11	5	27.27	18.18	18.18	—	9.09
New Bedford.....	27,268	8	3	25.00	25.00	12.50	—	—
Somerville.....	24,964	6	—	—	—	16.67	—	—
Holyoke.....	21,961	9	5	11.11	—	44.44	—	—
Chelsea.....	21,780	5	—	20.00	—	—	—	—
Taunton.....	21,145	10	2	20.00	10.00	—	—	10.00
Gloucester.....	19,288	4	1	50.00	—	25.00	—	50.00
Haverhill.....	18,478	3	—	33.33	33.33	—	—	—
Newton.....	16,994	8	3	62.50	50.00	—	—	12.50
Newburyport.....	13,470	4	3	75.00	75.00	—	—	—
Fitchburg.....	12,270	3	—	33.33	—	—	—	33.33
Eighteen Massachusetts towns.....	138,419	48	10	18.75	8.33	6.25	—	8.33

Deaths reported 2267 (no returns from St. Louis or New Orleans); 850 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 521, consumption 339, diphtheria and croup 283, lung diseases 247, scarlet fever 75, typhoid fever 51, diarrhoeal diseases 42, small-pox 19, whooping-cough 16, malarial fevers 12, erysipelas 10, cerebro-spinal meningitis nine, measles four. From *typhoid fever*, Philadelphia 13, Baltimore and Pittsburgh four, Cincinnati three, New York, Buffalo, Providence, Charleston, Worcester, Gloucester, and Brockton two, Brooklyn, Chicago, Boston, Milwaukee, Fall River, Lawrence, Lynn, Salem, Taunton, Newton, Fitchburg, Quincy, and Beverly one. From *diarrhoeal diseases*, New York 18, Brooklyn five, Boston and Cincinnati three, Chicago, Baltimore, District of Columbia, and Nashville two, Buffalo, Milwaukee, Lowell, Fall River, and Holyoke one. From *small-pox*, Philadelphia 18, Brooklyn one. From *whooping-cough*, New York and Baltimore four, Boston three, Chicago two, Philadelphia, Cincinnati, and Worcester one. From *malarial fevers*, District of Columbia four, Brooklyn three, New Haven two, Baltimore, Buffalo, and Chicago one. From *erysipelas*, Chicago three, Brooklyn and Cincinnati two, New York, District of Columbia, and Lawrence one. From *cerebro-spinal meningitis*, New York three, New Haven two, Brooklyn, Chicago, Milwaukee, and Chelsea one. From *measles*, Fall River two, Brooklyn and Cambridge one.

One hundred and thirty-nine cases of measles, 40 of scarlet fever, six of typhoid fever, four of small-pox, and one of measles were reported in Brooklyn; diphtheria 57, scarlet fever 26, in Boston; scarlet fever 37, diphtheria 20, in Milwaukee; scarlet fever nine, diphtheria four, typhoid fever two, erysipelas one, in Providence; scarlet fever five, diphtheria two, typhoid fever two, in Cambridge; diphtheria 11, scarlet fever nine, in New Bedford.

In 37 cities and towns of Massachusetts, with a population of 1,057,198 (population of the State 1,783,086), the total death-rate for the week was 19.68, against 19.54 and 18.83 for the previous two weeks.

For the week ending October 23d, in — German cities and towns, with an estimated population of 7,584,226, the death-rate was 23. Deaths reported 3356; 1614 under five: pulmonary consumption 449, acute diseases of the respiratory organs 205, diphtheria and croup 146, scarlet fever 98, typhoid fever 72, whooping-cough 59, measles and rotheln 20, puerperal fever eight, small-pox (Königsberg, Magdeburg) two. The death-rates ranged from 13.8 in Barmen to 31.6 in Cologne; Königsberg 25; Breslau 23.4; Munich 25.6; Dresden 18.9; Berlin 26.4; Leipzig 17.6; Hamburg 21.3; Hanover 23.5; Bremen 23.9; Cologne 31.6; Frankfurt 17.6.

For the week ending October 30th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 22.6. Deaths reported 3244: acute diseases of the respiratory organs 333, scarlet fever 167, diarrhoea 119, whooping-cough 63, measles 57, fever 47, diphtheria 18, small-pox (London) two. The death-rates ranged from 19 in Bradford to 28 in Hull; Leeds 20; Sheffield 21; London and Birmingham 22; Bristol 23; Manchester 24; Liverpool 27. In Edinburgh 22; Glasgow and Dublin 35.

In the 20 chief towns in Switzerland for the same week, population 522,856, there were 23 deaths from acute diseases of the respiratory organs, diarrhoeal diseases 13, diphtheria and croup six, typhoid fever four, small-pox three, scarlet fever two, small-pox two. The death-rates of the principal cities were: Geneva 22.1; Zurich 22.5; Basle 25.5; Berne 25.8.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mem.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.	
1880.																				
Nov. 7	29.690	50	63	43	71	34	39	48	SW	W	W	20	26	18	O	C	F	6.20	.38	
" 8	30.052	43	54	36	63	31	42	45	W	W	W	8	14	9	C	C	C	—	—	
" 9	30.226	52	63	39	58	36	54	49	W	SW	W	7	6	8	O	F	C	—	—	
" 10	30.353	45	58	40	74	52	54	70	NW	SE	S	5	7	1	C	C	O	—	—	
" 11	29.935	50	58	42	85	100	93	93	SE	SE	W	10	13	8	O	R	C	9.00	.41	
" 12	30.022	46	57	40	68	41	45	51	SW	W	W	20	20	21	C	F	F	—	—	
" 13	30.239	36	46	35	53	43	45	47	W	W	W	8	16	16	F	O	O	—	—	
Week.	30.074	46	63	35					W	W	W							15.20	.79	

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM NOVEMBER 13, 1880, TO NOVEMBER 19, 1880.

TAYLOR, M. K., captain and assistant surgeon. To report in person to the commanding general, Department of the East, for assignment to duty. S. O. 242, A. G. O., November 12, 1880.

WOOD, M. W., captain and assistant surgeon. Assigned to duty at Fort Brady, Mich. S. O. 201, Department of the East, November 12, 1880.

TESSON, L. S., captain and assistant surgeon. Granted leave of absence for six months, with permission to go beyond sea. S. O. 244, A. G. O., November 15, 1880.

SATTERLEE, RICHARD S., lieutenant-colonel and brevet brigadier-general, chief medical purveyor, United States Army, retired. Died at New York city November 10, 1880.

GYNÆCOLOGICAL SOCIETY OF BOSTON.—The next regular meeting will be held in the Medical Library rooms, 19 Boylston Place, on the first Thursday of December, at 10.30 A. M. There will be a discussion of Dr. A. P. Clarke's paper upon Rapid Dilatation of the Cervix Uteri; also a paper by Dr. E. White upon Pelvic Cellulitis, with Abscess. The profession are invited.

HENRY M. FIELD, M. D., Secretary.

THE MEDICAL DEPARTMENT OF DARTMOUTH COLLEGE held its annual commencement upon November 16th, and conferred the degree of M. D. upon the following gentlemen:—

Edward Abbott, Charles Hardy Bailey, William Fairchild Baldwin, Milo Blodgett, Edward Hervey Currier, William Hale Currier, Fred Lorin Dixon, Charles Fremont Flanders, Milo James Gale, Charles Goodspeed, Frank Clark Granger, M. D., John Goodrich Henry, B. S., Charles Edward Jenkins, Freeman Ann Libby, Frank Brown Morrill, George Carlton Parker, Charles Wesley Pillsbury, Carroll Everett Proctor, Charles Harvey Shattuck, Jr., Austin Wilbur Sidney, James Henry Telbott, Arthur Burdette Thurston, Simeon D. Treible, Huel Tyler.

SUFFOLK DISTRICT MEDICAL SOCIETY.—A regular meeting will be held at the hall, 19 Boylston Place, on Saturday evening, November 27th, at seven and a half o'clock. The following papers will be read: Dr. B. Joy Jeffries, Removal of a Piece of Iron from the Eye by the Electro-Magnet. Dr. H. W. Bradford, Exhibition and Description of the Electro-Magnet. The discussion will be opened by Dr. C. H. Williams.

All members of the Massachusetts Medical Society are cordially invited to be present, and to take part in the discussion. Supper at nine o'clock. H. C. HAYES, M. D., Secretary.

Lectures.

THE CARTWRIGHT LECTURES ON THE PHYSIOLOGICAL ANTAGONISM BETWEEN MEDICINES AND BETWEEN REMEDIES AND DISEASES.

BY PROFESSOR ROBERTS BARTHOW, M. D.

THIRD LECTURE. THE ANTAGONISMS BETWEEN ATROPIA AND PHYSOSTIGMA, PILOCARPINE, MUSCARIA, QUINIA, BROMAL HYDRATE, AND ACONITE.

DR. BARTHOW first treated of the antagonism between atropia and physostigma. The extract and the active principle, eserine, — or, as it was sometimes called, physostigmine or calabarine, — were the preparations used to procure the physiological effects of the latter. After a brief historical sketch of the investigations which had been made on the subject, he described the physiological action of physostigma. This agent, he said, did not affect the cerebral functions, but it contracted the pupil, paralyzed the voluntary muscles (though it did not impair sensibility), increased secretion, energized the heart beats, raised arterial tension, and caused death by paralysis of the respiratory muscles. The points of difference between its action and that of atropia were found to be: on the brain, atropia causing delirious excitement with hallucinations and illusions, while physostigma did not affect this organ at all; on the pupil, atropia causing dilatation by stimulating the radiating fibres innervated by the sympathetic, and physostigma causing contraction by paralyzing the radiating fibres; on the respiration, atropia stimulating the respiratory centre, and physostigma paralyzing the muscles of respiration; on the heart, atropia increasing the rate of movement without adding to the power, and physostigma increasing the power without hastening the movements of the heart; on sensation, atropia drying the mouth and arresting the secretions of the intestinal tube, and physostigma increasing the salivary flow and the secretions of the whole intestinal canal; on the voluntary muscular system, atropia causing paralysis of the motor nerves, and physostigma producing spinal paralysis. As regards the lethal effects, the tendency to death by paralysis of the respiratory muscles produced by physostigma was overcome by atropia.

The first sustained and sufficiently extended experiments made to test the antagonism were those undertaken by Dr. Barthow himself in the year 1868. While he acknowledged the superiority of the researches made by Frazer, of Edinburgh, he respectfully submitted that his own investigations, as published in the prize essay of the American Medical Association (1869), clearly preceded those of the latter by a year. In his historical review Professor Frazer had not sufficiently, he thought, put his claim on its proper basis. In quoting from the essay mentioned he took one or two sentences from the general conclusions which did not adequately convey the whole meaning of his (Barthow's) researches. The following quotation was an epitome of Frazer's views: "Atropia is not a physiological antagonist to physostigma except in regard to their action on the organic nervous system. It would be improper, then, to use atropia against poisoning by calabar bean."

The lecturer then went on to state that his conclusions had been confirmed by subsequent investigations:

the antagonism existing in the actions on the nervous system of organic life, as he had demonstrated. His conclusions were that atropia and physostigma were antagonistic as to their influence on the respiratory movements, atropia increasing and physostigma retarding them; that they were antagonistic in their action on the heart, atropia causing increased action, and physostigma paralyzing this system; that they were opposed in respect to their action on the sympathetic, atropia causing increased action, and physostigma paralyzing this system; that they had opposite effects on the pupil in virtue of opposite effects on the sympathetic, atropia dilating the pupil by its action on the radiating fibres of the iris, and physostigma contracting the pupil by paralyzing the radiating fibres.

Dr. H. C. Wood said, in his work on Therapeutics, Materia Medica, and Toxicology, "In 1869 Prof. Roberts Barthow, of Cincinnati, on the strength of a few really indecisive experiments, arrived at a conclusion opposite to that of Bourneville." Dr. Wood, Dr. Barthow contended, had absolutely no warrant for this positive assertion. So far from his coming to a conclusion opposed to that of Bourneville, it was to the same purport, and based on a number of really decisive experiments. Historical accuracy was of some moment, and no man wished his proper opinions mangled and distorted by others.

He then took up the special points of antagonism separately, and gave a *résumé* of the conclusions at which various observers had arrived after extended researches concerning them. Among these the most conspicuous, and that which first suggested the existence of the antagonism, was the effect on the pupil. Marked differences of opinion existed as to the mechanism of the antagonism. By some the contraction of the pupil caused by eserine was referred to a paralyzing action on the dilator fibres, and by others to a spasm of the sphincter fibres. That the latter view was correct seemed supported by the effect of physostigma on the muscular layer of the intestine, which was to induce tetanic contraction or spasm. Further, when the pupil was contracted by eserine, the contraction was readily overcome by atropia. The delirium, hallucinations, and illusions caused by atropia were in no respect affected by physostigma. In all the instances of poisoning by calabar bean reported, the mind had remained unaffected until near the end, when carbonic-acid poisoning coming on, stupor and drowsiness supervened. All respiratory poisons, pure and simple, were accompanied at the close of life by carbonic-acid narcosis, due merely to the suspension of hematosis. Carbonic-acid narcosis was an important element in the morbid complex of atropia poisoning. These agents did not, therefore, have antagonistic action on the cerebrum. In the spinal effects of atropia and physostigma there were obvious differences. They were both paralyzers; but atropia caused in cold-blooded animals an after-tetanic condition. When atropia and physostigma were administered simultaneously, this tetanic condition occurred at once — a fact which Dr. Barthow was the first to demonstrate. In several of the cases of atropia poisoning, trismus was a marked symptom. Ringer and Murrell had shown that atropia affected the spinal cord, and maintained that the paralysis induced by it was largely spinal, although it did impair the irritability of the motor nerve-trunks. According to the experiments of Dr. Mary Putnam-

Jacobi, the sensibility of the sensory nerves was impaired by atropia. Physostigma, on the other hand, increased the irritability of the sensory nerves, and was a spinal paralyzer, leaving the motor nerves and muscles intact. These agents, therefore, agreed on more points than they differed in the action on the spinal cord! As respects the function of secretion, there was an obvious difference in action between physostigma and atropia. An increased flow of saliva, of the intestinal juices, of the tears, and of the sweat, was a constant result of the action of physostigma, and was due, according to Heidenhain, to a cerebral excitation of the sensory nerves. The action of atropia was the opposite of this, suspending secretion, most probably by paralyzing the end organs of the nerves in the glands, since, as Schiff had shown, arrest of the secretion of the submaxillary gland followed division of the chorda tympani. On the motor functions and on the muscles atropia and physostigma acted differently. Botkin was the first to show that atropia paralyzed the motor nerve-trunks, and Lascewich and Frazer had proved that in poisoning by calabar bean the irritability of the motor nerves and the contractibility of the muscles were unaffected. The action on the motor functions was, therefore, different, and not opposed.

After summing up the results established by the various researches, he stated that it followed from these conclusions that the lethal effects of physostigma, due to paralysis of respiration, were overcome by atropia sustaining the respiratory function. The committee of the British Medical Association, of which Dr. J. Hughes Bennett was chairman, had asserted that "the antagonism existed within very narrow limits;" but this happened to be sufficient to avert death when doses little more than lethal had been administered. The use of physostigma against the lethal effects of atropia was, however, of doubtful propriety; though the paralyzing effect of physostigma on respiration might, doubtless, be successfully overcome by suitable application of atropia.

The next antagonism taken up was that between belladonna and pilocarpus, which, the lecturer remarked, was one of the most interesting, as it was one of the most exact, in the whole series of antagonisms of medicinal agents. The history of jaborandi afforded a capital illustration of the benefit of physiological research as applied to the study of remedies. When it was first introduced, a great many observers in all parts of the world had set about the study of its actions, and in an almost incredibly short time we had been put in possession of its actions and the range of its uses. All had been abundantly confirmed by trials on man, and the first conclusions arrived at had only been supported by subsequent investigations. He then went on to describe the physiological effects of pilocarpine, the alkaloid principle of jaborandi; after which he indicated the main points of the antagonism of the agent with atropia.

The first increase in the cardiac movements caused by pilocarpine was of very short duration, and was followed by feebleness of the heart and diminished arterial tension, while atropia induced and maintained quickened heart beat and high arterial tension during at least the whole period of the action of pilocarpine. A subjective sensation of heat and flushing of the face was caused by both, but was very transient in the case of pilocarpine. Contraction of the pupil was pro-

duced by pilocarpine, dilatation by atropia. Dryness of the mouth and of the skin resulted from atropia, profuse secretion from pilocarpine. Both of these agents tended to cause nausea and vomiting, and a watery diarrhoea. Both rendered the bladder more or less irritable, and atropia increased to a small extent, while pilocarpine diminished, the urinary secretion. As regards the nervous system of animal life, no antagonism existed. Pilocarpine did not affect the cerebral functions directly; while atropia caused excitement and delirium. Pilocarpine induced weakness of the muscular system, but atropia brought on a tetanic condition by stimulating the cord, and paralysis both by an action on the cord and on the peripheral motor nerves. In all those actions involving the functions of the organic nervous system there was a very complete antagonism, but in respect to the nervous system of animal life no antagonism was possible.

The only examples of application of the antagonism to the treatment of poisoning which he had been able to find were two cases of poisoning by belladonna liniment, received into University College Hospital, in charge of Dr. Sydney Ringer. Pilocarpine was injected subcutaneously in both, without any obvious influence over either. The experience in the more important of the two cases demonstrated that one grain and a third of pilocarpine failed to excite perspiration, where one third of a grain of the same sample caused in healthy persons the most profuse sweating. It was obvious that belladonna was relatively more intense, as it was more prolonged, in its effects.

The lecturer now spoke of the various experiments made by different observers in reference to the antagonism, and gave in detail the results thus obtained. In regard to the point of secretion, he said that the increase of secretion caused by pilocarpine was not limited to the skin and salivary glands, but extended to the mucous membrane of the nose, bronchi, and intestinal canal, though to a less extent. The arrest of these secretions was not less prompt and decided. The increased secretion caused by the subcutaneous injection of one fourth of a grain of pilocarpine muriate or sulphate was arrested by one hundredth of a grain of atropia. In a personal trial of this quantity of pilocarpine he had found that the salivary flow began in three minutes, and in five minutes he was drenched with perspiration, the flush of the face and sense of warmth had ceased, the surface felt cold, and a feeling of extreme bodily depression came over him. A marvelous change was wrought by the subcutaneous injection of one hundredth of a grain of atropia. In three minutes the sense of depression began to decline; in five minutes the surface had grown warm again, and the flow of sweat and saliva ceased; so that by the end of ten minutes the disturbances caused by each had disappeared, and he was in the same condition as if neither had been taken.

Having summed up the results of the investigation, he passed on to consider the mutual interactions of atropia and muscaria. Muscaria, he said, had strong alkaline and basic properties. It was a colorless substance, having the consistence of syrup, and was readily soluble in water, while its salts deliquesced rapidly on exposure to air. The effects, taking a general view, were as follows: Considerable gastro-intestinal disturbance, nausea, vomiting and diarrhoea, and violent colic, due to a tetanic contraction of the muscular layer of the bowel, were produced by it. An active

and rather pleasurable delirium, rambling and incoherence, not unlike that of alcohol, was caused by it. In toxic doses the excitement was followed by more or less stupor, epileptiform attacks, trismus, and the abolition of all reflex movements. During the stage of pleasurable intoxication the pupil was contracted. Vision was dim, and objects were seen as through a mist, and probably double. The action of the heart was weakened, and finally arrested in the diastole, the respiration was labored and stertorous, the salivary secretion was increased, the surface of the body became cold, and death ensued from failure of the heart. On the brain it was probable that muscaria acted in two ways, directly and indirectly. It first excited the cells of the gray matter, and ultimately paralyzed them, the heart being weakened, less blood passed to the brain, and hence this organ was in a condition of anæmia. As regards the eye, it caused spasm of the accommodation and a marked degree of myosis by stimulation of the motor oculi. The secretions generally were increased by muscaria, but it especially excited the salivary secretion. A slight and momentary increase in the cardiac movements was first produced by muscaria, but this was followed by retardation. Direct application of this agent arrested the heart in the diastole, but mechanical, chemical, and electrical irritation would induce contraction.

No physiological antagonism could be more complete than that between atropia and muscaria. On the brain, the intoxication, with cerebral anæmia, of muscaria was opposed by the active delirium and cerebral hyperæmia of atropia. On the eye, the contracted pupil of muscaria, due to stimulation of the circular fibres innervated by the third nerve, was opposed by the dilated pupil of atropia, produced by the stimulation of the radiating fibres innervated by the sympathetic. On the heart, nothing could be more perfect than the contrary actions of these agents. Thus, viewed from all sides, these agents were exactly antagonistic.

Attention was then invited to the supposed opposition of actions between atropia and quinia. The only systematic experimental investigation of this antagonism that was known to have been made was that of Pantelljoff, who ascertained that quinia arrested the heart in diastole, and that the subsequent administration of atropia caused it to resume its contractions. After the subcutaneous injection of quinine the calibre of the arterioles was lessened by contraction of their walls, while the opposite effect, or dilatation, followed the administration of atropia. Quinia caused a rise in the blood pressure after a brief preliminary fall, and atropia retarded it.

In regard to the antagonism between bromal hydrate and atropia, Professor McKendrick, of the special committee of the British Medical Association, had found that after a fatal dose of bromal hydrate and atropia the introduction of atropia arrested excessive secretion from the salivary glands and mucous surfaces of the lungs, and thus obviated the tendency to death from asphyxia caused by the accumulation of fluids in the air-passages. Atropia also caused contraction of the blood-vessels, and thus antagonized the action of bromal hydrate, which caused dilatation of these vessels by paralysis of the sympathetic nerve. While, however, atropia might save life after a fatal dose of bromal hydrate, the converse of this apparently did not hold good.

The lecturer then briefly alluded to the antagonism

between atropia and aconite, as pointed out by Fothergill, and concluded with some account of the new mydriatic, duboisia, which, he said, might be substituted for atropia in the antagonism with morphia, with physostigma, with pilocarpine, with muscaria, with quinia, with bromal hydrate, and with aconite.

LECTURES, BOOKS, AND PRACTICAL TEACHING. I. G¹

BEING AN INTRODUCTORY LECTURE TO A COURSE OF
PRACTICE OF MEDICINE, 1877-78.

BY W. T. GAIRDNER, M. D.,
Professor of Practice of Medicine in the University of Glasgow.

YOU will observe, then, gentlemen, that professors and text-books are alike subject to one great cause of instability in the present day. — the fluctuating and revolutionary state of the medical science and art. It is vain to dispute this fact, or to fight against it. The text-book must be rewritten or completely revised, edition after edition, or it must perish. The professor's lectures must be freshly brought up, altered, amended, often completely remodeled, almost from year to year, or they are nought. Now what is the great and abiding lesson from this, for you and for me; or rather, how can any one teacher, in any one session, so address you as to convey to you the most wholesome and most abiding kind of education in the practice of medicine? And the question is not at all here, how he is to establish the greatest reputation for himself, but how he is to do the greatest amount of practical good to you. The two objects may be more or less associated; but the latter is the one in which you are most directly interested at present.

I will assume, for a moment, and I think I may fairly assume, at this stage of your progress, as within the experience of all of you, that to learn a science or an art from the personal instruction of a living man is something very different from learning the same facts out of a book. In the book you have the facts, no doubt, and the arguments too; nay, you may have them much more fully and exhaustively than they can be presented by the living voice. But in every demonstrative and experimental science and art there is much that the average man cannot learn out of a book at all; and much that, even if he should have committed the whole book to a retentive memory, he had far better learn over again, from experimental and personal teaching. If we could discover what is that subtle essence which gives the face and voice of a teacher of the right sort so much more power to impress truth of this kind than a book has, we should have mainly solved the problem of constructing a course of lectures in accordance with the wants of the present time.

Now, if you will think of it, I believe you will find that the chief advantage that a living man has, to you, over a book, is that you have, or may have, a more living *faith* in him; that is, you have means of testing his statements, and submitting his doctrines to criticism and personal inquiry. Of course you may be quite wrong; the professor may be wanting in knowledge himself, — an ignoramus or a humbug, and so quite unworthy of your faith. But still, on the other hand, if he is a right-minded man, and tolerably sure of his ground, he will lay himself open to your inquiry

¹ Concluded from page 511.

and criticism, and if he is not sure of his ground he will tell you so, and make a clean breast of it. Now, when I turn to any of the commoner class of textbooks, there is nothing I am more struck by than this: that in the effort after completeness, all kinds of supposed facts, and all kinds of theories, are jostled in, somehow, *pell-mell*; with the result that the anxious inquirer or reader is often greatly puzzled in trying to remember what is of the first, and what only of secondary importance. Let us say nothing, for the moment, of positive inaccuracies and errors. The great fault of almost all books, and of many lectures, to the student is, in the wise words of Dr. Allen Thomson last autumn, that they attempt too much. They lose sight of the fact that a very little real knowledge is all that can profitably enter the human mind, and still more the average human mind, in a limited period of time. All that is over and above this is mere learning by rote; or, in other words, what is commonly though inelegantly called *cram*. And out of *cram*, though you may make a bookworm or a prodigy of learning, you cannot possibly evolve a physician, or even a reasonably safe practitioner of the healing art. For you may take it as quite established by experience that you, students, let us say, of the third year, *cannot*, in one or two sessions, learn the whole art and mystery of the practice of medicine. All that you can possibly do is to learn well a few of the better known and more clearly established facts and principles; and, what is most important of all, in mastering these thoroughly, you can so inform your minds as to render them a fitting soil for the further teaching derived from experience, from reading, and from social and professional intercourse. In other words, in learning a few things well, you can teach yourselves, or be taught, how to learn many other things well by and by.

Now here, I think, is the special function of the professor, as compared with the book. He has not only to direct you *what* to learn, but he has to teach you *how* to learn. And, above all, he has to present himself to you in the attitude of one willing and able to learn himself,— *natura minister et interpres*, as Lord Bacon has it. For, in a highly progressive science and art like medicine, the first duty of the teacher is to inform you that it is progressive; and this he can do best, or perhaps only, through his own personal example. He will teach you facts, not as closing the door, but rather as opening it to new facts; he will teach you principles, but not as fixed and unalterable dogmas. To quote Lord Bacon once more, he will deal much in the *acromata media*, or provisional generalizations from facts already known; little in *first principles*, or speculative and abstract hypotheses as to the nature and causes of disease. Thus he will endeavor to imbue your minds vividly with what is least doubtful and most important; but along with this he will not forget that the first and last of lessons to a physician, or from a physician to students of disease, is how and when to acknowledge ignorance and suspend judgment.

A distinguished, but I believe still young, professor of physical science has lately contributed some papers to certain periodicals, the object of which seems to be to discredit religion, or at least theology (which he believes to be a superstition), on the ground that it is *immoral* to believe what cannot be definitely proved. Now, I have nothing to do here with the opinions of this gentleman on the subject just mentioned; but in the application of his thesis to medicine I am con-

fronted with the difficulty that in almost all the cases in which immediate action must be taken in very critical circumstances, the action of the physician (and the same applies often to the surgeon) must be taken upon a belief which cannot be definitely proved in the manner of a deduction from first principles, which mode of proof is evidently the desideratum, or, at least, the criterion of Professor Clifford for theological truth. A man is much hurt and shattered, and is in a state of considerable collapse; you propose to amputate a limb. Will it save him? or will it even do any good? You cannot *know*; you cannot *prove* it. All you can do is to make a rapid survey of his organs and functions; judge as well as you can of his vital resistance, and act accordingly. You form a provisional belief; you act upon it, as you think, for the best, and you leave the rest to God. All this is opposed to Professor Clifford's ethical dogma. He would have us in all such cases remain in unbelief, I suppose, until the death or recovery of the patient spontaneously solves the difficulty. In like manner, here is a patient very gravely ill of typhoid fever, or of pneumonia; he is balancing between life and death; what are you to do? Perhaps nothing at all, or, at least, nothing that can be called active treatment. Here is, possibly, a course in accordance with the position that Professor Clifford would advocate. But no; to do even nothing at all that is active in a grave case of this kind you *must have a belief*, which, though founded on evidence, is not by any means proved as regards this particular case; the belief, namely, that the case will get well, or, at least, will not be the worse if so left to itself or to nature. If you did *not* so believe, it would be criminal to omit remedies. But suppose, on the other hand, that there presented itself some remedy more or less probably applicable to the symptoms; say, for instance, antimony, or stimulants, or camphor and chloroform, or the cold bath. Are you to use any of these, and which of them? Here again you must act, if you act at all on a belief founded on evidence, but certainly not proved as regards this particular case. The man may die; you may have, in the end, a misgiving; no matter; you were bound not only to believe, but to act upon your belief. No doubt the milder and less heroic practice of these modern days in many acute diseases is largely based upon skepticism as to the disturbing kinds of remedial agents formerly so much employed; but it is also based upon a growing belief — the expression of which, however, is as old as the Hippocratic era — that "our natures are the physicians of our diseases."

View the matter as you will, you cannot, in medical questions of life and death, avoid coming to some conclusion or other as a basis for action. The conclusion may be, and often ought to be, only provisional. The true and wise physician is he whose knowledge, derived from large experience and careful reasoning, enables him to appreciate at once, with the least amount of delay and disturbance, every important symptom and physical sign bearing on the interests of the patient; who, knowing as far as may be the state of every organ and part, within and without, and rapidly summing up in his mind all the available evidence as to the natural termination of similar cases, the probable causes, and the probable results of remedies, is able thus to arrive at a thoroughly *reasoned*, but not always *proved*, conclusion as to what ought to be done in this individual case. In other words, you arrive at a belief,

and you sometimes or usually act upon it under the very conditions which, when applied to theology, Professor Clifford denounces as immoral.

Now, think of it for a moment. What is there that can give you a just confidence in action and in counsel (I do not mean blind rashness and foolhardiness, which are only too easily acquired by some) in cases like these, where the issues of life and death are, as it were, immediately before you, and your minds must grapple to a belief of some kind, were it only a provisional belief, fit to guide the mind to a course of conduct, that is, to a course of action or inaction (as the case may be), which you can justify to your own conscience, and to the inquiries of others? Nothing less, nothing else, than an instinct of the mind, which I will not hesitate to call *faith*, — the “evidence of things not seen,” — which, in the case of medical faith at least, ought to be founded on knowledge as far as it goes, but which reaches beyond knowledge to a probable conclusion, and acts at once upon that. The difficulty is to preserve this power of acting on the best knowledge attainable, even though imperfect, and yet to keep the mind open to future enlightenment; and this it is which I called a moment ago the faculty of *suspense of judgment*.

Now, in the case of beginners in the art, all these various phases of belief and conviction, not to say knowledge, these complex varieties of mental attitude, so to speak, must be gone through many times over, and under the direct personal guidance of one who may be presumed, from previous knowledge and experience, to have passed through them all himself; one who can realize the difficulties of younger men in what must be to them a new field of observation, and of whom they can feel absolutely sure that he will tell them what he knows and believes frankly, but at the same time will never affect, like the charlatan or the dogmatist (for very often these are only two names for one and the same person), a knowledge that is not real, a belief that is not founded on some fair and reasonable sort of evidence. This, I need not tell you, is a kind of guidance that you can never, or only rarely and imperfectly, get in the pages of a book. It can only result from the living presence of a man. And such is the perversity of the human mind, so great its tendency to crystallize opinions into dogmas, that your first impression will always be that the views, opinions, or doctrines of the man are of more importance than the man himself; whereas the true living guidance depends entirely on the opposite presumption, namely, that the man himself is more to you than any of his dogmas. And hence it reasonably, nay, irresistibly, follows that in the just and true order of events your first exercise of medical faith must be faith in your guide; a faith not blind nor unreasoning, but founded, like all true faith, on evidence, and yet accompanied, as we have said a moment ago, by suspense of judgment. How are you to acquire such a faith in any man in reference to the important questions which form the material of this course of lectures? Partly, perhaps, from what you know of his social and professional position, and from his being set over you as professor. But chiefly, I think, and far more really, by your actually and personally seeing him at work in his department, and by some of you, at least, working along with him.

Here we touch, I think, the very root of the matter. Systematic lectures, which are mere repetitions of a text-book, are not, indeed, wholly useless, but they

never can rise above the usefulness of a text-book, any more than water can rise above its fountain-head. But systematic lectures that are informed by the spirit of a living man are valuable to you above a text-book, just in proportion as you have reason to have a living faith in that man, and in his ability to guide you aright. The territory of disease is, in a not inconsiderable part of it, an unknown territory; wholly so to some of you, largely so to all of you, to all of us. But there is a map of it, and we have to study it by the map. We cannot explore the whole of it for ourselves, nay, not even the millionth part of it, with the materials at our command. But the man who, being an actual explorer, and known to you as such, will sit down with you and discourse in a reasonable and perfectly frank manner about this unknown country; who will tell you what he has himself seen, and what he knows only by hearsay; who will anticipate your difficulties, and inform you in some detail what you have to look for in following this or that river course, threading this or that impenetrable forest or jungle, crossing this or that mountain pass, will always have a value for you above that of the mere book or map. And if he can explore even a little bit along with you, from day to day, or can so instruct others that the facts of the lectures come to be illustrated, and the methods of exploration shown forth, under his guidance, then the advantage you will derive from his map, and his explanation of it, will be immensely and indefinitely increased.

Now, gentlemen, for more than twenty years, in Edinburgh and in Glasgow, I have taught the practice of medicine systematically, by lectures and by associated practical or clinical instruction after this manner, or at least in this spirit. Do not suppose that in saying this I am making a merely personal claim, for no one can be more conscious alike of the difficulties of the task, and of errors and imperfections in the execution. But such has been my method, and to the perfecting of it in detail, from year to year, my whole strength and energy have been carefully and deliberately applied. When the clinical professorships were founded, about three years since, this question of method arose in a very decided and palpable form, as a question of mutual adjustment of rights and duties. I need not trouble you with the details, for they are written down in minutes, and illustrated by facts. My position, from first to last, has been this: clinical teaching is a most important, nay, an indispensable part of your curriculum, but from the very nature of it, being, as its name implies, *bedside* teaching, it cannot possibly be done adequately, in a large school like this, by any one, or indeed by any two, men. Therefore, while I am glad to have a colleague in this most important kind of instruction, I mean to be, and to continue, a clinical teacher, as long as health and strength and energy permit. The hospital is my laboratory, the wards are my field for practical illustration and instruction. I am glad that others are there to share the work, but I by no means intend to demit my own share in it, which I reserve in the interest of my class and of my successors, as much as in my own. These claims were fully admitted at the time by the whole of my colleagues in the medical faculty; they were equally admitted by the aspirants to the clinical chairs, and by the promoters of them; they were embodied, as I have said, in documents which received the assent of the Senate and of the University Court, and which show that my clinical teaching is as much a part of the authorized

curriculum, while I remain a physician to the Western Infirmary, as my systematic teaching.

This being said, I will go on to add that my personal desire is not rivalry, but cooperation. I look upon the Western Infirmary (viewing it for the moment only from the point of view of a teacher of medicine) in the light of a great instrument allied to the university, for the purpose of manifold and many-sided practical instruction; and I am well content to occupy a place in it as one of three physicians having, as nearly as possible, equal rights and equal duties. I could even wish, in your interest, that there were more wards, more physicians, and more surgeons, engaged in clinical work; being satisfied that the more the instrument is developed, without exclusiveness or partiality, the more the university will be strengthened, and your essential interests advanced.

Original Articles.

THE EARLY AMERICAN ANATOMISTS, AND THE LEGAL STATUS OF ANATOMY IN MASSACHUSETTS BEFORE 1800.

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IN the annals of medical education in the United States the years 1647 and 1880 must ever be memorable. In the first, the ninth year of Harvard College, a hundred and eighteen years before the foundation of the first medical school in America, we find John Eliot, the Apostle to the Indians, writing from Roxbury to "Mr. T. Shepard, Minister of the Gospel, at Cambridge in New England:" "I have had many thoughts in my heart that it were a singular good work if the Lord would stirre up the hearts of some or other of his people in England to give some maintenance to some Schoole or Collegiate exercise this way, wherein there should be Anatomies and other instructions that way." In 1880, the two hundred and forty-second year of Harvard College and the ninety-eighth of its medical department, President C. W. Eliot tells the alumni at the commencement dinner that "a fourth year's course of study has been organized in the medical school." Almost the entire history of American medical science has transpired within the period marked by these utterances. It is proposed in this article to consider only one chapter of that history,—that of the legal status of practical anatomy.

John Eliot was not only anxious "to traine the poore Indians in that skill which would confound and uproot their Powwaws," but was also, as he says in the letter quoted above, moved by "another reason, namely that our young Students in Physick may be trained up better then yet they bee, who have only theoretticall knowledge, and are forced to fall to practice before ever they saw an Anatomy made, or duely trained up in making experiments, for we never had but one Anatomy in the Countrey, which Mr. Giles Firman (now in England) did make and read upon very well."

The "first Anatomy in the Countrey" was doubtless made without the warrant of legal enactment; certainly the majority of dissections since then have been so made. The first statutory provision regarding anatomy in America seems to be the Massachusetts act of 1784, by the terms of which the bodies of those killed in duels and of those executed for killing another in a duel might be given up to the surgeons "to be dis-

sected and anatomized." In 1831 Massachusetts anticipated all her sister States, and England as well, by legalizing the study of "anatomy in certain cases."

In 1690, Governor Slaughter, of New York, died suddenly, under circumstances which excited suspicions of poisoning. Dr. Johannes Kerfbye, assisted by five physicians, made a post-mortem examination of the body. The council ordered £8 8s. to be paid the surgeons for this examination. This is usually cited as the first recorded autopsy in America, although, as we shall see, when we consider the history of anatomy in that State, that an autopsy was made in Massachusetts as early as 1675.

It is recorded that Dr. John Bard and Dr. Peter Middleton, of New York city, in 1750 injected and dissected the body of Hermanns Carroll, an executed criminal, "for the instruction of the young men then engaged in the study of medicine." This was thirty-nine years before the State of New York legalized the dissection of the bodies of malefactors executed for arson, burglary, or murder. Though Pennsylvania passed no anatomy act until 1867, the first American medical school was organized in Philadelphia in 1765, by Drs. Morgan and Shippen, natives of that city. Dr. William Shippen, Jr., a pupil of John Hunter, gave, in 1762, a systematic course of lectures on anatomy. The fee for this course, which is said to have embraced sixty lectures, was put at "five pistoles; and any gentlemen who incline to see the subject prepared for the lecturer and learn the art of dissecting, injecting, etc., are to pay five pistoles more." This first course of lectures by Dr. Shippen, which was attended by twelve students, is usually termed the first full and scientific course of anatomical lectures given in America; although Dr. Cadwallader, as early as 1751, made dissections for the benefit of the physicians of Philadelphia, and Thomas Wood, surgeon, in 1752 advertised in the New York papers "a course on osteology and myology in the city of New Brunswick, N. J." to be followed, in case of proper encouragement, by a course in angiology and neurology, and a course of operations on the dead body. It should also be noted that Dr. William Hunter, educated at Edinburgh under the elder Monro, who came to America in 1752, gave lectures on anatomy and surgery in Newport, R. I., in the years 1754, 1755, and 1756.

Shippen's courses were so successful that in 1765 the Medical College of Philadelphia was organized with two professorships. Dr. Shippen held the chair of "anatomy and surgery;" that of the "theory and practice of physic" was filled by Dr. John Morgan.

In New York and Massachusetts, as in Pennsylvania, the anatomists were the founders of the first medical schools. The medical department of King's, now Columbia, College was organized in New York in 1767. Dr. Samuel Clossy, an Irishman, who began his course of lectures on anatomy in New York in 1763, was chosen the first professor of anatomy in King's. Dr. John Warren, who from 1777 till the close of the Revolution had served as surgeon-in-chief of the military hospitals at Boston, gave a private course of dissections to a class of medical students in that city in 1780. In the following year he gave a public course of anatomical lectures, the success of which led to the organization of the Harvard Medical School in 1782. Dr. Warren was the first professor in the new school. He was for many years its presiding genius, and held the professorship of anatomy and surgery till his death in 1815.

It was chiefly through the efforts of Dr. Nathan Smith that the Dartmouth Medical School was founded in 1797. Dr. Smith was appointed "to deliver public lectures upon Anatomy, Surgery, Chemistry, Materia Medica, and the Theory and Practice of Physic." To the Dartmouth school is usually assigned the fourth and final place on the list of American schools of medicine founded before 1800.

Thanks to the efforts of Thomas Jefferson in 1779, Virginia can claim a place on that list for the medical department of William and Mary College. "I effected in that year, 1779," he says in his autobiography, "a change in the organization of that institution by abolishing the Grammar school and the two professorships of Divinity and Oriental languages, and substituting a professorship of Law and Police, one of Anatomy, Medicine, and Chemistry, and one of Modern Languages." In 1778 Mr. Jefferson drew up a "Bill proportioning Crimes and Punishments in Cases heretofore capital." Among its provisions was the following: "If any person commit petty treason, or a husband murder his wife, a parent his child, or a child his parent, he shall suffer death by hanging, and his body be delivered to Anatomists to be dissected." This bill was lost by the majority of a single vote, and Virginia lost the opportunity of passing the first American act to legalize anatomy in even a small way. Virginia as yet has no anatomy act.

In a previous article an attempt was made to consider the anatomy acts of America as a whole. The brief sketch contained in this article of the beginnings of practical anatomy in this country is offered by way of introduction to a somewhat detailed treatment of certain special enactments, especially those of Massachusetts, and of certain other States in which attempts have been made to promote anatomical science.

The earliest utterance in America, in recognition of the importance of anatomical studies, seems to have been made in Massachusetts. In *The Clear Sunshine of the Gospel Breaking upon the Indians in New England* is found a letter dated "Roxbury, 21 September 1647," from John Eliot to the Rev. Thomas Shephard of "Cambridge in New England." The Apostle declares of the Indians that "all the refuge they have and rely upon in time of sickness is their Powwaws; so that it is a very needfull thing to informe them in the use of Physick, and a most effectfull meanes to take them off from their Powwawing. Some of the wiser sort I have stirred up to get this skill; I have showed them the Anatomy of man's body, and some general principles of Physick. I have had many thoughts in my heart that it were a singular good work, if the Lord would stirre up the hearts of some or other of his people in England to give some maintenance toward some Schoole or Collegiate exercise this way, wherein there should be Anatomies and other instructions that way." It is unlikely that the Apostle Eliot added dissections to his lectures on "the Anatomy of man's body;" for later in the same letter he deprecates the fact that "our young students in Physick have onely theoreticall knowledge, and are forced to fall to practice before ever they saw an Anatomy made," and says, "We never had but one anatomy in the country, which Mr. Giles Firman (now in England) did make and read upon very well."

It was brought out in connection with the Salem witchcraft trials in 1692 that, "about seventeen years before," a jury had been impaneled upon the body of

a man that died suddenly in the house of Giles Corey, and that the jury, "among whom was Dr. Zerobabel Eudicot," found the man "bruised to death and having cloddors of blood about his Heart." This would indicate that a post mortem examination was made in Massachusetts as early as 1675, fifteen years prior to that made of the body of Governor Slaughter, of New York, which is usually cited as the first recorded autopsy in America.

In December, 1692, the province of Massachusetts Bay incorporated the major portion of the English act of 1604 against witchcraft among its statutes. The history and provisions of this act are worthy of more than passing mention, because it contains not only the first American, but also the first English, statutory prohibition of the desecration of graves, and indicates full well that the belief in sorcery was a potent factor in popular prejudice against human dissections. In the preamble to an act for "the appointing of Physicians and Surgeons," passed in 3 Henry VIII., 1511, it is recited that "so far forth were the Science and Cunning of Physick and Surgery practised by ignorant persons, that common Artificers, as Smiths, Weavers, and Women, boldly and accustomedly took upon themselves great cures, and things of great Difficulty, in the which they partly use Sorcery and Witchcraft, partly apply such medicines unto the Disease as be very noxious and nothing meet therefor." The practice of witchcraft was first made a felony, punishable with death and the forfeiture of estate to the king, in 1541. This act of the Parliament of 33 Henry VIII. was repealed six years later in the first year of Edward VI.; but in 1565, the fifth year of Queen Elizabeth, it was re-enacted with a saving clause, whereby dower was secured to the widow and inheritance to the heir of the felon. In 1604, the first year of James I., the act of 5 Elizabeth, as well as that of the 9th Parliament of Mary of Scotland, was repealed, and an act for "the better restraining and more severe punishing of witchcraft and dealing with evil and wicked spirits" was passed. It contained the following provision, new to the English law: "If any person shall take up any dead man, woman, or child out of his, her, or their grave, or any other place where the dead body resteth, or the skin, bone, or any other part of any dead person, to be employed in any manner of witchcraft sorcery, charm or incantment, . . . such person shall suffer pains of death as a felon, and shall lose the benefit of clergy and sanctuary."

This act was cited formally in indictments drawn in Maryland in 1674, and in Massachusetts in the spring of 1692, and was acknowledged to be in full force in Pennsylvania in 1684. Massachusetts seems to have been the only colony to embody it in its laws, which it did in December, 1692, two months after the Salem delusion had spent its force. The privy council repealed the act in 1695, because it was "not found to agree with ye Statute of King James the First whereby ye Dower is saved to ye Widow and ye Inheritance to ye heir of ye party convicted." The English act remained unrepealed till 1736, but so late as 1712 was declared to be in force in South Carolina. It does not appear that any "resurrectionist" was ever convicted under it in America. The first American act to prevent the digging up of bodies for purposes of dissection was the New York act of 1789.

The act of the State of Massachusetts, passed in 1784, against dueling is a noteworthy one, by reason

of the fact that it contains the first authorization on the part of an American legislature of the dissection of the dead bodies of malefactors. The province had enacted laws for the prevention of dueling in 1719 and 1729. That of 1719 provided penalties in the way of fine, imprisonment, and corporal punishment — any or all of them, at the court's discretion — for those convicted of engaging in, or challenging another to engage in, a duel. Under the act of 1729, duellists and their accomplices were carried in a cart to the gallows with a rope about the neck, "and after sitting for the space of one hour on the gallows, with the rope about his neck as aforesaid," the offender was confined in the common jail for one year, and at the expiration of his sentence was required to find sureties for his good behavior for the succeeding twelvemonth. The acts of 1729 and 1784 both denied Christian burial to the bodies of men killed in a duel. Moreover, it was provided in section 3 of the act of 1784 "that when it shall appear by the coroner's inquest that any person hath been killed in fighting a duel, the coroner of the county where the fact was committed shall be directed and empowered to take effectual care that the body of such person so killed be immediately secured and buried without a coffin, with a stake drove through the body, at or near the usual place of execution, or shall deliver the body to any surgeon or surgeons, to be dissected and anatomized, that shall request the same and engage to apply the body to that use." Section 4 ordains "that any person who shall slay or kill another in a duel, and shall, upon conviction thereof on an indictment for murder, receive sentence of death, part of the judgment of the court upon such conviction shall be that the body be delivered to any surgeon or surgeons, to be dissected and anatomized, that shall appear in a reasonable time after execution to take the body and engage to apply it to that purpose."

If the Massachusetts legislators in 1784 had any intention of recognizing the needs of the anatomists, they failed to declare it, so that New York was the first State, by section 2 of its act of 1789, to express the desire that "science might not in this respect be injured by preventing the dissection of proper subjects." It was not till the passage of the Massachusetts act of 1831 that any State really undertook to "legalize the study of anatomy."

It is most likely that the provisions of the act of 1784 touching dissection were designed to make dueling a specially infamous offense. This was quite in keeping with the English law regarding dissection. In 1752, the Parliament of 22 George II., in order that "some further terror and peculiar Mark of Infamy might be added to the Punishment of Death," legalized the delivery of the bodies of executed murderers to the surgeons for dissection. This must have been the act from which the royal governors derived authority to dispose of murderers' bodies in Massachusetts in the manner indicated in the following extract, taken from the Life of Dr. John Warren, by Edward Warren M. D., page 230: "At this period [just prior to the Revolution] the governor had the disposal of the body of the criminal after execution. He might order its delivery to the man's friends, to any one to whom he himself assigned it, or to a surgeon. The prisoner, with the governor's assent, might make his own arrangements even for the sale of his body, if he was so disposed, either for the benefit of his family or his own brief enjoyment."

It is to be remarked that the act of 1752 required the judges to add either dissection or hanging in chains to the death sentence of murderers, and that previously to 1832, when the Warburton Anatomy Bill was passed, there seems to have been no warrant in English law for any sort of bargain concerning a cadaver. The only legal mode of disposing of a dead body, excepting in case of malefactors, was to bury it. Once buried, it was an indictable offense at common law for any person to exhume it, except by the leave of the proper officers.

The name of Warren is most intimately associated with the rise and progress of anatomical science in Massachusetts. Dr. John Warren while a student in Harvard College, where he graduated in 1771, was the leading spirit in forming a private anatomical society, composed of students. He says of it that "brutes were dissected and demonstrations on the bones of the human skeleton were delivered by the members." The Anatomical Society and the Spunker Club, to which there are frequent allusions in the Life of Dr. John Warren, seem to have been identical. Dr. Warren was the principal lecturer of the club. His most zealous associates were his classmates, Jonathan Norwood, William Eustis, class of 1772, and David Townsend and Samuel Adams, of the class of 1770. Adams was a son of Samuel Adams the patriot. Eustis, Adams, and Warren all studied medicine with an elder brother of the latter, Dr. and General Joseph Warren. Eustis, Warren, and Adams became surgeons in the Continental army. Adams died in 1778. Eustis lived to become governor of Massachusetts in 1823. Warren was surgeon-general of the military hospital at Boston from June, 1777, till the close of the Revolution, and was the first professor as well as the first professor of anatomy and surgery of the Harvard Medical School, of which he was practically the founder.

Some notion of the methods of study of the Spunker Club may be gained from the following extracts from letters written by Eustis to Warren prior to 1775: "This may serve to inform you that as soon as the body of Levi Ames was pronounced dead by Dr. Jeffries it was delivered by the sheriff to a person who carried it in a cart to the water side, where it was received into a boat filled with about twelve of Stillman's crew, who rowed it over to Dorchester Point. . . . When we saw the boat at Dorchester Point, we had a consultation, and Norwood, David, One Allen, and myself took chaise, and rode round to the Point, Spunker's like; but the many obstacles we had to encounter made it eleven o'clock before we reached the Point, where we searched and searched, and rid, hunted, and waded, but, alas, in vain! There was no corpse to be found. . . . We have a — from another place, so Church shan't be disappointed. P. S. By the way, we have since heard that Stillman's gang rowed him back from the Point up to the town, and after laying him out in mode and figure buried him, God knows where! Clark & Co. went to the Point to look for him, but were disappointed as well as we." No wonder that the same writer, in another letter, says, "Good heavens! to reflect on the continued bars we are meeting in our pursuits! It seems as if fate had placed medical knowledge *profunda in puteo, sacris et viri mobilibus submersa*."

Dr. Warren, in an account of the origin of the Harvard Medical School, makes the following statement: —

"In some of the more populous towns students were sometimes indulged with the privilege of examining the bodies of those who had died from any extraordinary diseases, and in a few instances associations were formed for pursuing the business of dissection, where opportunities offered from casualties, or from public executions, for doing it in decency and safety. But the Revolution was the era to which the first medical school east of Philadelphia owes its birth. The military hospitals of the United States furnished a large field for observation and experiment in the various branches of the healing art, as well as an opportunity for anatomical investigations."

It was chiefly owing to Dr. Warren's zeal in pursuit of anatomical studies that the Harvard Medical School was organized in 1782. In the winter of 1780 Dr. Warren, who was able to procure a number of subjects from having access to the bodies of soldiers who had died without relatives, gave the first course of anatomical demonstrations ever given in Boston, at the military hospital, which was situated "in a pasture at the corner of Milton and Spring streets, near where the Massachusetts Hospital now stands." These demonstrations were conducted with great privacy, owing to the popular prejudice against dissections. They were attended by a small number of medical students and young practitioners, and a few specially invited scientific gentlemen. In consequence of a vote of invitation, passed November 3, 1781, by the Boston Medical Society, Dr. Warren gave at the hospital a course of anatomical lectures during the winter of 1781-82, which was quite public. Many literary and scientific gentlemen of Boston and several Harvard students were permitted to attend it. "My father," says Dr. Edward Warren, "had so much enthusiasm for his science, he was so full of his subject, that he readily infected others with his own love of the science. President Willard and some of the corporation of the college who attended these lectures were led to the idea of forming a medical institution, to be connected with the university. The president communicated this desire to Dr. Warren. A conference was held, and he was desired to draw up the plan for such an institution, to be submitted to Dr. Willard as soon as convenient." Dr. Warren's plan, as finally amended, was unanimously adopted by the corporation of Harvard College, September 19, 1782. Among the articles adopted were the following: "That three professorships be established, namely, a professorship of anatomy and surgery, a professorship of the theory and practice of physic, and a professorship of chemistry and materia medica." "That the professors demonstrate the anatomy of the human body with physiological observations, and explain and perform a complete system of surgical operations."

Dr. John Warren was elected to the chair of anatomy and surgery November 22, 1782, and on December 24th of the same year Dr. Benjamin Waterhouse was chosen to fill the chair of theory and practice; while the professorship of chemistry and materia medica remained unfilled till the election of Dr. Aaron Dexter, on May 22, 1783. At that time Harvard professors were required to make the following declaration:—

"I, —, elected professor in the University of Cambridge, declare myself to be of the Christian religion, as maintained in the Protestant communion. I promise to discharge the trust now reposed in me with

diligence and fidelity, and to the advancement of the students in my particular department. I promise to promote the interests of virtue and piety by my own example and encouragement. I declare and promise that I will not only endeavor the advancement of medical knowledge in the university, but consult its prosperity in all other respects."

We shall consider in a future article what it cost Massachusetts anatomists to demonstrate "with diligence and fidelity" human anatomy, at a time when material for the purpose of demonstration could be obtained only by stealth and in defiance of law.

RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.¹

BY E. G. CUTLER, M. D.

ALTERATIONS IN THE ALIMENTARY TRACT IN PULMONARY CONSUMPTION.

MAZOTTI² states that in fifty autopsies performed on patients who had died of pulmonary consumption he found lesions of the alimentary tract in thirty-eight; in the remaining twelve no such lesions were present. In thirty-seven of the cases so affected the lesions consisted of ulcers situated either on the tongue, pharynx, stomach, or large or small intestine, but not in the œsophagus or rectum. In all cases, with one exception, the lesions were multiple, ulceration of the tongue, pharynx, or stomach existing simultaneously with ulceration of the intestines. In twelve cases the lesions were confined to the small intestine, in five to the large, while in twenty they affected both viscera. The author observes that in cases where ulceration has been confined to the small intestine the large has frequently contained solid fecal matter, thereby demonstrating a fact already remarked on by Niemeyer, that ulceration of the small intestines may exist without giving rise to diarrhea. As a rule, the number and extent of the intestinal ulcerations bore a constant relation to the pulmonary lesions. In the small intestine, the ulcers were generally seated in the lower portion of the ileum, although in some cases they were confined to the ileo-cæcal valve, while in others they extended as high as the jejunum, and even duodenum. These ulcers in the earliest stages appeared as small white spherical bodies of the size of a pin's head springing from the mucous membrane. At a later stage they became larger, and the mucous membrane had shrunk away from their summits, thus leaving punctiform ulcers. In some cases the ulcers were situated on Peyer's patches, and were multiple. In the large intestine the lesions were as a rule confined to the ascending colon, though, when numerous, they were also found in the cæcum and around the vermiform appendix. The author remarks on the extreme rarity of tubercular granulations in the large intestine as compared with the small.

ON THE LESIONS OF THE LARYNX IN PULMONARY PHthisIS.

Dr. Carl Seiler³ finds that ulcerative processes begin in the glands, and not in the mucous membrane, whence come the serrated edges of the epiglottis. The

¹ Concluded from page 521.

² *Bullettino delle Scienze Mediche*, January, 1883. *London Medical Record*, April, 1880.

³ *New York Medical Record*, June 5, 1880.

depots or foci of pus contained leucocytes, while giant cells have been found only rarely. The author thinks that gastric symptoms are found as often as laryngeal, and that it is an error to attribute to the larynx such pathological changes as determined its separate location as a phthisical habitat.

CONGENITAL ATROPHY OF THE LIVER.

Dr. A. Jacobi, at the meeting of the American Medical Association,¹ read the history of a case of congenital atrophy of the liver. The liver was reduced to one tenth or one twelfth of its normal size. The microscopic examination showed scarcely anything but interstitial tissue, and he believed it to have been a true case of interstitial hepatitis occurring in the infant. Glisson's capsule was greatly thickened, giving the appearance of chronic perihepatitis. A history of the child did not present any positive evidence of syphilis, but the lecturer believed the case to have undoubtedly been of this character. Perihepatitis had been regarded as an adult disease until recently, when several cases have been reported by the German pathologists as occurring in children. As a rule, syphilitic disease gave rise to enlargement of the liver, which, according to Murchison, might be of two kinds: first, gummatous deposits; and, second, diffuse syphilitomatous degeneration, which leads to atrophy. Dr. Jacobi also reported a case of syphilitic liver which had recovered, — the only infant that he had known to survive the disease. The child was a year old, and appeared to be healthy. In the treatment, where the evidence of syphilis appears early, a prompt mercurial impression was required, and he had followed Lewin's plan of giving the bichloride of mercury hypodermically, with excellent results.

THE BEHAVIOR OF METHYLGREEN IN TISSUES WHICH HAVE UNDERGONE AMYLOID DEGENERATION.

Curschmann² gives his experience with this staining fluid in a short communication. The coloring matter gives to tissues which have undergone amyloid degeneration an intense violet color, so that they are sharply distinguished from tissues not degenerated, which are stained green or bluish-green.

Fresh sections are stained the best, but specimens hardened in alcohol or chromic acid may be beautifully colored if they are first sufficiently washed out in distilled water. The method of staining sections is the simplest possible. They are placed for a few minutes in a one per cent. watery solution; but the staining is sharper and more even when the sections are left for a longer time in a still more dilute solution. Curschmann has used diluted glycerine and levulose, recommended by Wedel, to put the sections up in. Whether the latter will prove a good material he is as yet unable to say, as his specimens had only been preserved three months. Canada balsam was not suitable, because absolute alcohol, oil of cloves, and oil of turpentine immediately extract and destroy the color. He found that in all the cases of diseased kidneys that he examined the hyaline casts in the tubules were stained ultramarine blue, so that they stood out very plainly from the green parts of the section, and were also not readily distinguishable from the violet colored amyloid portions. He considers this staining material to be superior to methylviolet.

HYPERTROPHIC AND ATROPHIC CIRRHOSIS OF THE LIVER.

Professor Aekermann³ gives a long and interesting article on hypertrophic and atrophic cirrhosis of the liver, which he considers to be two entirely different diseases, neither genetically nor anatomically related to each other. While in the former the development of connective tissue starts from the blood-vessels which belong to the normal anatomy of the liver, in the latter it takes its origin from branches of vessels which are formed as the result of an inflammatory irritation from the intraculous terminal branches of the hepatic artery, and which are to be regarded as capillary shoots of the same. The inflammatory irritation leading to this new formation of vessels and connective tissue is exerted through the cells in the border zones of the acini, which already before the commencement of the cirrhotic disease are constantly undergoing fatty or granular degeneration and subsequent necrotic disintegration. It is then analogous to the irritation of a foreign body, and the inflammation corresponds to processes in the induration of demarkation. As the connective tissue which is formed in such processes contracts, so also does that in the atrophic cirrhosis, and gives rise to deforming cicatrices, as the granulations of the liver resulting from them are to be regarded. In the hypertrophic cirrhosis, on the other hand, the volume of the neoplastic connective tissue does not decrease, but rather remains to the end of the disease unchanged, in case it does not perhaps constantly increase in size. The new growth of connective tissue in atrophic cirrhosis may therefore be designated as an inflammatory growth, that in hypertrophic cirrhosis as an elephantiasis one. The atrophic cirrhosis begins with a stage of hypertrophy which is the result of the accumulation of the connective tissue surrounding the acini, and which penetrates either very little or not at all into their substance. Through the pressure which this not yet sclerosed connective tissue exerts on the capillaries in the border zones of the acini and on the interlobular branches of the portal vein, the communication between portal vein and hepatic vein is rendered difficult, and a moderate degree of passive congestion in the commencing portion of the former is brought about, which with the advancing contraction of the connective tissue must still further increase, and finally occasion complete shutting off of the blood of the portal vein from the hepatic capillaries. Then the capillaries of the acini are supplied by blood from the hepatic artery only, which now not only performs the function of the nutritive vessel, but also assumes the function of the vessel which affords bile secretion. In the hypertrophic cirrhosis, on the other hand, the vascular connection between portal and hepatic vein remains perfectly or nearly free throughout the whole course of the disease, and signs of passive congestion in the portal system do not occur, or at least only attain a slight degree (splenic tumor). The hypertrophic cirrhosis is not always unilobular, and the atrophic not regularly multilobular. The latter is also by no means merely interlobular, but rather, save its very first commencement, partially intralobular; it is also usually capsular, and only in a few rare cases, even its later stages, insular.

The occurrence of newly-formed gall-ducts is characteristic neither of hypertrophic nor of atrophic cirrhosis, for they are found in about the same quantity in the one as in the other, and indeed it is highly prob-

¹ New York Medical Record, June 5, 1880.

² Virchow's Archiv, Band lxxix. page 556.

³ Virchow's Archiv, Band lxxx. page 396.

able that such is the case in all diseases of the liver complicated with hyperplasia of the connective tissue. They stand genetically in no relation to the rows of hepatic cells which gradually atrophy more and more, and at last disappear without any traces; they also do not anastomose with them, but rather form anew in the neoplastic connective tissue. At the same time with it they can also be injected from the large excretory ducts of the liver, and must be regarded as true excretory ducts for the bile more particularly, preventing or diminishing icterus. They do not anastomose with each other, and form no plexuses, but consist rather of numerous ramifications, frequently arranged in coils and manifestly twisted.

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. ROTCH, M. D., SECRETARY.

NOVEMBER 22, 1880. DR. JAMES C. WHITE, permanent chairman, presided.

DR. WING read a paper on

THE ABDOMINAL METHOD OF SINGING,

which was published in the preceding number of the JOURNAL.

DR. LANGMAID said that he had no doubt that Dr. Wing had hit upon the cause for these cases, and that the effect of this method of singing was so marked in the case which had come under his own notice that he could easily imagine what harm might be done to a perfectly healthy organ. He had never met with cases such as Dr. Wing had reported, in his experience digestive troubles being the result of this method when it was not properly taught. He then explained why this abdominal respiration is used. He said that the breath being the moving force by which the voice is produced, a knowledge of the proper management of this moving force must sooner or later be acquired by singers and public speakers if they wish to succeed; but both teachers and pupils have mistaken the method, and great confusion has arisen as to the manner of using it. The whole question was reduced long ago to three methods: the clavicular, the lateral, and the abdominal or true diaphragmatic, the latter two running into each other.

Dr. Langmaid then proceeded to give a mechanical explanation of the abdominal method, showing its superiority over the other methods, and stating that so far as his knowledge went no successful great singer uses any other method. He said that he would modify the title of Dr. Wing's paper by calling it the Vicious Use of Abdominal Singing,—a method which, instead of allowing the diaphragm to descend, thus forming a reservoir of air from which the voice can be supplied by the contracting abdominal muscles, actually prevents the descent of the diaphragm, and almost completely takes away the usefulness of the abdominal muscles; for the pupil is first taught to draw the abdomen in, and then squeeze it still more, a proceeding which must be bad for all the abdominal organs.

Dr. Langmaid then said that in a properly-conducted abdominal respiration he recognized a good method for the voice, but that a wrong method must be very harmful.

DR. BAKER said that he had had three cases of uterine disease in public singers, and that he had not before recognized the cause of the displacement. He then said that this continued pressure, as used in the method described by Dr. Langmaid, must be harmful, but that if such great advantage is obtained by the singers using this method they will go on with it, in which case how are we to protect the pelvic organs? Two of his cases were of anteversion and one of backward displacement. They all had to go on singing, and a Hodge pessary did not give perfect relief, but the persistent strain was relieved by a properly adjusted abdominal bandage and an internal support. Dr. Baker then remarked that we may perhaps accomplish more good by a procedure of this kind than by opposing the whole method.

DR. LANGMAID replied that he would not deny that a certain amount of pressure is used, but that it is really more a return of the abdominal muscles to their proper position, and that this can always be reinforced by a collapse of the thoracic wall. He would also say that a tremendous amount of physical force is required of public singers, and that as a class they are the healthiest women in the world; that, however, he would not like to be on record as favoring any position which might do harm; and that if it was necessary for every singer to wear a support and an abdominal bandage they had much better never sing.

DR. BOWDITCH said that he had rarely listened to a more interesting or more important paper. The cases cited seemed to prove the truth of Dr. Wing's assertion that a certain method of teaching music called "abdominal" must tend to press down and misplace the uterus. From the description given, Dr. Bowditch thought that even a protrusion of that organ from the vulva might occasionally occur. The statement was made by the reader that by placing the back against the wall the speaker was able to push forward a large piano by means of the powerful abdominal muscles, thus intimating that such power was to be sought for by a pupil in singing. In many cases such a doctrine would prove most pernicious. Dr. Bowditch regretted that the writer had not given a precise definition of the so called "abdominal" method. Evidently many modes of teaching are included under that epithet. Some of these may be excellent, whereas others may be fraught with danger. For example, a teacher whom Dr. Bowditch regarded as one of the best of that profession, who has a great power of bringing out the human voice by the harmonious cooperation of all the parts,—abdominal, thoracic, and cervical,—has been considered as one of these "abdominal" teachers, simply because she knows by her experience that no one of her pupils ever succeeds in bringing out the normal capabilities of the particular voice to be trained until she recognizes the special influence of what the teacher styles the "governor," in a small spot about half an inch in diameter just below the ensiform cartilage, and corresponding to the plane of the diaphragm. Some of her friends, having heard of the proposed paper by Dr. Wing, had told her that her method of teaching was to be attacked. Dr. Bowditch read a portion of a letter received from that teacher in the following words: "While I want the lower part of the lungs to be used freely and easily as a baby breathes, you know that my 'governor' cannot make his delicate consciousness felt if there be the slightest *conscious* contraction of

the abdominal muscles." Whether her theory, for the elucidation of which she talked with physiologists and read anatomical works, be true or not, certain it is that she is a very remarkable teacher of music, and so educates it without straining it that she brings out all the capabilities of the particular voice under her care. She moreover removes most readily the disposition to the filling of the throat and to hemming which annoys singers who have been improperly taught. Dr. Bowditch was consulted a few days since by a young lady music teacher whose only difficulty was this throat affection. Dr. Bowditch declined treating, and referred her to one of two eminent specialists for relief. On her replying that she had consulted one of them last May without benefit, he advised her to call on the music teacher whose letter had been quoted.

Dr. Bowditch asked Dr. Langmaid whether, when he is singing loudly in church, he was conscious of special abdominal strain, such as has been intimated occurs in the "abdominal" method; and whether such efforts are ever necessary. (Subsequently Dr. Bowditch informed the society that he was gratified to learn from Dr. Wing that none of his patients ever came from the teacher above alluded to.)

Dr. HAMILTON OSGOOD said that the proper management of the breath in singing is well illustrated by the physiological toy used in lectures on respiration: a bell-glass open at top and bottom, a thin rubber bag, communicating with the external air, being suspended within the glass, the lower opening of the latter being covered with a sheet of rubber tissue, in representation of the diaphragm. When this is drawn downward, the bag representing the lungs becomes slowly and gently filled, the external air following the descent of the diaphragm. In just this manner should one breathe in singing. The diaphragm being the principal muscle of ordinary respiration, so should it be in singing; and, the shoulders and upper chest being fixed, the inspired air should make its effect visible only in the epigastric region. The force should stop there, and hence inspiration should be gentle. The downward and forward movement of the contents of the abdominal cavity is but slight, and the abdominal muscles merely support the diaphragm, and thus enable it to act steadily upon the column of air without themselves contracting. The work is to be performed by the diaphragm. The abdominal cavity may fairly be compared to an elastic pouch. The descent of the diaphragm causes a slight distention of the pouch, whose walls by their resiliency support and steady the diaphragm, and as steadily follow and sustain it as it moves upward. He had a patient who had caused uterine displacement by forcible use of the abdominal muscles. Subsequently he saw her error, and found an instructor who taught her how to deliver tones from the diaphragm, while keeping the abdomen quiescent. She is a teacher, and has some forty young-lady pupils in elocution, who, being properly instructed, have no uterine trouble. The speaker said, The truth of the matter is, we have a horde of teachers who do not understand the true method of breathing in singing. It is not surprising, then, that uterine lesions are not uncommon among female students of singing and elocution. Direct use of the abdominal muscles in vocalization is not only wrong and injurious, but absolutely interferes with the proper formation of tone. They must be acted upon to a certain extent, but their action is sympathetic. It is their abuse, and not their use, which does the harm. An in-

teresting topic of discussion would be the so-called normal difference between the respiratory method of the male and female. It has been found that disuse of corsets increases abdominal action in women, and thus brings their type of breathing into resemblance with that of men, whose respiration is almost strictly abdominal. Undoubtedly those who have been harmed by the overuse of the abdominal muscles had previously lettered and limited the expansion of their lungs by tightly laced corsets.

Dr. WING said, in regard to the abdominal bandage, that if the bandage was applied to prevent the protrusion of the abdomen, then when the diaphragm sinks the uterus must sink all the more.

Dr. LYMAN remarked that a properly constructed abdominal bandage lifts the abdominal muscles, and thus removes the weight from the uterus.

Dr. WING replied that this would be the case in pregnancy, but not when the abdomen is in its natural position.

Dr. F. C. SHATTUCK mentioned a case of severe pain in the epigastrium, brought on by exercise of the abdominal muscles in a school-boy, when he was taking lessons in oratory.

Dr. OSGOOD spoke of a case of chorea in a child seven years old, where he could not increase the dose of Fowler's solution above five drops without causing diarrhoea.

Dr. LYMAN said that he thought the best treatment for chorea was to remove the patient from all causes of excitement, and give iron in some form, as the triple phosphate, and the douche. He also remarked on the difference in opinion which exists among physicians as to the proper dose of various drugs, as Fowler's solution and digitalis.

Dr. WEBER said that he had found arsenic very useful in chorea, but it should be given in large doses, beginning with two or three drops; the dose should be increased rapidly to the limit of toleration, — ten or fifteen drops, or even more, if no tonic symptoms appear. Lately a severe case recovered under this treatment in three or four weeks, so that the child could knit and sew. Ten or twelve drops can frequently be given; fifteen or more can less frequently be borne.

OVARIAN CYST.

Dr. JOHN HOMANS reported a successful case of ovarian cyst operated on by him, and exhibited the specimen.

PILONIDAL SINUS.

Dr. HODGES remarked that since the last meeting he had operated on another case of pilonidal sinus. Although the lock of hair extracted was not as large as is usually found, it was interesting, because, in addition to the short hairs, similar in character to those found growing in the neighborhood of the sinuses, it also contained three or four long hairs, corresponding in color, size, etc. (according to Dr. Whitney, who was good enough to examine them under the microscope), with the hairs of the pubes and head of the patient. Dr. Hodges had never seen this combination before. He thought that the presence of these long hairs helped to corroborate his theory as to the method by which the sinus is caused; two distinct kinds of hair not being likely to grow from a congenital inversion of the skin.

Dr. POST had seen a case since the last meeting which he supposed had been a pilonidal sinus.

There was a well-marked dimple and an opening two inches above it. The probe passed from the opening to the dimple when it was almost subcutaneous. On laying open the sinus no foreign substance was found. It had existed for fourteen years, closing at times and reopening.

In everything except the presence of hair it corresponded so closely with the cases described by Dr. Hodges that Dr. Post thought it had at some time contained hair and spontaneously discharged it.

CLUB-FOOT.

Dr. BRADFORD showed a patient operated on by him three months before. The child, a girl eleven years old, had a severe congenital club-foot. A wedge-shaped portion of bone was removed from the tarsus. The wound healed in four weeks, and for the past month the child has walked about with perfect freedom.

GASTRIC ULCER; FATTY HEART.

Dr. G. C. SHATTUCK reported the following case:—Maggie R. Gillis, domestic, twenty-one years old; born in New Brunswick; lived in Boston. Entered the Massachusetts General Hospital Thursday, October 21st. Well until two months before; from that time had some dyspeptic symptoms.

On Monday before entrance lifted a tub of water; felt a strain at the time; about half an hour afterwards vomited a large amount of blood. Continued to work until Wednesday, although vomiting blood every day.

When brought in was much blanched. Complained of no pain except in the head. Some tenderness and dullness in region of stomach. Heart sounds not distinct, but normal. Was given milk and lime-water. Vomited the next morning about half a pint of blood. Patient was then put on nutritive enemata, and had no more vomiting. Nothing except water was given by the mouth for four days. Then nourishment was given in small quantities, and four days later the enemata were omitted. At the end of two weeks after entrance she had meat for dinner every day, and took a large amount of nourishment. Patient was comfortable, but the anemia continued to be very marked, and she did not gain strength. Bowels were regulated. In the afternoon of November 11th, twenty-one days after entrance, a change took place. Complained of oppressed feeling in epigastrium. Dyspnea became urgent. Pulse was small and weak. Anemia became more striking. Patient became unconscious about ten p. m.

Pulsation of radial at wrist could not be felt after two A. M., and she died, from failure of heart's action, at one o'clock the next day.

Stimulants in the last twenty-four hours were given freely, both by mouth, and, for last twelve hours, by enemata.

Autopsy fifteen hours after death, by Dr. R. H. Fitz. Rigor mortis present. Left leg and foot slightly edematous.

Head not opened.

Some six ounces of clear fluid in pleural cavities.

Pericardium not abnormal.

Aorta thin, narrow, and elastic.

Heart small and pale; valves and contents not abnormal; gelatinous clots on right side; left side empty.

The innermost portion of the wall of the left ventricle was of an opaque, grayish-yellow appearance, which was particularly apparent in the papilla, which were spotted.

Lungs. Both lungs were extensively edematous throughout. A clot was found in the pulmonary artery.

The spleen, kidneys, and liver were anemic, but not otherwise remarkable.

The bladder was empty, and not abnormal.

The uterus and ovaries were not unusual in appearance.

Stomach contracted moderately; contained a thin, yellow, and opaque fluid. On posterior wall, near oesophageal opening, was a white patch about the size of a finger-nail, running towards which were stellate contractions of the walls. The patch itself was pale and smooth. The peritoneal surface in the immediate vicinity was finely injected, without false membrane.

The small intestine contained a greenish, soft, solid material.

Scybala were found in the large intestine.

Pap-like material formed the contents of the rectum, the follicles of which were enlarged.

Diagnosis. Fatty degeneration of heart, cicatricial ulcer of stomach, and anemia of lungs.

In answer to a question from Dr. Lyman, Dr. Shattuck said that the pain usually found in these cases at the larger end of the stomach was not present.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

DECEMBER 13, 1879. Dr. RICHARDSON read the report of a case of gangrenous vaginitis occurring in the Boston Lying-In Hospital.

THE NECESSITY FOR THE EXERCISE OF CARE IN THE MOST MINUTE DETAILS OF OPERATIONS UPON THE UTERINE AND ADJACENT ORGANS.

Dr. BOARDMAN remarked that too great care cannot be exercised in operations upon the uterine and adjacent organs, illustrating his statement by a circumstance in a late operation which he had performed upon a lacerated cervix. Five silk sutures were put in; the third broke and slipped out, but the apposition was so good that the suture was not replaced. Later there appeared to be union throughout, and the result was apparently successful. A subsequent examination revealed an opening. There had been, apparently, union externally, while behind the parts had failed to unite, so that now there were two cervical canals instead of one.

UTERINE HEMORRHAGE IN BRIGHT'S DISEASE.

Dr. BIXBY reported a remarkable case of uterine hemorrhage in a multipara forty-five years of age. The flowing had continued for over a year, being more profuse during the menstrual periods. All the various means resorted to, such as dilatation, curetting, application of persulphate of iron, pure nitric acid, and the tampon, failed to arrest the hemorrhage permanently. When controlled from the uterus, it would immediately recur from the rectum. Later an examination of the urine gave evidence of Bright's disease, which was also indicated by the patient's general condition. She continued to flow for a year longer, and finally died from exhaustion in a general dropsical condition.

EPITHELIOMA?

In reference to a report, at a previous meeting, of the removal by scissors of a so-called epithelioma from within the cervix uteri of a patient one year ago, Dr. Hosmer stated that the growth had not returned, and that the patient's confinement was already overdue. There was yet something in the nature of epithelioma not yet understood, said Dr. Hosmer, or the case was not one of that disease.

PERSISTENT DANGEROUS HÆMORRHAGE AFTER THE SPONTANEOUS ENUCLEATION OF A UTERINE FIBROID.

Dr. Hosmer reported the case. The tumor had been expelled May 20, 1879. When Dr. Hosmer saw the patient, June 30th, she was about the house, in fair condition. July 24th she reported that "three more tumors, weighing twelve ounces, had been expelled. These were not seen by the medical attendant, but thought by him to be coagula. Dr. Hosmer was again called August 12th. The patient had been in bed two weeks, and was suffering from pain and uterine hæmorrhage. A solid mass of coagulum filled the vagina and protruded from the os uteri. A few days later this was cleared out with the fingers. September 5th an examination revealed nothing, and the patient was supposed to be all right. Twenty-four hours later hæmorrhage occurred; subsequently an enormous clot filled the vagina. The mental and moral condition of the woman was strongly opposed to interference. Interference, moreover, might leave some harmful scratch or abrasion. The case was therefore treated on general principles, including ergot and muriate of iron. October 4th the patient experienced, while at stool, a sense of sinking, and the next morning she was reported to be dying. The coagulum, meanwhile, was increasing. October 18th there was retention of urine, and the catheter was used daily till the 26th. Later it was not required. A few days after the attack of syncope, a tumor appeared in the abdomen, rising out of the pelvis in the right groin, and it had now reached the level of the umbilicus and extended pretty well over to the median line. Diarrhoea set in, with a discharge more or less offensive from the vagina, and a centigram of morphia was given twice a day. The abdominal mass was now hard and firm, and the patient's condition was critical. Early in the case the pulse ranged from 70 to 90; later it reached 120. The temperature was but little affected, — usually $99\frac{1}{2}$ ° F., rarely reaching 100° F. Dr. Hosmer asked the opinion of the society as to the later course of treatment pursued and the nature of the abdominal tumor, justifying himself as to the former by reason of the patient's moral condition and strong aversion to interference, which hitherto had been of no apparent advantage, and stating his belief as to the latter that the tumor was a coagulum. Early in the case the abdomen was frequently examined, with negative results. There was no examination of the urine. Menstruation had ceased several years ago.

Dr. BIXBY said that he had seen in consultation, a few weeks ago, a case in some respects like that of Dr. Hosmer's, but unlike it in others. The case was seen late. It was a question of pelvic abscess and the propriety of making an opening through the abdominal wall. There was a tumor, distinct, round, and hard, in the left iliac region. By aspiration a small amount of blood was removed. According to the statements of the family physician, there were no pelvic evidences of

fluctuation. Later a large amount of dark grumous blood was removed with a large-size trocar. The discharge being very offensive, a large permanent opening was made. The sac was treated by antiseptic injections for six weeks. When seen by Dr. Bixby, it had nearly closed, but the discharge was still offensive. Everything considered, the patient was in excellent condition. The history and cause of the affection corresponded precisely with that of those cases of retro-uterine hæmatocele treated by a permanent opening.

Dr. LYMAN questioned whether the tumor in Dr. Hosmer's case were not due to the regurgitation of blood through the Fallopian tubes.

Dr. BOARDMAN said that he thought Dr. Lyman had suggested a very probable explanation of the tumor, in view of the history of the case, and stated that he would himself have removed the clots as far as possible from the vagina and uterus.

Dr. RICHARDSON suggested that this explanation was unlikely, as after the menopause the Fallopian tubes are shriveled up.

Dr. Hosmer, in answer to Dr. Lyman's suggestion, said he should suppose that in such case the fluid would diffuse itself in the peritoneal cavity, and not be limited to the form of a substantial rounded mass like that which he had observed.

Dr. Hosmer said he thought it proper to rely somewhat upon the contractile power of a uterus which had been able by its own efforts to expel a uterine fibroid. When this occurred everything appeared to be left in good condition. He had never before had a case of spontaneous expulsion of a fibroid.

Dr. RICHARDSON compared the case to a post-partum hæmorrhage, and said that he would have removed the coagula, since in no other way would it seem possible to arrest the hæmorrhage.

Dr. LYMAN suggested that it would have been better to dilate the cervix and get rid of the hyperplasia, and swab out the uterine cavity with nitric acid, as in some cases he had reported, while in others relief had followed the dilatation alone.

Dr. BIXBY referred to three cases of retro-uterine hæmatocele. All were in young menstruating women. The cause in each was exposure during menstruation, and in all metrorrhagia, of weeks' duration, was the prominent symptom. The hæmorrhage would cease for days at a time, no doubt having been temporarily dammed up by a clot, which, when dislodged, caused a return of the hæmorrhage.

Dr. Hosmer asked if any one present had seen hæmorrhage after the spontaneous expulsion of a uterine fibroid.

Dr. WYMAN said that he had seen a case in which there was no hæmorrhage.

Dr. WELLINGTON said that he had seen, a few weeks before, a case of ovarian tumor with dropsy, in which the woman thought she had falling of the womb. A tumor as big as the fist was found in the vagina. This was removed from its uterine attachment. But little hæmorrhage had occurred previously, and there was none afterwards.

ELONGATION OF THE CERVIX UTERI DURING LABOR.

Dr. VAUGHAN, of Cambridge, reported the case. The patient, a multipara, had been in labor twenty-four hours. The attending physician had tried without success to apply forceps. The head was high up, not engaged, and the anterior lip of the os was lying below

the head. After some delay the forceps were applied with some difficulty, and delivery was then accomplished with very little trouble. The placenta was then found lying well up on the pubes, but entirely without the inner os, and a large exostosis was discovered on the promontory of the sacrum. The placenta was gathered away with some difficulty, on account of the exostosis. The distance from the pubes to the inner os was upwards of four inches. The anterior lip was then at the lower border of the pubes, making one and a half inches additional. Before the child was removed the abdomen was prominent, but not lax nor pendulous.

The forces which caused the elongation of the cervix were evidently the weight of the child, thrust forward by the exostosis, and the unnatural direction of the pains, acting upon the cervix, which was pinned against the pubes.

CASE OF LABOR COMING ON DURING AN ATTACK OF FACIAL ERYSIPELAS.

DR. DOE reported the case. No untoward symptoms followed either in mother or child. During the labor the pains had been feeble, and after waiting a while Dr. Doe administered ten grains of quinia. This was followed by a revival of the pains, and the labor was soon terminated.

DR. RICHARDSON stated that he had tried quinia in at least fifty cases at the Lying-In Hospital, and had been rarely, if at all, sure that the quinia had had any effect. He asked Dr. Doe the object of the topical use of carboic acid in the case reported by him. If a constitutional disease, why attempt to make a preventive local treatment? Dr. Richardson stated that he had found thirty or forty cases on record in the journals, in none of which did any septicæmia result. He had seen a number of cases of new-born children with erysipelas (or erysipelatoid erythema), and in none of these any evil consequences to the mother.

DR. STEDMAN stated that he had seen a fatal case of erysipelas in the new-born infant, without harm to the mother.

DR. WELLINGTON called to mind Dr. Holmes's essay upon puerperal fever, in which it was held to be a very serious matter to attend a case of labor if the physician had a case of erysipelas on hand. Although this view is not borne out by any fact in his own experience, yet so deeply was he impressed in early life by Dr. Holmes's paper that he has always been unwilling to attend a case of labor and a case of erysipelas at the same time.

DR. LYMAN said that if he remembered rightly Dr. Holmes, in this essay, made no distinction between simple and phlegmonous erysipelas.

Recent Literature.

Croonian Lectures on some Points in the Pathology and Treatment of Typhoid Fever. Delivered at the Royal College of Physicians of London. By WILLIAM CAYLEY, M. D., etc. London: J. and A. Churchill. 1889.

Dr. Cayley is a physician to the Middlesex Hospital and to the Louden Fever Hospital; these lectures, three in number, were delivered before the College of Physicians of London, and subsequently appeared in the English medical journals.

In book form they make a small 16mo volume of one hundred and twenty odd pages. The first lecture is devoted to the ætiology of typhoid fever, the second to its pathology, and the third to treatment. The latest results of experience and observation, as given by Liebermeister in Ziemssen, and as recorded since, are mentioned and discussed. Where theory alone is concerned, the author is wisely prudent about committing himself.

He is evidently of the opinion, as we believe is the great majority of men who have taken the trouble to revise old beliefs, or have studied the subject in the light of the latest investigations, that there is a distinct typhoid poison, although its nature is not yet satisfactorily determined. It is equally plain, though not positively expressed, that the author is a disciple of Dr. Budd rather than of Dr. Murchison; that his sympathies are with continuous propagation, and opposed to a generation *de novo*. Here, too, there is no doubt that he is with the present tendency of medical belief. Fatigue and filth have no claims to be regarded as primary causes of typhoid fever, and we hope will soon cease to be so regarded. Bartholow, in his late work on the Practice of Medicine, delivers himself on these two points with concise and pithy positiveness. Cayley touches on the various modes of propagation to which recent observation has called attention. He accepts the distribution by diseased meat as sufficiently authenticated, especially by the Klotten outbreak. The earlier outbreak at Andelfingen, in the same Swiss province, is entirely discredited by Liebermeister, and it was perhaps not worth while to give it in detail. He thinks the typhoid stools may develop contagious properties within twelve hours, and herein he agrees with other recent writers.

In the lecture on pathology, Cayley takes the same view held by Immermann, of Basle, in regard to relapse in typhoid, namely, that in relapse there is a fresh infection of the blood by the typhoid poison; that the re-infection is usually an internal one; and that errors in diet, contrary to common impression, have merely an accidental relation to such relapses.

In the lecture on treatment the author, after giving the ratio of mortality in various hospitals at home and abroad, in the English army, and in the royal navy, concludes that there is little reason to be satisfied with the expectant treatment. Though agreeing with him that the expectant treatment should be supplemented by judicious measures at the different stages of the disease, we cannot but suspect that unhygienic surroundings and the class of cases treated are largely responsible for the high rate of mortality in many of the institutions cited. Considerable space is devoted to the antipyretic treatment, whether by baths, by drugs, or by the two combined, and it is approvingly spoken of, although the author's experience with baths—one hundred and thirty cases in all—has been limited. Among the statistics quoted in support of cold baths we are surprised not to find those of Dr. Goldammer, of the Bethanien Hospital, Berlin. The author has most recent experimenters with him in the statement that cold baths do not increase liability to intestinal hemorrhages, but that they do favor relapses.

We have devoted disproportionate space to the review of these short lectures, because it seems to us that typhoid fever is too generally regarded as a disease as to which the last word has been said.

Medical and Surgical Journal.

THURSDAY, DECEMBER 2, 1880.

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THE DEATH UNDER ETHER AT CINCINNATI.

THE *Cincinnati Lancet*, October 30th, devotes a large portion of its space to an account of a death after ether and a discussion about it at the Cincinnati Medical Society. The main result reached seems to be "that a state of anæsthesia is always a condition of danger." We do not quite agree with this view of the anæsthetic state, and as the writer courts "a full, free, and searching criticism," we take the liberty of offering briefly our own view of the circumstances, which seem to be most candidly stated. The case was one of a considerable abscess at the lower part of the thigh of a puerperal female, who for two months before delivery had a swelled leg. Two weeks after it was opened, the wound was further enlarged under ether; the cavity was washed out with a strong solution of chloride of zinc, drained, and dressed antiseptically. "The dressing was changed almost every day, on two or three occasions only being left on for forty-eight hours." Incidentally it may be said that this is a more frequent change than is usual with Lister dressings, and it is difficult to see how it afforded to the patient "great comfort," "especially as avoiding pain from frequent bandaging." With effective drainage, we think an antiseptic injection of the abscess in morning and night, with perhaps an antiseptic drip, but without a "Lister dressing," would have been quite as efficient and much more convenient to patient and surgeon. The patient "in every way seemed to be doing well," "and the appetite improved." To make the drainage better the patient was again etherized, and there was now found to be "a considerable portion of the femur which was laid bare and necrosed." This would be a not improbable effect of the contact of bone with pus.

It may have been only an exfoliation whose separation was to be waited for. But the surgeon here says, "I felt that amputation was our only remaining resource,—an apprehension which in my own mind amounted almost to a certainty." It seems to us that so dangerous an operation as an amputation at the middle of the thigh would hardly have improved the chances of a feeble patient, who was already slowly progressing in the right direction and recovering. Was not a condition of slow improvement the best to be expected under any circumstances?

The patient was now etherized for amputation. An incision was made, when, to quote the operator, "my attention was called, by the resident giving the ether, to the condition of the patient, and by his vigilance we were thus enabled to combat the very onset of the

unfavorable symptoms. I found that the movements of respiration had ceased, and I could find no pulse at the wrist."

At this point let us consider, a little, the circumstances. From the beginning to the end of this account no mention is made of the condition of the pulse before the period when it was found to have ceased to beat. We here reach the kernel of the case. Ether is safe mainly because it gives warning by the pulse. When the patient is getting too much, the pulse becomes weak and slow, not suddenly, but gradually, and in time to avert danger. Or if the pulse at once becomes weak, it is only because the patient is faint and can be easily re-excited. If both pulse and respiration could thus suddenly stop, and the patient be found to be beyond recovery, ether would be no better than chloroform, which produces precisely this effect. But with ether this result never happens, simply because the pulse indicates the condition of the patient. This omission to speak of the pulse would lead us to believe that its vital importance as a sign is not recognized in Cincinnati, and that it was by no means "the onset of the unfavorable symptoms" to which attention was first called by the etherizer.

Next as to the measures for resuscitation. With us, after the patient is laid flat, or with the feet highest, a methodical, careful, and persistent artificial respiration is mainly relied on to reëstablish breathing; and when this is accomplished the patient, unless an habitual drunkard, or excessively enfeebled by disease or otherwise, is considered safe for the time. An ounce or two of brandy by the rectum, or a few drachms beneath the skin, would be thought enough. In the case under consideration, during the two and one half hours the patient lived, and during which she at first recovered so far as to be placed again on the table for amputation, artificial respiration was soon abandoned. In its place nitrite of amyl and carbonate of ammonia were applied to the nostrils; a galvanic current was tried with good effect; five drops of pure liquor ammoniac were injected into the external jugular vein; and finally, during this time, by rectum and by hypodermic injection, the large amount of one and a half pints of brandy were administered. May we not fairly raise the question, What was the narcotic effect of a pint and a half of brandy, administered in two and a half hours, upon a patient already narcotized? Surely this case is not one upon which to base the conclusion already quoted, that the state of anæsthesia (of itself) "is always a condition of danger." At the autopsy "no structural lesions were found to account for death."

One or two points that may be noticed occur in the subsequent discussion upon this case. Dr. Reeve said, "I never draw the patient's tongue out at all." Here, this is one of the measures most relied on in emergency to open the fauces and admit air. The same gentleman correctly says that patients under chloroform may die "like a flash," "from the sudden shock produced upon the nerves." Also, "I claim to be among the first who taught that doctrine in connection, or urged it in connection, with the subject of chloro-

form deaths." And again, "Cincinnati has had a woful list of deaths." The doctrine of fatal shock by chloroform was distinctly announced in 1848 by Dr. H. J. Bigelow, in the following paragraph, which curiously enough mentions Cincinnati as already the locality of the second death in the world by chloroform:—

"The strong argument in behalf of ether is that so few opportunities have occurred in which it could be even suspected of agency in fatal results.

"With chloroform the evidence is a little different. Two somewhat remarkable cases of death occurring during the brief administration of this agent for surgical purposes at once present themselves,—the Cincinnati case and that of Mr. Meggison at Wiltaton. In these cases death occurred in about five minutes from the beginning of the inhalation. In the Cincinnati case the quantity inhaled must have been considerable, from a saturated sponge in a four-inch glass globe; yet in Meggison's case a drachm only was applied upon a handkerchief. It is quite possible that death resulted in the latter case, as Mr. Simpson avers, from asphyxia produced by the administration of brandy and other liquids before the patient was able to swallow. Such error could be easily avoided. Yet these instances suggest a specific cause of danger. This is the sudden impression upon the system of a powerful inebriating agent. Abundant alcoholic stimulus has often produced immediate death, and analogy would suggest that inebriating vapor in the lungs may be the equivalent of similar fluid in the stomach, and that in one or both the cases alluded to chloroform may have produced a sudden and overwhelming shock upon the system."¹ This was written less than two years after the first experiments with ether, and not many months after the introduction of chloroform.

Of antidotes the same paper remarks: "It has been well said that fresh air, and in an extreme case artificial respiration, is the best antidote for ether inebriation." . . . "Brandy and other diffusible stimulants, appropriate remedies for syncope, belong to the class of agents which induce the anæsthetic symptoms; and it is quite probable, though evidence is incomplete upon this point, that the difficulty would only be aggravated by their use." The vital importance of the diminution of the force and frequency of the pulse is also pointed out, and without underrating the potent influence of anæsthesia upon the system the paper concludes with the question, "Can antimony or opium show as clean a bill of health for the same period?"

In offering the above remarks in the interest of some poor sufferer who might be denied the benefit of anæsthesia, were the doctrine of its absolute danger accepted, we are quite ready to acknowledge, in regard to the account we have criticised at the invitation of its author, that it is easier to criticise than to act. However that may be we cannot too strongly commend the attitude of the surgeon who gives so explicit and candid a report of an unfortunate case.

ANNUAL MEETING OF THE NEW YORK SANITARY REFORM SOCIETY.

THE first annual meeting of the New York Sanitary Reform Society was held on the evening of November 18th. Judge Charles P. Daly presided, and made some opening remarks, in which he said that the organization of the society grew out of the appointment of nine gentlemen by the mayor, more than a year ago, to investigate the tenement-house question, and to prepare a bill, to be presented to the legislature, to secure a reform in the building of tenement-houses. This bill had been prepared and, in spite of much opposition, passed; but that was only a limited part of the sanitary reform needed, and the committee felt that there was a large field yet remaining in which much good work might be accomplished. This consideration led to the organization of the Sanitary Reform Society a year ago, and though it was not a large body he believed it to be all the more effective on that account. The objects of the society were summarized as follows:—

(1.) Calling on the board of health to abate all nuisances that may be brought to the notice of the society.

(2.) Aiding the board of health in its efforts to secure as high a standard as possible in the construction of new tenement-houses.

(3.) Advocating a radical treatment of the "slums" and "fever nests" of the city, through the adoption of some plan which will insure their demolition and the erection of an improved class of dwellings.

(4.) Taking active steps to secure, when necessary, such legislation as may be required for the sanitary welfare of the city, and to counteract at all points the adverse influence of any organizations or persons who may try to evade or modify existing laws to their own advantage.

(5.) The publication and distribution of sanitary tracts, cards, etc., containing information in regard to ventilation, cleanliness, diet, the care of the sick, and other similar matters.

(6.) Doing all in their power to establish an efficient system of street-cleaning; thus removing one of the most prolific sources of disease and death to which the tenement-house population is exposed.

Mr. James Gallatin, the president of the society, read the annual report of the board of directors. In it he stated that during the past year the work of the society had consisted chiefly in consultations with the officers of the health department, in endeavoring to secure the best results from the enactment of the amendments to the tenement-house law. The points which had principally occupied their attention had been:—

First. As to whether the tenement-houses erected under the supervision of the board of health were as adequately supplied with air and light as could be reasonably expected. A representation to the health commissioners that the law might be enforced more stringently without undue hardship to property-holders, and with much benefit to the future tenants, induced them to require the introduction, in many cases,

¹ Transactions of the American Medical Association, vol. i., 1848, p. 213. Ether and Chloroform: Their Mode of Administration and Physiological Effects. By Henry J. Bigelow, M.D., one of the Surgeons of the Massachusetts General Hospital.

of larger air-shafts, and to curtail the percentage of lot to be occupied by the buildings.

Second. The prevention of the introduction of defective plumbing in tenement-houses. Hereafter plans for the plumbing of all projected tenement-houses must be submitted to the board of health.

Third. The practicability of arriving at a more summary method of abating nuisances than appears to be in operation at present. It seemed that the proceedings of the health department might frequently be shortened to advantage.

The work proposed to be taken up at once by the board of directors for the coming winter, in addition to that already referred to, was: (1) the securing of the passage, by the legislature, of a law to extend the supervision of the board of health over the plumbing of all buildings hereafter erected in the city; (2) the suppression of the Hunter's Point nuisances (in Long Island City, across the East River); (3) the sanitary education of the poor, through such agencies as might seem available from time to time; and (4) the licensing of milk venders.

The very large death rate during the past summer, it was hoped, might be the means of impressing upon the legislature the absolute necessity of some radical change in the present system of street-cleaning, and the question of the improved construction of public school-houses was another which should receive attentive consideration.

Professor Charles F. Chandler, president of the board of health, then made a lengthy address, principally devoted to the new tenement-house law, in the course of which he said that thus far there had been comparatively little trouble in enforcing the provisions of the law. According to these, a particular form of tenement-house was prescribed, though this form might be modified in certain particulars to suit certain localities and conditions, if permission for such modification were granted by the board of health. In the past year 1047 houses had been constructed under the new requirements. These were occupied by 7736 families, and, counting an average of three persons to each family, it would be seen that 23,000 persons had thus been given comfortable and healthful homes. Of these 1047 houses erected, 716 were flats, 328 were tenements, and three were lodging-houses; while only 66 of the entire number were to contain more than three families on one floor. According to the old plans, most of the interior rooms of such houses derived their light from the windows of the rooms in the front and rear; the doors between the rooms containing panes of glass. Now, however, it was insisted in every case that each room should have at least one window of its own, and that this should occupy not less than twelve square feet of area. Where these windows could not be in one of the outside walls, it was required that a shaft should be run down through the building; such shafts being whitened and covered with glass tops. Thus, every room not only received a fair amount of light, but might also be excellently ventilated. At first there was considerable opposition to the enforcement of the law, but there had been little

difficulty of late. It was not long before the architects began to find out what was required, and then their plans began to alter so much for the better that in many cases, after examination, the health authorities only had to write "allowed" across the plans submitted. During the year five thousand dollars had been collected in fines from fraudulent milk dealers.

Elbridge T. Gerry, president of the Society for the Prevention of Cruelty to Children, spoke for a few moments on the children of the tenement-houses. "For months previous to the entrance of the tenement-house child into the world," said he, "its mother is overworked, is compelled to live on bad food, has little clothing, and that of the poorest quality, and has no medical attention in many instances. In addition to all this misery, dissipation and drink deepen the horror of the situation. There is no clothing made ready, no preparation for the child whatever, ordinarily, and it is ushered into the world illy fitted, physically or mentally, for the struggle for existence in which it must soon engage. Liquor is often given to these children almost from their birth; both to stupefy them, so as to keep them quiet, and to take the place of nutriment. The fearful death-rate of the city is the comment of arithmetic upon such a state of affairs. But the child's most miserable experience comes when it attains the age of two or three years. Then it is sent out into the streets to solicit alms, and often it is hired out for begging purposes. As it grows older it is led into all kinds of viciousness. Sometimes it is employed in juvenile parts in some low variety theatre, and after spending a whole evening in an over heated room is sent out into the sleet and snow with scarcely enough to cover it. Our society takes notice of the effects produced by living in tenement-houses, as many of them are now. Your society strikes at the causes which produce the effects which come before us. I hope the time may come, and come soon, when you will bring about that condition of affairs when our society will have little or nothing to do."

The concluding address was by the Rev. Henry C. Potter, on The Moral Obligations of Sanitary Reform.

WHAT IS A COLD BATH?

THE following sentiments, copied by a contemporary from the *Lancet*, express so accurately our own ideas upon this subject that we hope they will receive general attention from our readers. The popular habit of taking a bath at the temperature of the water the year round is based upon unsound hygienic principles. We are careful to preserve the air of our dwellings at as nearly an even temperature throughout the year as possible. Why that of the water should be kept low in winter and high during the warm season from choice is hard to comprehend. The fact is that few men beyond the age of thirty are able to take the old-fashioned cold bath. The shock to the heart is too great.

"A cold bath is not necessarily a bath in water of the temperature of the atmosphere. A bath is truly

and really cold when it produces a certain physiological effect, — a slight momentary shock followed by pleasant and lasting reaction. These effects are, for the majority of people, most pleasantly obtained by bathing in water about thirty-five to forty degrees below the temperature of the body, the usual temperature of unheated water in June and July. Bearing this in mind, we can enjoy our physiological "cold" bath as safely and pleasantly at Christmas as at mid-summer, and there is no necessity for the most timid or weakly to discontinue his morning-tub because the summer weather is over. When the water sinks below a temperature of sixty degrees, let it be heated to that point and then used, and we shall still have our "cold" bath, though of heated water. The daily stimulant effect of such a bath is so beneficial to the great majority of persons, and is of such marked service in maintaining health, that it is very important to have it widely known that a cold bath may be taken all the year round provided cold is not mistaken to mean "at the temperature of the outer air." To heat our bath during the winter months is too often thought to be unmanly, while in reality it is truly scientific; and to bathe in unheated water all the year round, whatever the temperature that water may be, is to prove one's self an ignorant slave of outward circumstances."

THE REGULATION OF THE PRACTICE OF MEDICINE IN NORTH CAROLINA.

THE success of our educational number has been to us a source of satisfaction. We took occasion lately to mention in a short note various complimentary remarks that had come to us from different sources. We are also glad to draw attention to omissions when they are brought to our notice. The article on the Regulation of the Practice of Medicine was an attempt to collate the laws of the different States on that subject.

The *North Carolina Medical Journal*, in an editorial, draws attention to our omission of the fact that for twenty-one years a law has been in operation in that State which it believes to be better in some respects than any of those quoted. By it the practitioner must be examined and licensed by a board, elected by ballot from the State Medical Society. A diploma does not give the right to practice without examination. The penalty for practicing without license is simply an inability to recover in court for medical services rendered. As a result of the law irregular practitioners are reduced to a very small number.

MEDICAL NOTES.

— Dr. Lucius N. Beardsley, who died at West Haven, Ct., November 22d, of pulmonary consumption, aged sixty-six years, will be remembered as an occasional contributor to the *JOURNAL*. For many years he was a regular subscriber. As a very successful practitioner, a speaker of engaging address, and a clear thinker Dr. Beardsley has been for many

years prominent in his section. His field of labor was Milford, Ct., where, for forty years, he received the unstinted confidence and the warmest support of a large circle. Dr. Beardsley had a fund of sympathy and wholesome humor which, combined with the dignity of a Christian citizen, made him popular and influential. He was prominent in the medical societies of his State, and as delegate to the American Medical Association on several occasions was specially honored on committees. A valuable sketch of the course of diphtheria as it first appeared in New England, in Orange, Ct., in 1859, was submitted by Dr. Beardsley to the *JOURNAL*, No. 22, Volume LX., and was extensively copied into the leading medical papers of the country.

— The approaching meeting of the American Public Health Association, to be held at New Orleans on Tuesday, Wednesday, and Thursday, December 7th, 8th, and 9th, promises to be very fully attended and of unusual interest. It looks as if there was to be a battle royal between the National Board and the Louisiana State Board of Health, in which the questions of the existence of yellow fever in Plaquemines Parish last summer, as reported by Dr. Sternberger, and the propriety of keeping Ship Island as a quarantine station will be conspicuous. State rights and centralization will undoubtedly be appealed to.

— Dr. Paul F. Mundt, editor of the *American Journal of Obstetrics*, has been appointed professor of obstetrics in the Dartmouth Medical School.

— We have received Walsh's Physician's Call Book and Ledger. The Call Book is of convenient size and handsome appearance. Each page of the Handy Ledger presents a square space for every day of the year, with additional room for extraordinary charges; so that the exact number of visits made each patient and their date can be shown at a glance.

— A valued correspondent calls our attention to the London *Lancet* for September 25th, in which is figured a tongue depressor, which is identical with those which have been in use in this city for a number of years. Two forms are given, both of wire: one is jointed, for the pocket; the other is fixed in a wooden handle. The inventor does not wish to "claim for it any undue amount of importance," but evidently has no doubt of his claim to originality.

— Fifty years have passed since the widely known Russian surgeon, Nicholas Pirogow, entered on the practice of his profession. The jubilee was celebrated in Russia with much enthusiasm October 2d.

ST. LOUIS.

— Two rather unusual cases have occurred here during the last three months: they were cases in which interference with the carotid circulation in one side of the brain produced paralysis of the opposite side of the body.

The first case was that of A. U., who received a gun-shot wound in the right temple. The bullet entered a little below the outer angle of the orbit, and ranged downwards toward the base of the brain. When first seen the patient was in a comatose condi-

tion. On the third day he partially rallied, but there was found to be complete hemiplegia with anæsthesia of the left side; this was accompanied by insomnia and obstinate constipation. The right eye became inflamed, and protruded from the socket, the pupil being largely dilated; the inflammation yielded to cold and mild astringent applications. Shortly afterwards the left eye ran through the same course, except that the pupil was contracted instead of dilated. Toward the close there was bulging forwards of both eyes, accompanied by ptosis. There were never any but slight febrile symptoms.

Upon post-mortem examination there was found an aneurism of the right internal carotid where it passed along the body of sphenoid bone to enter the cranium. The bullet forming part of its wall.

The second was the case of B. M., aged about thirty years. On the 31st of July, 1880, he was shot in the left side of his neck with a 22 calibre Smith and Wesson revolver. There was profuse hæmorrhage from the mouth, and when seen, shortly after the shooting, he was cold, unable to speak, and pulseless. A few hours later he recovered his speech, and complained of intense pain in his right arm. Upon further examination, a flesh wound was found in the right thigh, and extensive infiltration and oedema about the larynx, the oedema extending down on to the chest.

August 1st, the pain in the right arm was still intense, but was most severe near the outer end of the right clavicle. At the same time there was found to be complete paralysis of motion in the left arm and leg; sensation, however, was not appreciably affected. The left pupil was widely dilated, but responded to light. It was supposed that the bullet had passed through the pharynx, and had lodged near or upon the axillary plexus.

Twelve days later, August 13th, a small swelling showed itself in the region of the right common carotid; by the 15th it had attained the size of an orange, and had all the signs of an aneurism of the common carotid artery. It was decided to operate, and an incision was made extending upwards from the upper end of the sternum, about five inches along the inner border of the sterno-cleidomastoideus, and also another beginning at the upper end of the sternum, and extending outwards along the right clavicle about three inches. This flap was turned back, the aneurism — a circumscribed false aneurism — exposed and laid open, the finger immediately following the knife and compressing the artery at its opening into the aneurism. The artery was at once tied above and below the opening, and during the whole operation there was but one gush of arterial blood. The operation was performed by Dr. Hodgen, assisted by Dr. Mudd and a number of other physicians. The bullet had passed completely through the artery, making two holes in its walls.

October 14th there was slight hæmorrhage from the external incision. October 20th there was no pulsation at site of ligation, but distinct pulsation in the region of the subclavian. On the 24th there was

another slight hæmorrhage. On the 25th the movements of the left arm and leg were weak, but perfect. The left pupil was still somewhat dilated. Since that time the patient has continued steadily to improve.

— Dr. Hodgen has made a new departure in his treatment of tetanus, namely, giving arsenic hypodermically. The details of the case are as follows: —

On the 14th of September, 1880, C. D., thirty-five years of age, fell about forty feet, producing a comminuted fracture of the thigh and a compound comminuted fracture of the os calcis, the skin covering the os calcis being cut by striking upon a sharp stone.

When first seen the patient was just recovering from shock. Plaster-of-Paris dressing was immediately applied to the foot and leg, and the thigh was treated with Buck's extension apparatus. On the 15th the abdomen was swollen. On the 17th the swelling had extended to the thigh. On the 29th symptoms of tetanus, trismus, and opisthotonos began to manifest themselves. Morphine was given at once. At 12.30 the following day the patient was quite rigid, and had suffered a number of tetanic spasms. Dr. Hodgen gave a hypodermic injection of ten minims of Fowler's solution of arsenic, and ordered thirty grains of chloral every hour if the patient did not rest. At four p. m. the patient was still rigid, but somewhat better, and had taken one hundred and twenty grains of chloral. The hypodermic injection of arsenic was repeated. At eight p. m. there was another spasm, and Dr. Shore, who was in attendance upon the case, injected ten more minims of Fowler's solution. During the night the patient was entirely free from spasms. At ten a. m., October 2d, the injection was repeated, and was followed by vomiting of frothy mucus, probably the result of arsenic poisoning. The following night he passed comfortably, there being no spasms, and the next morning he took food freely. The injection was again used, and after this there were no further symptoms of tetanus; but an abscess developed in the thigh, which was opened, and treated with carbolic-acid washes, and on the 5th the patient died with all the symptoms of septicæmia.

Upon post-mortem examination it was found that the cavity of the abscess extended up along the iliacus internus and psoas magnus muscles to the upper part of the pelvis. The femur was found comminuted to the trochanter minor, and the os calcis comminuted without fracture of the other bones of the foot.

Dr. Shore states, in a note to Dr. Hodgen, that the contractions of the voluntary muscles were arrested; that the spasm of the muscles of deglutition was relieved; that the pains shooting from the sternum to the spine were stopped; that the pulse became full and slower; and that the relief afforded by the injections was so immediate and so great that the patient would request to have them repeated. This case certainly bears very strong evidence in favor of the use of arsenic in tetanus, and it is to be hoped that more extensive trials may be made of it soon. There were no unpleasant local symptoms following its use, and Dr. Shore has since tried it hypodermically in the treatment of chorea, with a successful result.

Miscellany.

LETTER FROM BALTIMORE.

The Official Sanitary Survey of Baltimore. — A Healthy City under Unhealthy Conditions. — A Curious Sanitary Paradox.

MR. EDITOR. — The Baltimoreans are temporarily aroused from their chronic condition of lethargy in regard to the hygienic interests of their city by the report recently published of the survey made by Dr. C. W. Chancellor, a special sanitary inspector appointed by the executive committee of the National Board of Health.

In this work Dr. Chancellor had the valuable counsel of Dr. Chas. F. Folsom, who has, as is well known in Boston, made a special study of public hygiene and sewerage methods, both in this country and abroad.

The report, although not as comprehensive as may be desired, and including only those districts acknowledged to be in the most filthy condition, is, by reason of its plain statement of facts and the curious sanitary anomaly it points out, of great public and very general interest.

Close observation has led the writer to put very little faith in the mortality reports of the United States, and that observation is somewhat corroborated by the report of the American Public Health Association (vol. ii. folio 6) in the statement there made that "only two States, Massachusetts and Rhode Island, have methods of registration giving satisfactory results;" and those familiar with statistical methods know that the death-rate of the principal and nearly all the American cities has been calculated on assumptions as to the growth of the populations since 1870, which the recent census of 1880 has shown to be in most cases exceedingly erroneous.

But be this as it may, the fact remains that the city of Baltimore ranks, by such statistics as we have, among the healthiest cities of the world, and has an apparent lower annual death-rate than a majority of the states of Europe. The greater part of the city of Baltimore lies upon a series of hills, rising in every direction from the river Patuxco, and the arms of the Chesapeake Bay, with elevations of from ten to one hundred and sixty feet above tide.

Four streams traverse the city in a north and south direction, Schoeder's and Chatsworth's runs intersect it on the west, Jones Falls near the centre, and Harford Run on the east.

The city is abundantly supplied with pure water, but has no sewerage system, and no topographical survey has ever been made.

The streams above named have all become either entirely open or partially closed sewers, and nuisances, in a greater or less degree; Jones Falls is an intolerable one, and, in the words of Dr. Chancellor, the "*bête noir*" of Baltimore.

To those who have not an intimate knowledge of the city it may be interesting to note its appearance to a casual visitor or a temporary resident during a warm or dry season.

The better class of houses are provided with cess-pools, varying in depth from ten to seventy feet, the overflow from which, in the minority of instances, is carried by a secret drain into one of the open sewers above named; in the majority, the contents are allowed to saturate the soil beneath the dwellings.

This part of the poisonous work is done slowly and secretly, and is not in the best quarters offensive to the senses; but the sink drains, which discharge their slimy and festering contents openly into the public thoroughfare, either in the front or the rear of the dwellings, while perhaps not as directly injurious to the public health, are extremely unsightly, uncomfortable, and noxious to the pedestrian.

In the more hilly portions of the town these persistent streams run directly to the open sewers, leaving, in warm and sultry weather, a stench behind. In the more level places, they accumulate in small disgusting and odorous pools until the rain drives them to the "Basin."

The visitor is also surprised by the presence in a nominally clean city of heaps of vegetable and other refuse matter accumulated and decaying in the streets.

The writer has resided here nearly two months, and has not seen a public street sweeper or any indication of one in the public thoroughfares; appropriations are made for this purpose, but are either insufficient or not used. The abutters in the best quarters sweep the street before their doors to the centre, and there leave the refuse to the kindly rain and sweeping winds.

At this season of decay the leaves are left with house sweepings and other accumulations to decompose, to the detriment of the public health.

If this is the condition in the best districts, the state of the thousand alleys, obscure passages, and streets in other parts of the town can be left to the imagination.

The Basin has been mentioned. This, in the words of Dr. T. H. Buckler, one of the most uncompromising advocates of a thorough and complete system of drainage for the city of Baltimore, "ranks high among the stenches of the world, and its advocates claim the privilege of turning up their noses at every one whose nose has been made to turn up by it." This Basin is the city dock, in which much of the daily maritime business of the port is transacted: it is a pool three hundred feet wide by eighteen hundred feet in length, and into which the open sewers, Jones Falls and Harford Run, discharge their contents, "intensely charged with the effete products of the population, and for which it acts as a 'catch basin.'" "This, of course, is another established nuisance, and the district about it is well named the 'typho-malarial district.'"

The *Baltimore American* newspaper of June 27, 1880, says of Jones Falls, "The atmosphere in the neighborhood of the bridges (the most populous part of the town) is so poisoned with malaria that a healthy man's stomach is turned by breathing it. From the surface of the water mephitic gases may be seen coming up in bubbles, and the stench is the very essence of putrefaction."

The sanitary paradox of a city of nearly three hundred and fifty thousand inhabitants maintaining a high degree of public health under the conditions above stated, will perhaps be made more evident, if not already sufficiently so, by quoting one or two details from Dr. Chancellor's survey: "The house No. 60 Philpot Street, twenty by fifty feet, contained seven families of eighteen persons. The privy and premises generally were in a very bad condition, and the supply of water was drawn from an old well; but in spite of these facts no sickness or death has occurred among the inmates for more than twelve months." "The house No. 51 Thames Street contained eight families of twenty-nine persons.

Cellar damp; sewer closed up, forming a cess-pool, emitting offensive smells; privy in filthy condition; water supply good. *No sickness during the year.*"

Here are certainly some strong arguments in favor of the "saturation theory," by which the system, having become thoroughly poisoned, is no more influenced by the surroundings in which it was acquired; the poison becoming active only when the conditions are changed by a removal to a healthier locality.

It is not the purpose of this letter to censure, but simply point to the facts of an almost criminal disregard of the most simple laws of hygiene on the part of the people of Baltimore. In the cases quoted above the city code provides for the inspection and correction of such evils, but unfortunately the law is not enforced, and, in the words of the report, "a glance at the condition of affairs in the several districts inspected shows an alarming degree of indifference or negligence in the observance of sanitary laws."

Another element of danger, which the report does not specially notice, is the very large number of private stables attached, or semi-detached, throughout the city. There may be a difference of opinion as to whether stables and manure pits so closely connected with dwellings are detrimental to the public health or not; in any event they do not have a tendency to make the air purer or more agreeable to breathe.

There is in the city a large number of wells. In some districts they are generally abandoned for drinking purposes, but are frequently made to do service as sinks or cess-pools, saturating the surrounding soil; in other districts, the poorer in condition, and the most unhealthy according to our present sanitary knowledge, the water of these foul wells is still used with comparative impunity.

In the first district, the report says, this well water is used "on one hundred and thirty to two hundred premises," without any remarkable result.

Truth is said to lie at the bottom of a well, and with the facts stated in this report before us it seems to be evident that some of the fundamental truths of sanitary science are still there. But however curious and interesting these deviations from what appears to be a natural law are, it would be extremely dangerous and foolhardy to ignore the law itself.

History and our own experiences prove that filth will produce disease sooner or later.

The great present danger of Baltimore is, then, in the existence of the great magazines of disease — Jones Falls, Harford Run, and the Basin, — in the centre of a great population. The danger is latent, but the torch may at any moment be applied, and a scourge as disastrous and fatal as that of London or Florence, Memphis or New Orleans, sweep away the life and property and destroy forever the fair name of the Monumental City.

G. R. S.

CROUP OR DIPHTHERIA?

MR. EDITOR, — The following cases will be of interest to those especially who maintain the identity of true croup and diphtheria: —

On the 3d inst. I was called to a family in an adjoining town who were having a "run" of sickness. I was the second physician for whom they had sent. I found a child, two and one half years old, who had been taken the day previous with difficult breathing. This

trouble had increased until my arrival, when it was exceedingly labored, accelerated, and croupy. Pulse 100, temperature 99° F. An examination of the pharynx showed nothing beyond a little redness. There were no other symptoms. Active treatment was begun immediately, with some apparent advantage; but the benefit was temporary, however, and the child grew worse, and in spite of all that could be done died on the following day with all the signs of asphyxia. Tracheotomy was urged, but denied, as I could not positively assure the parents that it would save life.

Now I think that most practitioners will agree that this was a case of membranous croup, and rest satisfied with the diagnosis; but let me add the following facts: Four days before I was called they had lost a child six years old, who had died with well-marked symptoms of diphtheria. And when I was called a third child was sick, in another bed, with what I unhesitatingly pronounced to be diphtheria. The fourth child, a son nineteen years old, was attacked with the same disease two days subsequently, and had a mild though well-marked run. The two last recovered under treatment. After hearing of the three last cases, which occurred almost simultaneously, it is not hard to say, You had a case of diphtheria. But suppose the first case had occurred alone, what would it have been?

Yours truly,

O. F. HAM, M. D.

NORTH BARNSTEAD, N. H., November 22, 1880.

CONCERNING THE REVISION OF THE UNITED STATES PHARMACOPEIA.

MR. EDITOR, — At a meeting of the sub-committee on petroleum ointments, held in Philadelphia last Monday, it was unanimously voted to recommend to the committee on revision that a petroleum ointment under the name of "saxolinum" be introduced into the list of articles for the new edition, and that this substance shall have a melting-point of 128° F. (or about 53.5° C.), and that suitable tests for its purity shall be prescribed.

The melting-point of "vaseline" and cosmoline varies from 95° F. to 112° F.

ROBERT AMORY,

Chairman Sub-Committee.

LONGWOOD, BROOKLINE, November 19th.

TO OBSTETRICIANS.

DR. C. S. MINOT desires to obtain a considerable number of human embryos to use in connection with his course of lectures on embryology at the Harvard Medical School. The lectures are to be given in the spring, and Dr. Minot hopes to be able to prepare a series of sections and dissections which will be incorporated in the Warren Museum, as far as they are adapted, for permanent preservation. Dr. Minot therefore requests that those who may obtain specimens they do not wish for their own studies will have the kindness to send them to Dr. Whitney, Harvard Medical School, North Grove Street, Boston, who has kindly consented to receive and take charge of any specimens which may be generously contributed.

The younger stages are particularly sought for, but fetuses of any age will be highly valued and gratefully acknowledged.

THE CHLOROFORM DEATH BILL FOR TWELVE MONTHS.

In a paper read before the Leeds and West Riding Medico-Chirurgical Society, Dr. Ernest H. Jacob states that during the past year no less than twenty-five deaths have occurred from chloroform, — or rather have been recorded; for, no doubt, many occur which it is convenient and possible to say nothing about. Of these twenty-five, seventeen only occurred in Great Britain. The operations were mostly of the simplest kind: dressing wounded fingers or toes, three; necrosis, four; extraction of teeth, two; amputation of the breast and lithotomy, one each; and one for applying a splint to a child's leg. The deaths appeared to have occurred in the usual way, from sudden syncope. As regards the post-mortem appearances, which are noted in fourteen cases, in five all organs were perfectly healthy; in eight only the heart was more or less "fatty" or "flabby;" and in one there was emphysema of the lungs.

During this period five deaths from other anaesthetics have been recorded: one each from ethylene dichloride and ethyl dibromide, and three from ether. Of the latter, two occurred in America; one during extraction of teeth, no particulars being given, and one during an operation for hip disease, the patient suffering from valvular disease of the heart. The remaining case, the only one in England, was that recently reported by Mr. Hartley, which could not be said to be due to the anaesthetic, as the patient was almost *in articulo* from intestinal obstruction when the operation was begun.

A death from an anaesthetic administered for a trivial operation cannot be regarded, he says, as anything but a serious calamity. It is not for him to say that a grave responsibility rests on the surgeon who employs chloroform when a safer anaesthetic is available, but he thinks it cannot be long before the voice of the profession (if not of the public, as in America) demands some explanation for the use of an agent whose victims are numbered by hundreds.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 20, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diphtheria and Croup.	Lung Diseases.	Scarlet Fever.	Typhoid Fever.
New York.....	1,209,561	546	225	27.29	13.92	16.90	5.68	1.65
Philadelphia.....	901,380	309	95	17.80	4.53	5.82	1.94	3.56
Brooklyn.....	566,689	261	—	34.10	24.50	16.86	2.30	1.53
Chicago.....	503,298	176	73	28.41	22.16	9.09	1.70	1.70
St. Louis.....	—	—	—	—	—	—	—	—
Baltimore.....	393,796	140	44	19.29	5.00	9.29	6.43	4.29
Boston.....	363,938	138	37	20.29	15.94	18.12	1.44	2.17
Cincinnati.....	280,000	90	22	26.67	6.67	8.89	3.33	10.00
New Orleans.....	210,000	112	36	13.39	2.68	6.25	.89	—
District of Columbia.....	180,000	65	9	27.67	15.38	15.38	3.08	3.08
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,649	55	26	38.18	21.82	3.64	7.27	1.82
Buffalo.....	155,159	58	26	25.86	18.97	5.17	7.45	—
Milwaukee.....	127,000	52	29	38.46	11.54	7.69	19.23	3.85
Providence.....	104,862	33	9	15.15	6.06	9.09	3.03	—
New Haven.....	63,000	28	3	10.72	7.14	—	—	—
Charleston.....	57,000	28	5	10.72	—	3.57	—	3.57
Nashville.....	43,543	11	3	9.09	—	9.09	9.09	—
Lowell.....	59,340	28	14	23.43	14.29	10.72	—	—
Worcester.....	58,040	19	10	21.05	5.26	15.79	5.26	—
Cambridge.....	52,860	15	6	20.00	13.33	26.67	6.67	—
Fall River.....	48,626	23	6	15.79	4.35	8.69	—	4.35
Lawrence.....	39,068	24	9	4.17	—	29.17	—	—
Lynn.....	38,376	15	9	13.33	13.33	6.67	—	—
Springfield.....	32,536	6	2	16.67	16.67	16.67	—	—
Salem.....	27,347	14	3	14.29	—	—	—	7.14
New Bedford.....	27,268	12	1	33.33	8.33	—	16.67	—
Somerville.....	24,964	6	2	33.33	—	33.33	—	16.67
Holyoke.....	21,961	6	0	16.67	—	—	—	16.67
Chelsea.....	21,780	4	2	50.00	25.50	25.00	—	—
Taunton.....	21,145	5	2	20.00	20.00	—	—	—
Gloucester.....	19,288	3	2	66.67	66.67	—	—	—
Haverhill.....	18,478	8	2	37.50	25.00	—	—	—
Newton.....	16,994	10	—	30.00	30.00	—	—	—
Newburyport.....	13,470	4	1	25.00	25.00	—	—	—
Fitchburg.....	12,270	3	—	33.33	—	—	—	—
Seventeen Massachusetts towns.....	141,893	36	10	11.11	11.11	5.56	—	—

Deaths reported 2343 (no returns from St. Louis); 722 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 570, consumption 348, diphtheria and croup 301, lung diseases 273, scarlet fever 85, typhoid fever 55, diarrheal diseases 40, malarial fevers 24, small-pox

21, cerebro-spinal meningitis 14, whooping-cough 14, erysipelas 12, measles four. From diarrheal diseases, New York 16, Cincinnati and New Orleans four, Brooklyn and Chicago three, District of Columbia and Charleston two, Buffalo, Milwaukee, Lowell, Lawrence, Somerville, and Chelsea one. From malarial fevers, Brooklyn eight, New York and New Orleans six, Balti-

more three, New Haven one. From *small-pox*, Philadelphia 20, New York one. From *cerebro-spinal meningitis*, New York and Philadelphia four, Chicago, New Orleans, Fall River, New Bedford, Haverhill, and Fitchburg one. From *whooping-cough*, New York three, Baltimore, Cincinnati, Pittsburgh, and Providence two, Brooklyn, Lowell, and Salem one. From *erysipelas*, New York, Brooklyn, and District of Columbia two, Chicago, Boston, Pittsburgh, Buffalo, Worcester, and Fall River one. From *measles*, New York, Pittsburgh, Milwaukee, and Worcester one.

One hundred and forty-one cases of diphtheria, 36 of scarlet fever, eight of typhoid fever, two of measles, and two of whooping-cough were reported in Brooklyn; small-pox one,

in Chicago; diphtheria 59, scarlet fever 21, in Boston; scarlet fever 39, diphtheria 23, in Milwaukee; diphtheria five, scarlet fever four, whooping-cough four, measles three, erysipelas two, typhoid fever two, in Providence; diphtheria eight, typhoid fever five, scarlet fever four, in Cambridge; diphtheria 10, scarlet fever one, in New Bedford.

In 36 cities and towns of Massachusetts, with a population of 1,060,642 (population of the State 1,783,086), the total death-rate for the week was 18.70, against 19.68 and 19.54 for the previous two weeks.

The meteorological record for the week in Boston was as follows:—

Date.	Barom- eter.	Thermom- eter.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.	
1880.																				
Nov. 14	30.162	37	45	31	79	34	53	55	W	W	W	8	8	3	F	F	H	—	—	
" 15	29.888	35	40	34	70	90	90	83	S	NW	NW	6	6	5	O	R	F	4.10	.03	
" 16	30.243	39	52	28	87	29	54	57	W	SW	SW	4	8	8	C	R	C	—	—	
" 17	30.454	41	49	31	79	48	58	62	W	S	S	8	2	5	O	F	O	—	—	
" 18	30.059	38	53	29	82	85	79	82	O	S	NW	0	4	17	O	T	C	.25	.8	
" 19	30.321	29	38	23	61	42	67	57	NW	SE	SE	14	7	1	C	F	F	—	—	
" 20	29.829	39	47	26	87	92	91	90	E	SE	W	2	9	11	O	R	O	6.50	1.11	
Week.	30.137	37	53	23					W	SE	NW							11.25	1.14	

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

² Melted snow.

³ Not measurable.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM NOVEMBER 20, 1880, TO NOVEMBER 26, 1880.

TAYLOR, M. K., captain and assistant surgeon. Assigned to duty at Fort Wayne, Mich. S. O. 204, Department of the East, November 17, 1880.

BREWER, J. W., captain and assistant surgeon. Died November 15, 1880.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting of the society will be held Monday next, at eight o'clock, in the hall, 19 Boylston Place. Reader, Dr. Fisher. Subject, Habitual Drunkenness. A. T. CANOT, Secretary.

BOOKS AND PAMPHLETS RECEIVED. — Biennial Report of the Officers of the Vermont Asylum for the Insane for the two years ending July 31, 1880. Montpelier, Vt. 1880.

Annual Report of the Surgeon-General United States Army. 1880.

Ophthalmic and Otic Memoranda. By D. B. St. John Roosa, M. D., and Edward P. Ely, M. D. Revised Edition. New York: William Wood & Co. 1880.

Cutaneous and Venereal Memoranda. By Henry G. Piffard, M. D., and George Henry Fox, M. D. Second Edition. New York: William Wood & Co. 1880.

A Practical Treatise on Surgical Diagnosis. Designed as a Manual for Practitioners and Students. By Ambrose L. Ranney, M. D. Second Edition, enlarged and revised. New York: William Wood & Co. 1880.

Chrysophanic Acid as a Remedy in Diseases of the Skin. By C. J. Fox, M. D. Essay read before Connecticut State Medical Society, May, 1880.

Clinical Lectures and Cases, with Commentaries. By Henry Thompson, M. D. London: J. and A. Churchill. 1880.

A Treatise on Diphtheria. By A. Jacobi, M. D. New York: William Wood & Co. 1880.

Medical Heresies historically Considered. A Series of Critical Essays on the Origin and Evolution of Sectarian Medicine, embracing a Special Sketch and Review of Homeopathy. By Gonzalvo C. Smythe, M. D. Philadelphia: Presley Blakiston. 1880.

How a Person Threatened or Afflicted with Bright's Disease ought to Live. By Joseph F. Edwards, M. D. Philadelphia: Presley Blakiston. 1881.

Twentieth Annual Report of the Medical Superintendent of the State Asylum for Insane Convicts, Auburn, N. Y., for the year ending September 3, 1879.

Feigned Epilepsy. By Carlos F. MacDonald, M. D. (Reprint.)

The Descriptive Atlas of Anatomy. A Representation of the Anatomy of the Human Body in ninety-two royal 4to Plates. Philadelphia: J. B. Lippincott & Co. 1880.

Diagnosis and Treatment of Ear Diseases. By Albert H. Buck, M. D., etc., etc. New York: William Wood & Co. 1880.

A Manual of Medical Jurisprudence. By Alfred Swaine Taylor, M. D., etc., etc. Eighth American from the tenth London Edition. Edited, with Additional Notes and References, by John J. Reese, M. D., etc., etc. With Illustrations on Wood. Philadelphia: Henry C. Lea's Son & Co. 1880.

The Thirty-Seventh Annual Report of the New York Association for Improving the Condition of the Poor, for the Year 1880. New York. 1880.

Higher Education of Medical Men, and its Influence on the Profession and the Public. Being the Address delivered before the American Academy of Medicine at its Fifth Annual Meeting. By F. D. Lente, M. D., President of the Academy. New York: Charles L. Birmingham & Co. 1880.

Lectures.

THE CARTWRIGHT LECTURES ON THE PHYSIOLOGICAL ANTAGONISM BETWEEN MEDICINES, AND BETWEEN REMEDIES AND DISEASES.

BY PROFESSOR ROBERTS BARTHOLOW, M.D.

FOURTH LECTURE. CHLORAL AND STRYCHNIA; CHLORAL AND PICROTOXINE; CHLORAL AND ATROPIA; OPIUM AND VERATRUM VIRIDE; OPIUM AND GELSEMINUM; OPIUM AND ACONITE; MORPHIA SUBCUTANEOUSLY AND CHLOROFORM BY INHALATION, ETC.

THE discovery of chloral hydrate, and the subsequent announcement of strychnia as its physiological antagonist, made by Liebreich, the lecturer said, had been followed by numerous researches, monographs, and clinical reports; so that the literature of chloral was already vast. He proposed, however, reviewing on this occasion only the work which had been done in the direction of the antagonisms of the agent. Liebreich demonstrated that animals in a deep stupor from chloral intoxication (the dose administered being lethal) were aroused, and death averted, by strychnia. But the most important and elaborate research, undertaken to determine the supposed antagonism of chloral and strychnia, was that of the committee of the British Medical Association, Dr. J. Hughes Bennett, chairman. The committee first, rightly, settled the lethal doses of each agent; they next ascertained the result of the simultaneous administration of chloral and strychnia, and then the result of the administration, at varying intervals, of one subsequently to the lethal dose of the other. Their general conclusions were: First, that after a fatal dose of strychnia life may be saved by bringing the animal under the influence of chloral hydrate. Second, that chloral hydrate is more likely to save life after a fatal dose of strychnia than strychnia is to save life after a fatal dose of chloral hydrate. Third, that after a dose of strychnia producing some tetanic convulsions, these convulsions may be much reduced, both in force and frequency, by the use of chloral hydrate, and consequently much suffering saved. Fourth, that the extent of physiological antagonism between the two substances is so far limited that (1) a very large fatal dose of strychnia may kill before the chloral has had time to act; or (2) so large must be the dose of chloral hydrate to antagonize an excessive dose of strychnia that there is danger from the effects of the chloral hydrate. Fifth, chloral hydrate mitigates the effects of a fatal dose of strychnia by depressing the excess of reflex activity excited by that substance, whilst strychnia may mitigate the effects of a fatal dose of chloral hydrate by rousing the activity of the spinal cord; but it does not appear capable of removing the coma produced by the action of chloral hydrate on the brain.

The lecturer, having given a *résumé* of the researches of Husemann, Rawewski, Erlennmeyer, Arnold, and Oré, of Bordeaux, in regard to the antagonism, spoke of the results of clinical experience, and said that he had found recorded seven cases of strychnia poisoning in which chloral was the chief or only means of treatment employed. He had also found an equal number of cases in which chloroform inhalations had been practiced successfully; and although the latter

did not come within the range of the subject under discussion, yet, as the effects of chloral were attributed by Liebreich to the disengagement of chloroform in the blood, they might seem to illustrate and confirm the former. Of the seven cases of strychnia poisoning in which chloral was the chief or only agent used, all proved successful; and no facts could be stronger. He had been unable to find any cases of chloral poisoning in which strychnia was properly and adequately used, as in animals.

The experiments on rabbits showed that one ninety-sixth of a grain of strychnia was equivalent to fifteen grains of chloral, and in the cases of poisoning in man thirty grains of chloral subcutaneously were sufficient to allay the spasms and avert death. Still, no absolute rule could be laid down, since the susceptibility to the action of these poisons varied greatly in different individuals. As in the published cases emetics had been used, and in many instances the quantity of strychnia had been merely estimated, no conclusions could be drawn from them. Artificial respiration materially retarded the action of strychnia, and warmth, as Dr. Branton had shown, exercised a remarkable influence in lessening the effect of chloral. Heat would therefore seem to be an antagonist to chloral, and for an obvious reason; for heat increased the action of the heart, and thus opposed the depression of that organ, which was a main factor in the toxic effects of chloral. In the treatment of the toxic effects of strychnia by chloral, the amount of the latter was to be determined by the symptoms. Sufficient should be given to suspend the strychnic spasms, since the danger consisted in the stoppage of respiration by tetanic fixation of the respiratory muscles. In the case of the Sioux Indian treated by Dr. Turner, the quantity of strychnia was not known; but the return of the spasms from time to time required repeated doses of chloral, one hundred and five grains having been given within five hours.

When strychnia was used against chloral poisoning the objects to be accomplished were different. By stimulating the cardiac and respiratory centres with strychnia, the tendency to cardiac and respiratory failure was prevented. The quantity required would be determined by the effects; but it was probably much less than theory would indicate. The initial dose might be one sixtieth of a grain, and each succeeding dose one one hundred and twentieth of a grain; which could be repeated every half hour, or more frequently, until an approximation to the maximum was reached.

In studying the physiological mechanism of the opposed action, he said, a preliminary statement of the main facts in the physiological action of each would indicate the antagonistic points. Chloral, with or without a brief stage of excitement, induced a sopor closely related to natural sleep, and in lethal doses coma and insensibility. In toxic doses, therefore, it suspended the cerebral functions. It acted in the same way on the spinal cord; suspending the reflex functions and mobility, but not destroying sensibility until the cerebral functions had been suspended. It did not impair the contractility of muscle, or the irritability of the motor nerves. The action of the heart was enfeebled, the arterial tension was lowered, and very considerable reduction of temperature was caused. The respiration was slowed, then made irregular and shallow, and finally arrested. Death was caused by paralysis of the heart or of the respiration, or by the simultaneous arrest of both functions.

Strychnia did not affect the cerebrum; consciousness being retained until carbonic-acid narcosis came on. It exalted the reflex faculty of the spinal cord, and was a motor excitant. It stimulated the respiratory centre and the cardiac motor ganglia, and raised the arterial tension. Chloral and strychnia could hardly be regarded as antagonistic in their actions on the functions of the brain, since chloral suspended them, and strychnia did not affect them in any way. In one respect they had opposed effects: chloral producing cerebral anæmia, and strychnia rather increasing the intra-cranial circulation. On the spinal cord the antagonism was very complete; chloral suspending the reflex and motor functions of the cord, and strychnia exalting both. Strychnia stimulated the respiratory and vaso-motor centres in the cord, and thus opposed and contracted the most dangerous tendency of chloral narcosis. The chief danger from strychnia—the tetanic fixation of the muscles of respiration, due to the exalted reflex function—was removed by the action of chloral. This antagonism was more certain and effective than the opposite one, or the stimulation of the chloralized spinal cord by strychnia; whence it followed that chloral was a more useful antagonist in strychnia poisoning than was strychnia in chloral poisoning.

The only published researches on the antagonism between picrotoxine and chloral of any value were those of Dr. J. Crichton Browne, of the West Riding Lunatic Asylum. Picrotoxine was the active principle of *Cocculus Indicus*; but it was not properly an alkaloid, and did not combine with acids to form salts. As regards its physiological action, it had distinct delirious and stupefying effects on the cerebrum, and caused epileptiform or tonic and chloric convulsions followed by coma and insensibility. The reflex functions were suspended by it; finally the motor nerves lost their irritability, and the sensory nerves were early affected, their power to transmit peripheral impressions disappearing in the beginning of its action. Respiration and the pulse rate were increased at first for a brief period, and the temperature also rose slightly; but this preliminary excitement was soon followed by depression, with lower temperature. After the convulsions, especially, the pulse became feeble and irregular, and the respirations shallow and arrhythmic. A comparison of the physiological effects indicated antagonistic action on the cerebrum and spinal cord, but not on the heart and circulation; and a study of the experimental evidence conducted to the same conclusion. Picrotoxine was not used with criminal intent, and its scarcity rendered accidental poisoning by it unlikely. It was probable, however, that the convulsions and cerebral excitement produced by picrotoxine would be prevented or relieved by chloral, though it was doubtful whether the stupor and insensibility induced by chloral would be relieved in the same degree as by strychnia. The experiments of Dr. Browne showed that picrotoxine was to a very limited extent antagonistic to chloral; and an examination into the mechanism of the antagonism showed that it must be confined to a few points,—to the cerebrum and to the reflex, motor, and sensory functions of the spinal cord,—and did not extend to the heart and the respiratory organs.

The antagonism of chloral and atropia was first studied, Dr. Bartholow said, by himself, and the results had been presented in a paper read before the New York Neurological Society in 1875. It had also

been the subject of a special study by Husemann and, to a limited extent, by Fothergill, and had been discussed in a clinical lecture of Volkmann's series by Falk. On the brain and spinal cord these agents were antagonistic, to a certain degree. Atropia lessened the sleep-producing power of chloral, and therefore opposed the depression of the respiratory and vaso-motor centres caused by it. On the spinal cord they acted in a different and, in some respects, an opposed manner. The effect of atropia on the spinal cord and nerves was complex. On the cord it had a retanizing action, and exalted the reflex irritability, while it had a paralyzing effect on the motor nerves, and lessened the irritability of the sensory nerves. Chloral suspended the reflex function of the spinal cord, and caused a paralysis which was purely spinal, since the irritability of the motor nerves and the contractility of the muscles were left intact. Whilst chloral and atropia were antagonistic in their action on the cord, they both produced motor paralysis. A most obvious and important antagonism existed between the actions of these agents on the circulation and respiration. This was confirmed by experimental trials on animals, and by clinical observation on man.

Whilst the good effects of atropia in preventing death from chloral by failure of the heart's action, or of the respiratory function, were probably very great, the converse was not necessarily true. Although there were no experimental or clinical facts, it was evident that chloral could act only as morphia did under the same conditions, namely, by moderating the strain of the cardiac and respiratory centres produced by the excitant action of atropia. This was a less important service than that rendered by atropia in chloral narcosis, but was, nevertheless, highly useful. The dose of atropia in chloral poisoning and the frequency with which it was to be repeated depended on the effects produced. A small dose, repeated at short intervals until the characteristic effects on the pupil, mouth, heart-beat, and respiration were induced, was better practice than the administration of a large dose at once. The return of reflex sensibility, the improvement in the pulse and respiration, and the dilatation of the pupil were the evidences that the antagonist was producing good effects. When these results were obtained, all that the antagonist could effect was done, and hence to persist in the further use of it, unless the maintenance of the effect was necessary, was to add atropia poisoning to chloral narcosis.

"We have now reached," continued the lecturer, "a very interesting and important department of our subject. From the physiological and clinical point of view alike, it is most useful to know the mutual interactions and reciprocal relations of those remedies which act on the lungs and heart. It is by the extension of our knowledge in this direction that we may hope, by various combinations, to improve the curative powers and enhance the safety of administration of these important eucemies." He then took up the antagonism between opium and veratrum viride. The first example of opium poisoning treated by veratrum viride had been reported by Dr. J. S. Todd, of Georgia, and Dr. Haldeman, of Zanesville, Ohio, had also reported successful cases of the same kind. During the past summer and autumn Dr. Bartholow had made a number of observations on rabbits and frogs, which clearly established the antagonism, though the distance apart at which it was exerted had not been definitely ascer-

tained. He next entered into a discussion of its nature or mechanism, and then referred to the clinical experience which was now available on the subject. In the course of his remarks he said that he could not too strongly insist on the difference in the action of medicinal and of lethal doses of opium. In employing opium against the toxic effects of veratrum viride, no good could result from the administration of such doses as would rather approximate its effects to those of veratrum viride; for it was to be borne in mind that it was the stimulating effect of the one which rendered it antagonistic to the other. The clinical experience was in accord with the results of experiment; and if further investigations confirmed them, the antagonism of the two agents would take high rank for efficiency and extent of its range.

The lecturer next discussed briefly, in succession, the antagonisms which had been found to exist between opium and gelsemium, opium and aconite, and morphia and cocaine, theine, caffeine, and guaranine; after which he took up the subject of morphia and chloroform. As paralysis of the heart or of the respiration, or, it might be, the simultaneous depression of both functions, said he, was the mode of dying by chloroform and by other anæsthetics used for the same purpose, it was extremely desirable to possess an agent which would antagonize and prevent this fatal tendency. Such an agent he considered was possessed in the subcutaneous injection of morphia, and it was an extraordinary circumstance that surgeons had been so indifferent to the remarkable results obtained by the employment of mixed anæsthesia. Claude Bernard and, about the same time, Nussbaum (the one in his laboratory, the other in the clinical theatre) demonstrated the great utility of the method of anæsthesia procured by the injection of morphia and the inhalation of chloroform. Bernard's plan, which was preferable, was to administer the morphia a few minutes before beginning the inhalation; and Nussbaum's to give it after the inhalation was well under way. Morphia and chloroform acted on the same cellular elements of the brain, and agreed in the production of anæsthesia; but they were opposed in their action on other structures and organs, an opposition which rendered their combined use safer. When morphia was injected subcutaneously, before the inhalation of the anæsthetic had been begun, the irritability of the bronchial mucous membrane was so far diminished as to permit the inhalation to proceed quietly; the stage of excitement was prevented, and, consequently, the danger of the asphyxia which occurred under these circumstances; the nausea and vomiting, which interfered with the progress of the inhalation, and which might indirectly produce serious consequences, were also obviated, and the stage of narcosis was prolonged without the need of further inhalation. Personally, Dr. Bartholow preferred to combine atropia with the morphia, when used under these circumstances.

— A death while the patient was under the influence of chloroform, prior to an operation, has recently occurred in the Royal Albert Hospital, at Devonport. Post-mortem examination showed the organs perfectly healthy, but the heart extremely small. It was strongly urged by the surgical witnesses at the inquest that the galvanic apparatus should always be at hand when chloroform was administered.

Original Articles.

THE OWNERSHIP OF PRESCRIPTIONS.¹

BY FREDERIC HENRY GERRISH, M. D., OF PORTLAND.

At a recent meeting of the Maine Medical Association, one of the county societies presented for approval and indorsement a resolution which expressed the belief of that body that prescriptions are the property, wholly and solely, of the physicians who write them. This resolution was laid upon the table. A member, in commenting upon the action, remarked that the resolution was absurd, since it was evident that the prescription belonged to the patient; but another announced as his view that it was the property of the compounding apothecary. Here was the widest possible diversity of opinion among intelligent and educated men, all of whom had much to do with representatives of all the classes named, and presumably were competent to judge of the merits of the case; and it was suggestive of the thought that sufficient attention could not have been bestowed upon a subject, a proper appreciation of whose merits would contribute very greatly to the physical well-being of the community, to the honor of the pharmaceutical profession, and to our own standing and pecuniary advantage. It seems to me, therefore, that this society may profitably devote an hour to the consideration of the ownership of prescriptions.

It will be at once admitted that the prescription must belong to the physician, the patient, or the apothecary. Let us start with the understanding that, unless otherwise specified, each of these names shall represent only one individual: that is, that wherever "physician" occurs it shall apply solely to a medical man who is neither prescribing for himself nor putting up his own medicine; that "patient" shall mean the sick man only, and not the doctor or the druggist; and that "apothecary" shall refer simply to the compounder of the dose, and not to the medical man or the invalid. This discrimination is absolutely necessary that we may avoid the confusion of ideas which prevails upon this subject. We will further suppose that the patient under discussion pays the doctor's fee and the apothecary's bill, and is therefore unquestionably entitled to whatever may be his due from either of them.

First, then, does the prescription belong to the physician? Having prepared himself, at great expenditure of money, time, and labor, for the duties of his profession, he puts at the service of the patient all the skill which the case requires, as far as he can furnish it, and gives him certain advice. A part of this advice, we will suppose, is a recommendation about the administration of medicine, and includes a paper with reference to the preparation of the medicine, directed to some one of a class of men who are competent to execute its provisions. The bill is paid, the commercial transaction between them is over, and the physician has no further control over the recommendation about the medicine than he has over any other part of his counsel. The prescription, whosoever it is, certainly does not belong to the physician.

Does it belong, then, to the patient? Let us hear in mind just what a prescription is. The word includes, in its broadest sense, all recommendations, whether written or spoken, which are made by the

¹ Read before the Cumberland County (Me.) Medical Society.

medical attendant. But in the more restricted and common meaning it is employed to designate a formula consisting of directions to an apothecary concerning the compounding of a medicine. Being nothing but directions to an apothecary, it is of no use to the patient until these directions have been carried out by a competent person. But, whether it is of use to him or not, the question of ownership still remains; for the uselessness of an article has no bearing upon the rightfulness of one's or another's claim to it. To put the thing in a little different and clearer light, without in the least altering the essential features of the case, let us suppose that the physician, instead of writing the prescription, gives the directions to the apothecary verbally; the desired result will be precisely the same as far as the welfare of the patient is concerned, and that, of course, is what the physician is aiming at. The doctor, we imagine, steps out of his office into the next room, which is a pharmacy, and says to the proprietor, "Put up so-and-so for Mr. Blank." The apothecary presently appears in the office with the article ordered, and delivers it to the patient. In this case would the patient ever get the idea that the prescription belonged to him? Would he presume to demand of the physician that the prescription should be committed to writing and given to him? Would he any more reasonably require of the apothecary a revelation of the contents of the medicine bottle which has just been delivered than he would think of bribing or intimidating a servant of the physician's to disclose a domestic secret? Or, to put it in a still different light, fancy that, in this hypothetical case, as in so many real instances, the physician is also apothecary; that, having made his diagnosis, he—for the sake of present precision or future reference—writes his prescription; and that then, in his other capacity of apothecary, he prepares the medicine. Imagine a patient with sufficient assurance to demand the paper which has guided the pharmacist in this case! The demand would inevitably and properly be met with an indignant refusal, for in this instance the proprietorship is obviously not the patient's. He would be told that what he paid for was advice, part of which was for his own edification, part for the instruction of an apothecary; and he would be obliged to retire without the power to injure himself, his neighbors, and his medical adviser with a misapplication of counsel which was probably admirable for him at one time, but might prove fatal at another, when important conditions had been changed.

But, in many cases, it is a fact that the patient does have a certain writing. May he not do with it as he chooses? He is to be regarded as the bearer of a message from a physician to an apothecary,—a message which the sender intended should be delivered promptly. Legally considered, the patient has a right to do as he pleases with the prescription. Undoubtedly, he cannot be compelled to take it to one or another shop, or even to any at all, any more than he can be made to follow the advice of the physician in any other respect. In fairness to the latter, though, he ought to obey his directions in all respects as given, as regards time of taking doses, as well as every other circumstance, or else not consider any sequences in the case as consequences of the consultation. As long, then, as he chooses to retain possession of the prescription nobody can dispute his claim to it; the physician has parted with his advice for money, and, having received his fee, has no control over any part of what

he has sold; and, certainly, no particular apothecary would venture to dispute the patient's right to what he has bought from the physician. The prescription must be regarded as in a transition stage: it is on its way to its destination; is in the hands of the carrier, who differs from an expressman in that he has the choice of parties to whom he may deliver the message, but is like the ordinary carrier in that he experiences no good from his burden until it is put into the hands of such a person as it was intended for. But one may say that the patient may find out what the prescription is, get the materials, and himself put them properly together. Then, however, he becomes apothecary, and, for the time being, technically abandons his character of patient. This way of considering the problem is calculated to confuse the subject somewhat at this stage of the discussion; but it leads us next to investigate the claims of the apothecary.

We started with the statement that the prescription belongs to either the physician, the patient, or the apothecary. Unless there is some grievous fallacy in the reasoning, it has been proved that it does not belong to the first; that the second has a right to it only while carrying it from the physician to its intended destination; and, as it certainly belongs to somebody, by the process of exclusion we would be compelled to resign the paper to the apothecary as his property. But we can come at the result by a plainer and more direct course of reasoning. Generally the prescription goes immediately to an apothecary. He obeys the orders, delivers the medicine, receives his pay, and files away the paper. Has he a right to retain this possession of it? To test this in an emphatic way, suppose that a prescription is presented containing an order for some virulent poison. It is written by a responsible, careful man, who is known by the druggist frequently to order just such agents. The medicine is at once prepared and delivered, and the patient asks to have the prescription. A prudent apothecary will say to himself, "This medicine is dangerous in incompetent hands. The man who ordered it is responsible for any damage which may follow its administration according to his directions. He intended it to be given for a certain time only, and its administration beyond this would probably be injurious. If I give the patient the order for the medicine, he may possibly go to one or an indefinite number of shops and have it filled. Furthermore, to insure my own safety in the matter, I ought to have some guarantee that so dangerous a medicine has been compounded by me only by the express direction of a thoroughly competent doctor. That warrant I have in this written paper. If he had ordered the medicine by word of mouth, I would have insisted upon his putting it in writing for my protection. It is therefore my duty to myself, to the physician, and to the patient to keep it. Better still, as regards the practical question in hand, I believe it to be my legal right to retain it." And he announces his conclusion to the patient, telling him at the same time that he can give him a copy of the prescription, if he desires; for he thinks that no conscientious or even decently cautious pharmacist would compound the prescription without the autograph authority of a reliable medical man. Does any one question the right in this instance?

I admit that the case is extreme, but I insist that it is fair and not at all exaggerated; and if the principle is true in this, why not in every case? It cannot be changed by a decrease in the power of the drug.

If it is, at what point in the list of the *materia medica* is the druggist to be stopped? Up to what medicine or dose will he be justified in retaining the prescription, and beyond it amenable to the law for unjust detention of the property of another? We find it impossible to make a definition of a medicine which shall not include something alimentary on the one side, or something toxic on the other: and so I apprehend we shall find an insuperable obstacle in the way, if we attempt to draw a sharp line up to which the apothecary may go, but beyond which he must not step.

If, then, the prescription belongs to the apothecary, what becomes of certain grievances which we physicians have? We all remember the case which a prominent member of our society recently reported here. He gave a prescription to a woman who had a portion of placenta retained in the womb. The dose was effectual, and the patient, evidently arguing that if it could cause the womb to discharge a piece of after-birth it would be likely to make it eject a fetus, came to the conclusion that she had in her possession a good abortifacient. So she circulated the prescription among her female friends who desired to prevent the annoyance of an increase of family, and, consequently, the possible population of this city has been reduced nobody knows how much. Numbers of foolish and wicked women have doubtless entailed horrid and permanent diseases upon themselves, and the reputation of one of the most conscientious of physicians has been seriously imperiled by means of the misapplication of that one prescription. Recently I heard of a case in which an eminent Portland practitioner had given a prescription for gonorrhœa. The apothecary to whom it was sent is reported to have said that the bottle in which the medicine was first put up has been returned to be refilled some scores of times. It is not generally the original patient who brings it, but almost always some one else,—now one, then another, and so on through the ever-widening circles of acquaintance of the various users of the successful prescription. The label wears out and is succeeded by a fresh one, and the vial goes forth again with its valuable but cheaply bought beneficence for unfortunate fornicators of high and low degree, allaying the painful inflammation in their much-abused urethra, and cheating the medical profession in general and a certain successful surgeon in particular out of hundreds of dollars every year. These are but illustrations of what every one of us suffers continually.

What the apothecary is doing in all these cases is prescribing over the counter. The case is clear, if we suppose the repeated prescription to be a powerful poison. The patient asks for the drug without a prescription, and does not get it. If he has a prescription he can get it once; and he ought to be able to get it only once, for the second demand is the same as a demand for another agent without prescription, or for some agent for which a prescription can be found in some formula on the shelves of the apothecary. The fact that the latter had an order from some practitioner for that medicine in behalf of a given patient at a previous time is no more warrant for his putting it up for any patient at any subsequent time than the printed formula in the book is such a warrant. Medically considered, the condition of the patient may have—nay, more, probably has—so changed in the mean time that it is substantially a different case, and the former treatment is no more applicable to that patient than it

would be to almost any other. Nobody knows this better than apothecaries, and the fact is admitted when powerful toxic agents are in question. Wherein is there a difference in principle in the case of the mildest drug?

Prescribing, in any of its forms, is no legitimate part of the business of apothecaries. In justice to the community, ourselves, and even the apothecaries, we ought to discourage everything of the kind, to discountenance those (especially if they are medical graduates) who manufacture and advertise cures for divers and sundry ills of the flesh. The business of pharmacists is necessary and honorable, and we desire to encourage progress in it by every means. It is so closely allied to our own profession that there is an interdependence between them: neither could exist without the other; each should be careful not to infringe upon the rights of the other. The best work of each can be accomplished if each keeps his place. Let the physician prescribe, the apothecary compound. Thus each will contribute most effectually to the grand end of most benefiting humanity.

"But," some one asks, "may not an apothecary do as he chooses with his own, which you admit that the prescription is which he has compounded?" Undoubtedly he may, in the present state of the laws, even if he chooses to do a grievous wrong to the profession which sends him all the business which entitles him to his name of pharmacist, and to the people who employ his skill and purchase his goods. That is to say, he may, for the purpose of effecting a sale, usurp the place of the physician without possessing the knowledge and skill which alone make the latter valuable or even safe as an adviser, and there is no legal redress. Wretched as this condition of affairs is, I believe we have ourselves to blame for it to a large extent. When we desire a patient to have more of the medicine he has been taking, how almost universally is it the custom to tell him to take the bottle to the apothecary and get it refilled! If, instead of doing this, we would always write an order on the apothecary for a repetition, and request all the apothecaries in our neighborhood never to refill a prescription without written permission from us, the greater part of the trouble would cease at once. We should thus regularly discourage the idea which the people so generally entertain, and which is so injurious to them in its effects, that they are competent to judge when it is desirable to renew the medicine which has been prescribed. We should thus impress them with the idea that we consider the administration of medicine too serious and important a matter to be intrusted to untrained, uneducated hands. But, unless we adopt this course, our complaints of counter-prescribing and patent-medicine vending will be unavailing, and will meet with contemptuous indifference.

I believe that by concerted action physicians may accomplish a speedy reform. Like everything else worth having, however, it can be got only through persistent work and care. To start the movement, I would offer the following practical suggestions:—

(1.) That we, as individuals and as a body which includes a large majority of the reputable practitioners of this county, agree to give specific directions to the apothecary in every case wherein we desire to have a prescription refilled.

(2.) That we give the apothecaries of the county notice of our agreement, and earnestly request them

to refrain from refilling, without the permission of the prescriber, any prescription which hitherto has been, or in the future may be, given by any of us.

(3.) That we withdraw our patronage from any and all apothecaries who shall wantonly violate our expressed wishes in this matter.

THE DISAPPEARANCE OF TUMORS.¹

BY THOMAS DWIGHT, M. D.

THE fact that tumors occasionally disappear, either spontaneously or in consequence of treatment, rests upon comparatively few authentic observations. The claims of quacks, however powerful with the popular mind, tend to make the profession, if anything, more skeptical than they would otherwise be of phenomena which, though rare, are sufficiently well attested. I regret that I am unable to report the following case in as much detail as could be desired. The notes that I took at the time are by no means as full as they would have been if I could have foreseen what unexpected developments were to occur.

The patient, in June, 1877, was a gentleman of about forty-eight, of a weak constitution, without definite occupation, who led a most unhealthy life, going to bed in the small hours, rising towards noon, and taking little exercise. I think it was nearly a year and a half before this, in the winter of 1875-76, though possibly in that of 1876-77, that he consulted me about a trouble in the rectum. This consisted of a sense of fullness and soreness. The patient stated that some years before (seven or eight, I believe) he had had hemorrhoids, for which he had been treated by a well-known irregular practitioner of the day, who had applied caustics and effected a cure. It should be stated that my patient was of the kind who are easily deceived by quacks, and I am far from convinced that his trouble, of which he thought he was cured in this manner, ever really existed. On examination I found a somewhat hypertrophied fold of the mucous membrane projecting into the rectum. On withdrawing the finger the end of the fold could be brought into sight. It was evidently congested, but did not deserve to be called a hemorrhoid. There was no occasion for any operation, and in view of the poor condition of the patient I should have been very unwilling to have undertaken one without imperative indications. I recommended an astringent wash and some simple treatment, under which the discomfort subsided.

In the spring and early summer of 1877 the patient was looking very badly, and complaining a great deal of pains and cramps in his legs. His walk was peculiar; descending stairs seemed especially difficult, and there appeared to be a want of coordination of movements.

Though constantly complaining, he was disinclined to submit to a thorough examination. Towards the end of this period pains returned in the rectum with great severity. He described it as feeling as if full of broken glass. There was a sympathetic difficulty in the bladder, which I thought did not empty itself perfectly.

On June 30th he was eating little, very much run down, weak and emaciated, and suffering from such

profuse night-sweats that his night-clothes were completely saturated two or three times a night. A somewhat superficial examination of the rectum revealed a hard swelling in the right wall. I have rarely seen a patient with cancer who presented the characteristic cachexia more markedly than did this patient at about this time.

July 2d. The rectum was thoroughly examined. The mucous membrane appeared perfectly healthy, but a hard tumor was found occupying the right side of the pelvis, extending from near the concavity of the sacrum to the arch of the pubes. It pressed against the rectum so as nearly to close it when empty, but the finger could be passed round the convexity of the tumor. Morphia suppositories of one fifth of a grain were given when required to relieve the severe pain. The patient for some time had been taking six grains of quinine daily.

On July 3d and 4th the patient seemed to be worse, and on the evening of the 4th Dr. R. M. Hodges saw him with me in consultation.

The tumor was as has been described; if anything, larger than when I examined it, two days before. It was decided that an operation was out of the question, and that the case was inevitably fatal.

It should be stated that there had been no chill nor febrile disturbance. The pulse was of fair strength and abnormally slow. The patient was very weak, however, and the night-sweats were very profuse. Oxide-of-zinc pills were given.

July 5th. I decided to try the effect of iodide of potash, beginning with ten-grain doses three times a day. The bowels moved two or three times during the day.

July 6th. Last night two suppositories were required. Sweats rather less, but pulse and strength weaker. The patient vomited after taking the zinc pill.

July 7th. Again two suppositories during the night. The zinc pill again rejected, and it was consequently stopped. The tumor can now be felt through the abdominal walls. Yesterday and to-day attempts at defecation. Yesterday something was passed which patient describes as a little whitish mucus; to-day nothing. Three suppositories in twenty-four hours is now the rule.

July 8th. Tumor more easily perceptible through abdomen. An enema of water brought away a rather loose discharge.

July 9th. Weaker. Unsuccessful attempt at a movement of the bowels.

July 10th. Had profuse night-sweats, but is pretty comfortable in the morning. Enema. Two or three fair discharges, one with a stain of blood. Morning pulse 48, evening, 75. Apparently losing ground.

July 11th. Looks worse than ever. Three operations during day.

On July 12th a change was noticed. There was less pain. Only two suppositories were used in twenty-four hours, and the patient seemed better.

July 13th. He was evidently better, and had a fair appetite.

July 14th. He was still improving, and the iodide was increased to fifteen grains thrice a day. He still took about three suppositories daily.

July 17th. Still improving. No morphia or bromide since 15th.

He continued improving slowly till July 25th, which was an intensely hot day. He suffered very much from the heat, and had two fits of vomiting.

¹ Read before the Boston Society for Medical Observation, November 1, 1880.

There are no more entries in my notes for a considerable time. It was evident that the patient was improving, but I could not believe that there was any real change of condition. I made no examination of the rectum, not wishing to torment him unnecessarily. I thought it right to let him enjoy his respite, feeling that it must be short, and that an examination could only bring distressing knowledge. I advised him to increase the iodide to twenty grains, and saw him but rarely. To my surprise, no relapse occurred. The patient continued to gain, and though feeble and much of an invalid looked, at the end of September, as well or better than he did before the acute attack. He discontinued the iodide, I believe, early in August.

On September 21st I requested permission to make an examination. The rectum seemed perfectly healthy. It was capacious. There was no tumor and no tenderness.

The patient during the next winter seemed better than usual, but during the summer of 1878 his health declined, and in the autumn it was evident that he was suffering from some grave abdominal trouble. The liver was greatly enlarged; he suffered much from nausea and vomiting, became deeply jaundiced, and died November 29th. The symptoms were quite obscure, and I was inclined to believe that there was malignant disease. A few weeks before his death he again complained of a fullness in the rectum, and on examination I thought I found some undue hardness on the right side. It was nothing, however, of much importance, and my attention was not again called to the rectum in the course of the disease.

The autopsy, made by Dr. E. G. Cutler, revealed that the cause of death was inflammation of the liver. No signs of malignant or venereal disease were discovered. The rectum was carefully examined. The mucous membrane was healthy, and no cicatrix or hint of any opening in it could be found. At each side of the rectum below the lateral reflection of the peritoneum there was a mass of what appeared to be dense hypertrophied connective tissue. This view was confirmed by Dr. Cutler's microscopic examination. The mass on the right side was the larger, and perhaps two thirds of the size of a hen's egg. There were no other signs whatever of an old abscess or of a tumor.

As I have already stated, the record is wanting in many points of detail, but the central fact is beyond question, supported as it is by Dr. Hodges' observation as well as my own, that there was a large hard tumor in the pelvis; and it is also certain that it disappeared. As to its position, though I could not assert that it did not involve the walls of the gut, I believe it to have been external to it. As to its nature, without going into details of the histology of tumors, it may have been one of three things: an abscess, a new growth, or an engorgement of the areolar tissue with blood and cellular elements either from the blood or the connective tissue. The peculiar pain, as of broken glass, is, I think, very characteristic of suppuration, but I am inclined to exclude abscess on account of the absence of fever, which would have been expected when the patient was at his worst; on the contrary, he had a low pulse, was clammy, and almost collapsed. If the abscess had burst, it is hardly credible that its contents could have been completely evacuated at once, so as to have been mistaken for a fecal evacuation. There would have been at least a little discharge for some time that could hardly have escaped notice;

probably, also, the bowel after death would have presented the lesion. It is true that even a large abscess may be absorbed. The New York *Medical Record* of March 13, 1880, contains an account of a curious case mentioned by Dr. Sands while presiding at a meeting of the New York Surgical Society. The case was that of Dr. Hubbel, who left directions that his body should be dissected. "Several years before his death he came to Dr. Sands complaining of a swelling in the left loin, and there was no difficulty in detecting a large fluctuating tumor over the region of the kidney, and extending down to the crest of the ilium. Dr. Sands was uncertain whether the fluctuating swelling had any connection with the urinary passages. Tapping was mentioned, but Dr. Hubbel being somewhat advanced in years, and knowing the possible mischief that might accrue, avoided the operation, and passed from under observation for nearly a year, and at the end of that time he reported himself, saying that he was well. While under observation the abscess extended, and evidence was obtained of matter burrowing down upon the buttock, three or four inches below the crest of the ilium; and it also extended upward to the free border of the ribs, but at the time he reported himself it had entirely disappeared. He subsequently died of Bright's disease. Dr. Sands examined the body very carefully, dissected the left lumbar region, but discovered no abscess. A great deal of connective tissue was found, in which it was difficult to recognize the remains of the kidney. The ureter was imbedded in this mass, which infiltrated the loin, and was impervious down to its junction with the bladder."

Turning from the theory of abscess to that of tumors, the question of syphilis naturally presents itself. I excluded it, because I never recognized any symptom of it during life or after death.

There seems to be little doubt that tumors of various kinds do, though very rarely, disappear without surgical interference. I was induced in this case to give the iodide of potash by seeing a passage from Holmes's Surgery, quoted in Bryant's, in which it is stated that Dr. Esmarch, of Kiel, told Paget that he had seen cases of recurrent fibroid tumor cured, and not again returning, in patients who took large doses of this drug for several weeks. Many of my hearers very probably remember a remarkable case of so-called Inflammatory Fungoid Neoplasm, reported by Dr. Duhring, of Philadelphia. This case appeared in the *Archives of Dermatology* for January, 1879, and a supplement to the case a year later in the same journal. In brief, a woman, otherwise healthy, for some two and a half years before her death had a great number of tumors, chiefly in the chorion or subcutaneous tissue, which presented the most surprising variations of size, sometimes entirely disappearing. The microscope showed them to consist essentially of a hypertrophy of the fibrous elements of the chorion and a varying amount of granular and other cells.

Dr. Coats exhibited for Dr. Gairdner specimens from a similar case before the London Pathological Society in April, 1879. The tumors were found also in the connective tissue at various places inside the abdomen. The growths were held to be lymphadenomatous. Sir James Paget made some remarks in the discussion which deserve to be reproduced. He said "the report of such a case was useful, as likely to help in the explanation of those rare instances in which tumors diagnosed to be cancerous had disappeared after a

time. He suspected that there was a greater number of such cases on record than might be imagined, and the collection of them would be an interesting and important undertaking. Three cases of the disappearance of tumors in this way were known to himself. One was in the person of a young man who had suffered for two or three years from what appeared to be ordinary lymphadenomatous growths, there being clusters of enlarged glands in the neck, axilla, and groins. The patient had also paraplegia, a symptom he had found in another case of lymphadenoma. Within a week these tumors all suddenly disappeared, but the patient then began to suffer from dyspnea, and soon afterwards died, no autopsy being allowed. Another case, mentioned in his lectures at the College of Surgeons, was regarded as one of multiple medullary cancer (what would now be called small-celled sarcoma), and the microscope corroborated this diagnosis. The growths occurred on the neck and axilla. There was a very large mass over one deltoid, which suppurated and sloughed, during which process nearly all the other growths disappeared. The man recovered, and enjoyed good health for some months, but the growth afterwards recurred and caused death. The third case was one which he had diagnosed as medullary cancer of an undescended testis. There was a tumor as large as two fists, and he had prescribed liquor potassæ and iodide of potassium, under which treatment the mass soon entirely disappeared. In eight or ten weeks, however, it recurred, but disappeared again under the same treatment. This also happened a third time, but having recurred a fourth time it was no longer amenable to treatment, and the patient died. The microscope confirmed his original diagnosis as to the nature of the growth." Other gentlemen mentioned somewhat similar cases.

An interesting paper on the sudden disappearance of tumors, by Dr. Fischer, of Breslau, is to be found in the *Deutsche Zeitschrift für Chirurgie*, vol. xii., 1879. Dr. Fischer calls attention to the fact that in certain very prostrating diseases tumors of some kinds suffer a great reduction in size, and among these are sarcoma, adenoma, and swellings of lymphatic glands. On the other hand, carcinoma, lipoma, fibroma, and some other tumors are not affected under like circumstances. The cases he reports are chiefly ones of enlarged lymphatic glands and of enlarged thyroids. Some of the glandular tumors were greatly affected by the removal of other tumors. One of the enlarged thyroids returned to its proper size during a light attack of scarlatina.

To return to the case I have reported, if I am justified in excluding abscess and syphilis, what remains? Many, I suppose, would object to the tumor being classed among the sarcomata on the ground that if it had belonged to that group it would not have disappeared. This, however, is begging the question. The engorgement of the liver had no doubt already begun before the time of the tumor. The direct venous connection of the liver with the rectum favors the production of hemorrhoids when there is an obstacle to the circulation, but it is perhaps not impossible that through some peculiarity of the vascular distribution this effect took place in this instance around the rectum instead of in its walls. This explanation, I admit, is barely satisfactory to myself, but the masses of hypertrophied connective tissue beside the rectum suggest the sponge-like framework of an inflammatory growth, into the meshes of

which cellular elements might make their way, causing a great expansion, which would disappear on their withdrawal. Is this process essentially different from the development of a sarcoma? Billroth remarks that if any one wishes to define the inflammatory new formations in their different stages as types of sarcoma he is ready to agree to it. Whether the disappearance of the tumor was due to the use of the iodide of potassium is of course a matter of speculation; the tumors in Dr. Duhring's case disappeared without it. Still, under similar circumstances, I should certainly try it again.

MASSACHUSETTS LAWS REGARDING ANATOMICAL SCIENCE.

BY E. M. HARTWELL, M. A.,
Fellow of Johns Hopkins University.

It is not yet one hundred years since Dr. John Warren delivered the first course of public anatomical lectures ever given in Massachusetts, in compliance with a vote of invitation passed by the Boston Medical Society, November 3, 1781. It is scarcely fifty years since the Massachusetts Medical Society began to agitate the question of legalizing the study of anatomy. The Harvard Medical School, in the ninety-eight years of its history, has had but three professors of anatomy, namely, Dr. John Warren, professor of anatomy and surgery from 1782 till 1815, when he died; Dr. John C. Warren, professor of anatomy and surgery from 1815 to 1847, when he resigned; and Dr. Oliver Wendell Holmes, professor of anatomy, who, like the elder Warren, has held his chair thirty-three years.

Dr. John Warren's son and successor, Dr. John C. Warren, was three years old in 1781, the year the Massachusetts Medical Society was incorporated. Fifty years later, as one of the most prominent members of that society, February 2, 1831, he lectured before the members of the Massachusetts legislature, in the representatives' chamber, on the Study of Anatomy, in accordance with a vote of the house of representatives, passed January 29, 1831. At the time of this lecture the anatomy bill, which became a law on the 28th of that month, was still pending.

No better testimony concerning the obstacles which beset the pursuit of anatomical science during those fifty years can be given than is found in the Biographical Notes of Dr. John C. Warren, from which we quote: "No occurrences in the course of my life have given me more trouble and anxiety than the procuring of subjects for dissection. My father began to dissect early in the Revolutionary War. He obtained the office of army surgeon when the Revolution broke out, and was able to procure a multitude of subjects from having access to the bodies of soldiers who had died without relations. In consequence of these opportunities he began to lecture on anatomy in 1781. After the peace there was great difficulty in getting subjects. Bodies of executed criminals were occasionally procured, and sometimes a pauper subject was obtained, averaging not more than two a year. While in college I began the business of getting subjects in 1796. Having understood that a man without relations was to be buried in the North Burying-Ground, I formed a party. . . . When my father came up in the morning to lecture, and found that I had been engaged in this scrape, he was very much alarmed, but

when the body was uncovered, and he saw what a fine, healthy subject it was, he seemed to be as much pleased as I ever saw him. This body lasted the course through. Things went on in this way till 1807, when, with the cooperation of my father, I opened a dissecting-room at 49 Marlborough Street. Here, by the aid of students, a large supply of bodies was obtained for some years, affording abundant means of dissection to physicians and students. In the mean time, however, schools began to be formed in other parts of New England, and students were sent to Boston to procure subjects. The exhumations were conducted in a careless way. Thus the suspicion of the police was excited; they were directed to employ all the preventive measures possible, and watches were set in the burying-grounds. Thus the procuring of bodies was very much diminished, and we were obliged to resort to the most dangerous expedients, and, finally, to the city of New York, at a great expense of money and great hazard of being discovered. Two or three times our agents were actually seized by the police, and recognized to appear in court. One or two were brought in guilty, and punished by fine, but the law officers, being more liberal in their views than the city officers, made the penalty as small as possible. Constant efforts were necessary to carry on this business, and every species of danger was involved in its prosecution. . . . At that time scarcely any exhumation occurred without accidents of the most disagreeable and sometimes painful character. The record of them would make a black-book, which, though the odium of it should belong to few individuals, would do no credit to the enlightenment of Boston in the nineteenth century, and convey an idea of the state of feeling of a professor of anatomy on the approach and during the course of his anatomical pursuits.

"Sometimes popular excitement was got up, and the medical college threatened. I had reasons, at some periods, even to apprehend attacks on my dwelling-house. Whenever the lectures approached, a state of incessant anxiety came with them. At length the pressure was so great that it was resolved to make an effort in the legislature, though with little hope of success."

If it were necessary, evidence to corroborate that of Dr. Warren might be indefinitely multiplied from the published and unpublished traditions of the elders. We content ourselves with the mention of one episode. About 1820 a highly respectable physician of Eastern Massachusetts, being detected in anatomical pursuits, was obliged to flee the State. In a distant community, which to this day has no anatomy act, he won eminence as a teacher of anatomy and practitioner of medicine.

Dr. H. I. Bowditch, in his *Life of Amos Twitchell*, M. D., treats fully of the condition of affairs in New England, when the law said, as he puts it, "A man who is found with a body in his possession for the purpose of dissection shall be considered guilty of a felony."

It was chiefly due to the efforts of the Massachusetts Medical Society that Massachusetts, in 1831, was induced to anticipate all English-speaking states in the enactment of a liberal law regarding anatomical science. The first definite action of the society seems to have been taken by the counselors February 4, 1829, when, on the motion of Dr. A. L. Peirson, of Salem, a committee, consisting of Drs. John C. Warren, E.

Alden, and A. L. Peirson, was appointed "to prepare a petition to the legislature to modify the existing laws which now operate to prohibit the procuring of subjects for anatomical dissections." Previous attempts, however, seem to have been made to weaken popular and legislative prejudices. Public attention had been forcibly called as early as 1820, in the case of the physician above alluded to, to the unsatisfactory working of the law of 1815, "to protect the sepulchres of the dead." It is said that a year or two later a private teacher of anatomy, in Boston, found, one morning, on his dissecting-table the body of a prominent actor, then recently deceased. The anatomist, who had been a particular admirer and friend of the actor's, caused the body to be returned to the tomb, under Trinity Church, from which it had been stolen, and acquainted the authorities with the circumstance. This occurrence seems never to have been made public, but the physicians and authorities agreed that the laws must be amended. Doubtless they concluded that the public must be enlightened before anything could be gained from the legislature, for in 1825 Wells and Lilly reprinted in pamphlet form an article on *The Importance of the Study of Anatomy*, with some *Additional Remarks*, from the *Westminster Review* of 1824. Some writers allude to efforts before the legislature in 1828, but we have found no documentary proof of any legislative action previous to that in the house of representatives, February 3, 1829, when the committee on the judiciary was instructed, on motion of Mr. F. A. Packard, of Springfield, "to inquire into the expediency of making any further legal provisions to protect the sepulchres of the dead from violation." In accordance with these instructions, on February 14th the committee reported a bill, which, on being read a second time, February 24th, was indefinitely postponed, on the motion of Mr. Thomas B. Strong, of Pittsfield. The secretary of the Massachusetts Medical Society at this time was Dr. George Hayward. In the *North American Review* for January, 1831, he says that this proposition, above noted, to mitigate the severity of the law "was hardly listened to with decency; members seemed anxious to outdo each other in expressions of abhorrence; and the bill was not even allowed a second reading."

History repeats itself in the case of anatomy acts no less than in other departments. In 1866, an anatomy bill, after passing the Pennsylvania house of representatives, was withdrawn from the senate of that State, because a too influential member of that body objected to it as being "unworthy of the age in which we live." The next year, however, when it was made manifest that "the bodies of distinguished legislators themselves, after a life full of good works, were no longer safe in their graves," both senate and house passed "An act for the promotion of medical science, and to prevent the traffic in human bodies, in the city of Philadelphia and the county of Allegheny."

At the annual meeting of the Fellows of the Massachusetts Medical Society, June 3, 1829, the committee of three, appointed by the counselors in February, reported that it was inexpedient to act upon the petition prepared by them to be presented to the legislature. After a full discussion of the report, it was agreed to refer the whole subject to a committee of nine. The committee was requested to report at the October meeting of the counselors; and the counselors were authorized to take such measures as they might deem

necessary in behalf of the society. The following-named gentlemen were chosen to serve on this committee: Drs. A. L. Peirson, of Salem; John C. Warren, John D. Wells, John Ware, William Ingalls, and George C. Shattuck, of Boston; Nathaniel Miller, of Franklin; Nehemiah Cutter, of Pepperell; and John Brooks, of Bernardston. When the councilors of the society met, October 7th, the committee reported that on September 1st a circular letter to the Fellows of the society had been issued, "with a view of advancing the objects proposed by their appointment," and they recommended to the councilors to cause a petition to be prepared and presented at the winter session of the general court. It was voted to continue the committee, and to authorize it to incur an expense not exceeding one hundred and fifty dollars.

The circular letter, dated Salem, September 1, 1829, and signed by all of the committee excepting Dr. Miller and Dr. Cutter, may be found, printed in full, pages 500 to 502, of the *Boston Medical and Surgical Journal* for 1829-30, vol. ii. part 2.

The letter solicits the aid of every influential member of the society in removing the popular prejudice against dissection, "especially as it exists in the minds of members of the legislature." The points upon which it was intended to rely in the proposed petition to the legislature are as follows: "(1.) Anatomical knowledge is absolutely necessary in all branches of our profession. (2.) This knowledge can only be acquired by dissection. (3.) So far as the poor are concerned, it is for their especial benefit that all physicians should learn anatomy thoroughly. (4.) It is believed that the diseases and lameness of many paupers have passed from a curable to an incurable condition for the lack of surgical skill, which could only have been derived from a knowledge of practical anatomy. (5.) All lovers of good morals must feel desirous to prevent the growth of a body of people who make it a business to violate the sepulchres of the dead. (6.) The public, as a body, have a greater degree of interest in this matter than even physicians." The Fellows are urged to lay the subject before the members of the legislature with whom they may be acquainted, and to inform the committee, before October 1st, concerning their own views and the course of public opinion in their vicinity.

The petition authorized by the councilors, and alluded to by the committee in the circular, which was probably written by Dr. Peirson, seems to have taken the shape of an Address to the Community on the Necessity of legalizing the Study of Anatomy: By order of the Massachusetts Medical Society. In the address, which covers twenty-seven pages, and bears the imprint of Perkins and Marvin, Boston, 1829, the points of the Salem circular are amplified and enforced. The address is noticed in the *American Journal of Medical Sciences*, vol. vi. p. 210, by Dr. W. E. Homer, of Philadelphia, who characterizes it as "a candid and open exposition of difficulties, and of the means of relieving them." "It is," he says, "a statement directly to the point, and must have weight if common sense and common philanthropy are to be arbiters. It proposes that the legal restrictions upon dissections shall not apply in the case of individuals who have no living relatives, and who have been kept at the public expense." Dr. George Hayward declares that "this address made a deep impression on the thinking part of society, and wrought a marvelous change in public opinion." At their meeting on February 3, 1830, the

councilors of the Medical Society authorized the committee of nine to print a new edition of not more than ten thousand copies of the Address to the Community.

Meanwhile, on January 22d, in accordance with a motion made by Mr. Mason, of Boston, in the house of representatives, the committee on the judiciary had been instructed to inquire into the expediency of farther legislation for the protection of sepulchres. The judiciary committee consisted of Messrs. L. Saltonstall, of Salem; L. Shaw, of Boston; Newton, of Worcester; Mann, of Dedham; and Whitman, of Pembroke. Mr. Saltonstall, the chairman, made a detailed report February 25, 1830, in which it was recommended that the further consideration of the matter be referred to the first session of the next legislature. The report lay upon the table till March 11th, when it was taken up, accepted, and ordered to be published in the "newspapers which print the laws of the commonwealth." This report is printed as "No. 51, House Documents, pp. 756-764, Documents of Massachusetts, Political Year 1829, and January Session 1830." The report is eminently liberal in spirit and judicial in tone, and is written clearly and concisely. Although the committee reach the conclusion that the existing law, that of 1815, is unfair to the medical profession and inconsistent with the best interests of the community, they refrain from proposing any alteration of it, believing that public opinion has not become sufficiently enlightened to warrant such action.

Governor Levi Lincoln, in his address to the legislature, delivered May 29, 1830, at the opening of the summer session, declares that the frank and manly representation by the medical faculty of the embarrassments and difficulties of acquiring a knowledge of anatomy deserves the most respectful regard. "It may be," he says, "that this subject is of a nature too delicate for direct legislation. But the public mind should be instructed in its interesting importance. Let it be shown that the knowledge which is sought in the science of anatomy concerns all the living, and that without it the accidents and ills of life which art might remedy are beyond relief. Let the reason of men be addressed, and prejudice be dispelled, by information and the force of argument. It may then come to be understood that a community which demands the exercise of skill and denies the means to acquire it, which punishes ignorance and precludes the possibility of removing it, is scarcely more compassionate than that Egyptian harshness which imposed the impracticable task in cruel oppression of the inability to perform it. . . . It is not my purpose to propose any definite act for your adoption. I would commend the subject only to the directness of your councils."

On May 31st, Mr. John Brazier Davis, of Boston, moved in the house of representatives, and it was ordered, "That so much of his excellency the governor's speech as relates to a modification of the laws in relation to the study of anatomy be referred to a select committee." The gentlemen chosen to act as such committee were Messrs. J. B. Davis of Boston, G. Willard of Uxbridge, A. Hutchinson of Pepperell, L. W. Humphreys of Southwick, and J. B. Flint of Boston. The day after their appointment the committee reported through Mr. Davis that the subject be referred to the next session of the legislature, and the report was accepted.

At the annual meeting for 1830 of the Fellows of the Medical Society, held June 2d, Dr. George Hay-

ward offered the following preamble and resolutions, which were unanimously adopted: "The Fellows of the Massachusetts Medical Society, having a deep conviction that a knowledge of anatomy is essential to the education of a physician as well as a surgeon, and being fully convinced that this knowledge can only be obtained by actual dissection of the human body, which is in a great measure prevented by the existing laws of this commonwealth, do therefore

"*Resolve*. 1st. That they regard with peculiar satisfaction the remarks of his excellency the governor on the subject, in his recent communication to the legislature, and the appointment of a special committee in relation to this business by the senate and house of representatives, and hail them as the harbingers of a more liberal and enlightened policy.

"2d. That they will use all proper means in their power to diffuse more correct information in regard to the necessity of anatomical knowledge than now exists, and to convince their fellow citizens that the members of the medical profession have no interest distinct from that of the community, in their attempts to legalize the study of anatomy, but that in so doing they are laboring to advance the cause of science and humanity.

"3d. That they cordially approve the course that has hitherto been adopted by the councilors with the view of advancing the object, and they request them to adopt such other measures as they may deem proper and expedient to accomplish the wishes of the society."

It is implied in the action of the councilors, who met June 3d, that the committee of nine was discharged, for it was then voted "That a committee of five be appointed to attend to the subject of legalizing the study of anatomy." Drs. John C. Warren, George Hayward, A. L. Peirson, George C. Shattuck, and John Ware were chosen on this committee. A grant of funds was made them, and they were authorized to petition the legislature "in the name of the society, should they deem it expedient." At the October meeting of the councilors, Dr. William Ingalis and Dr. Joshua B. Flint were added to this committee.

(To be continued.)

REPORT ON PHARMACEUTICAL PREPARATIONS.

BY B. F. DAVENPORT, M. D.

MORPHIA SOLUTION.

SOLUTION of morphia for hypodermic use will be greatly prevented from decomposition, on keeping, if heated to boiling when made, and, if not objectionable, a fragment of camphor added before the boiling.¹

MORPHIA TARTRATE.

The new preparation of neutral morphia tartrate, being very soluble, passes quickly out of the system, and gives less unpleasant after-effects than the other salts. Its great solubility makes it particularly advantageous for hypodermic injection. It gives little smarting or irritation when thus administered, and the solution never clogs the finest needles.²

A PERFECT SOLUTION FOR SALICYLIC ACID.

Take of salicylic acid one ounce plus eight scruples, of potass. citrate two ounces, of glycerine eight ounces,

¹ Pharmaceutical Journal.

² American Journal of Pharmacy.

of simple elixir sufficient to make up one pint. Dissolve the citrate in the glycerine with the aid of gentle heat, and then stir in the acid, maintaining the heat till all is dissolved; when cooled the elixir is to be added and the mixture strained. It will contain five grains of the acid to the fluid drachm, and is miscible with water in all proportions without the separation of any of the acid.³

DISGUIISING THE TASTE OF EPSOM SALTS.

That the essence of mint completely masks the disagreeable taste of magnesium sulphate, providing that the quantity of the vehicle is inconsiderable, is shown from the fact that "purgatif yvon" consists of magnesium sulphate, twenty grains, dissolved in forty of water, to which two to three drops of essence of mint have been added.⁴

DISGUIISING THE TASTE OF CHLORAL.

Chloral administered in a syrup of gooseberries, with the addition of a drop of chloroform for each grain of the chloral, is reported to be deprived of its disagreeable taste.⁵

THE IRON OXIDE ANTIDOTE FOR ARSENIC.

The following method of preparing this antidote for arsenic is not generally known. It claims attention because that the ingredients are readily obtained, and the antidote can be very quickly prepared from them. Into a solution of common cooking soda, of about a tablespoonful of the salt to the gill of water, pour any of the official solutions of a ferric salt, such as the tincture of the chloride, just so long as it produces any precipitation. The resulting precipitant, in the case of tincture of the chloride of iron having been the iron solution used, being the ferric hydrate in a solution of sodium chloride, will not require to be filtered, or prepared further in any way, but may be taken almost *ad libitum*. Given in this manner, the salt in the solution may excite vomiting or purging, and thus of itself have a beneficial action. If prepared as above directed the arsenic cannot be rendered more active by being brought into solution, as it would be in the presence of either the alkali or acid of the unsaturated solutions.

SALICYLATE OF QUINIA.

Mr. Deardon has published in the *Lancet* of May, 1880, a formula for an extemporaneous preparation of salicylate of quinia, which is as follows: Take of salicylic acid one drachm, disulphate of quinia ten grains, simple syrup one ounce, stronger liquor ammonia one drachm, water sufficient to make up twelve ounces. The acid and quinia are put into the bottle with about two thirds of the water, and briskly shaken for a few moments. It is allowed to stand a while uncorked, and the ammonia is then added, and, finally, the syrup and the rest of the water. A few drops more of ammonia may be required to get a perfectly clear solution. It is necessary to remember that only the natural salicylic acid should be used, or, at all events, salicylic acid freed from the other acid usually present in that prepared from carbolic acid. It is impossible to say, until more is known of this other cresyl-salicylic acid, how far the cases of poisoning by salicylic acid and the salicylates may be due to its

³ American Journal of Pharmacy.

⁴ Gazette des Hôpitaux.

⁵ New York Medical Record.

presence in the commercial salicylic acid. Dr. A. Hewan states that, while toxic effects, more or less serious, have resulted from the administration of salicylic acid and its sodium salt in doses thought necessary to reduce the temperature, none whatever have hitherto followed the free use of the quinia salicylate, and greater benefits have been derived from it. A recent analysis of the pansy has shown that the plant contains salicylic acid, which may account for its reputed therapeutic action.¹

ARTIFICIAL QUINIA.

Cinchonia may, perhaps, at some time be used as a stock for making quinia artificially. By the discovery of the artificial production of quinoline, which had previously been known only as a decomposition product of cinchonina, cinchonidia, etc., an important step has been made towards the manufacture of artificial quinia. The quinoline has been prepared by heating together nitro-benzole, aniline, glycerine, and sulphuric acid. The problem of the artificial production of the cinchona alkaloids is being assiduously studied in the university laboratories of Berlin, Munich, and Vienna.²

SULPHATE OF HYOSCYAMINE.

A neutral sulphate of this alkaloid is now manufactured in Germany. As being readily soluble in water, it should by all means be preferred to the free alkaloid, which is but slightly soluble, especially as it is generally administered in a hypodermic injection.³

GERMAN PETROLEUM OINTMENT.

The German variety is preferred by some to the vaseline and cosmoline of American manufacture, owing to its firmer consistence, higher melting-point, and total freedom from odor when heated.⁴

PEPTONIZED BEEF TEA.

Dr. W. Roberts prepares peptonized beef tea by boiling one pound of finely minced lean beef in a pint of water for an hour and a half, in a covered dish. The liquor is then strained off, and the undissolved meat fibre remaining is beaten with a spoon into a pulp. The liquor and pulp are then mixed together in a jug, and to it, being now cooled sufficiently to be tolerated in the mouth (that is, not above the temperature of 140° F.), a fluid ounce of Benger's liquor pancreaticus is added. The contents of the jug being well mixed together, it is placed in a warm place, so as to retain its heat. At the end of two hours the mixture is well boiled for two or three minutes, and then strained.

Beef tea prepared in this manner is undistinguishable in taste from the ordinary beef tea, yet it contains three per cent. of dry peptone. This represents a nutritive value of albuminous matter about equal to that of milk. This tea thus possesses not only the stimulating and peptogenic virtues of ordinary beef tea, but also considerable nutritive value, owing to the presence in it of the peptone.⁵

LEUBE'S MEAT SOLUTION.

This preparation is made by placing in an earthenware pot finely chopped lean meat in its own weight of water, to which is added two per cent. of hydrochloric acid. The pot is placed in a Pipin's digester,

with a tight-fitting lid, and boiled for ten to fifteen hours, being stirred occasionally during the first few hours. The mass is then taken out and triturated in a mortar, till it has the appearance of an emulsion. It is then boiled again from fifteen to twenty hours without removing the lid of the digester. It is then opened, and the acid almost completely neutralized by the addition of sodium carbonate. The mass is then boiled down to the consistence of a thin paste. It may even be dried completely when it can be administered in the form of powders or troches.⁶

LOCAL USE OF PEPSIN IN DIPHTHERIA.

Dr. Danilewsky recommends the following preparation of pepsin for local use in diphtheria: Take of wine of pepsin one to two ounces, and of dilute hydrochloric acid fifteen to twenty drops, dissolved in six ounces of distilled water. To be applied locally as a mouth wash and gargle, or by a brush and an atomizer. It should be applied warmed on a water bath to the temperature of 37° C. to 40° C.⁷

TAMAR INDIEN.

The late Dr. Bunstead, of New York, ascertained from the manufacturer in Paris that this preparation was mainly powdered senna leaves mixed with an agreeable confection.⁸

GRIMAUD'S INDIAN CIGARETTES.

These have been examined by Dr. Hermann Brown, and found to consist essentially of belladonna leaves, coarsely powdered, with fragments of two other leaves, resembling those of epilobium and of Indian hemp, but in such small proportions that it may be considered as an adulterant.⁹

BORACIC-ACID OINTMENT.

Carbolic acid, although of great value, may yet act as an irritant and poison in the treatment of cutaneous affections, especially in the case of infants. Boracic acid, also an excellent antiseptic, has the advantage, however, of being a non-irritant. It is advantageously used in the form of five parts of the acid mixed with one of balsam of Peru and twenty-five of vaseline; or one to two parts of the acid mixed with eight of glycerine and one of starch, and then heated to boiling. This makes a mixture of a good consistence, with the acid in a state of perfect solution, and on that account may be expected to have a quick and effective action. If it should be desired to incorporate the acid with a fatty base, the addition of a few drops of glycerine materially facilitates its pulverization.¹⁰

OXYGEN FOR INHALATION.

Mr. Greenish, of London, reports that on his late visit to St. Petersburg, he found large quantities of oxygen used there for inhalation. Many pharmacists made it quite an article of their trade, some selling one hundred pounds' worth during two or three of the winter months, when asthma is most prevalent. Most pharmacists kept on hand a gasometer of the gas for use of inhalation in this disease.¹¹

ARTIFICIAL KUMYSS.

Kumyss may be easily prepared as follows: Take a champagne bottle, for which a tight-fitting cork is

¹ Pharmaceutical Journal.

² New Remedies.

³ New Remedies. ⁴ New Remedies. ⁵ London Medical Record.

⁶ New Remedies. ⁷ Medical Record. ⁸ New Remedies.

⁹ New Remedies. ¹⁰ Dublin Journal of Medical Science.

¹¹ Pharmaceutical Journal.

ready; fill it with good fresh cow's milk, so that a space of over an inch will remain between the surface of the milk and the end of the cork when inserted; then add for every litre of milk thirty grains of milk sugar, and shake well, then a piece of fresh compressed yeast of the size of two peas, having first softened it by soaking in a little water; cork and shake the contents of the bottle thoroughly. Allow it to stand for two days in a warm room, and then for three days in a cool place, shaking it occasionally. By the fifth day it is ready for use, and will keep good for a fortnight. The breaking of the bottle is prevented by leaving enough empty space between the milk and cork. Good kumyss should be a homogeneous milky fluid, of the consistence of thin cream; on being poured out it should effervesce, and neither be lumpy nor have a taste like buttermilk.¹

NITRATE-OF-SILVER STAINS.

Better than potassium cyanide is a solution of one part each of ammonium chloride and mercuric chloride in ten parts of water. This removes the black stains from linen, cotton, or woolen goods without injury to the fabric. It will also remove stains from the skin. It is, however, necessary to remember that, although this is very much less dangerous than potassium cyanide, it is of itself a corrosive poison.²

AN IMPROVED NITRATE-OF-SILVER CAUSTIC.

A report to the Moscow Surgical Society recommends as an improvement the melting together of silver nitrate, five parts, with lead nitrate, one part, as the sticks made from this mixture do not break easily, and can be pointed like a lead-pencil.³

PRESERVATION OF RUBBER INSTRUMENTS.

As is so well known rubber is apt to become dry with time, and to crack, growing brittle, and losing all its elasticity. According to Dr. Pol, of St. Petersburg, this may be prevented by the simple immersion in aqua ammonia, one part diluted with two of water, for a length of time varying between a few minutes and an hour, until the rubber recovers its former elasticity, smoothness, and softness.⁴

DIFFUSIVE PROPERTIES OF IRON PREPARATIONS.

Professor Redwood reports to the Pharmaceutical Society at London the results of a series of experiments upon the diffusibility of some of the iron preparations. He found that dialyzed iron even in acid solutions, and although kept in the dialyzer some two days, would give scarcely a trace of iron in the dialysate. He argues, in view of these results, that it can hardly be conceived that dialyzed iron should be an active or efficacious medicine.⁵

VALUE AND COST OF THE CINCHONA ALKALOIDS.

Dr. Hager gives the following estimates from some experiments upon himself:—

	Antipyretic Value.	Cost.
Quinine sulphate.....	100.....	95
Quinidia sulphate.....	90.....	55
Cinchonidia sulphate.....	70.....	30
Cinchonia sulphate.....	40.....	10 ⁶

¹ Pharmaceutische Zeitung.

² Medical Times and Gazette.

³ Pharmaceutical Journal.

⁴ Bunsen's Pharmaceutische Zeitung.

⁵ New Remedies.

⁶ The Druggist.

BOROCITRATES AND THEIR PREPARATIONS.

Experiments by Shible and Madsen upon the solubility of uric calculus in solutions of lithium benzoate, and magnesium borocitrate have shown that the latter salt is capable of dissolving almost twice the quantity of urate. Further, when a small dose (one gram) of the magnesium salt was given, after several hours the boracic acid could be detected in the urine by the flame reaction. It is supposed that this acid, not undergoing any change through the secretions in the human body, is therefore able to exercise a decomposing action upon the uric and phosphoric acid salts. According to Schwartz the mono- and di-borocitrates of magnesium appear to decompose in the presence of bacteria and ferments, and their energetic antiseptic action may depend upon the boracic acid set free in the nascent state. The acid salt has the advantage over the neutral salts in being more agreeable to the taste, and also more soluble in water.⁷

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

A. T. CAROT, SECRETARY.

OCTOBER 4TH. DR. DUNN reported a case of Syphilis of the Nervous System.

The patient, a man of twenty-seven, was attacked by gradually progressive paralysis seven months after the appearance of the chancre. The loss of power, ushered in by numbness and prickling, commenced in the legs, and gradually extended over all the limbs and trunk. Control of the bladder and rectum was lost. There were, however, no cerebral symptoms and no pain referable to the spinal column, if a slight feeling of constriction about the waist be excepted. Under antisyphilitic treatment he gradually recovered, and remained comparatively well for about four years. At the end of this time the nervous symptoms began to return and he suffered from a feeling of weight and helplessness in the lower part of the body. This was accompanied by pain in the back, hips, and legs, with occasionally convulsive twitchings of the fibres of the muscles of his legs. Though put upon antisyphilitic treatment, he has never regained his health. He attends to his business, but suffers at times from extreme weakness in the legs, and his urine is not wholly under his control. Dr. Dunn called attention to the short time between the initial lesion and the appearance of nervous symptoms as a point of special interest.

We had here disturbances appearing a few months after infection, which in the ordinary course of syphilis are delayed for a period of years.

The reader also urged the importance of an early diagnosis in these cases, as a delay in treatment allows such extensive destructive changes as cannot afterwards be recovered from.

Dr. J. G. BLAKE reported briefly several cases of syphilis affecting the nervous system, and spoke of the almost universal fatality of the disease. His cases illustrated the diversity of symptoms in these patients. One case began as an apoplecticiform seizure, followed by hemiplegia. In another hemiplegia was preceded by convulsions.

Dr. J. J. PUTNAM said that the occurrence of pain

⁷ Pharmaceutical Journal.

or paralysis along the cranial nerves, or the sudden appearance in an adult of irregular epileptiform attacks, would excite the suspicion of syphilis.

In answer to Dr. Post the reader said that in his case, owing to the patient's neglect, the autsyphilitic treatment had not been thorough, previous to the appearance of the nervous symptoms.

OCTOBER 18TH. DR. BOARDMAN read a paper upon Emmet's Operation upon the Cervix Uteri.

After a brief *résumé* of the history of this operation, the reader described how he had been at first opposed to the procedure, regarding it as unnecessary interference, and thinking that he had been able successfully to cure these cases by less radical measures. Subsequent experience showed him, however, the incompleteness of these fancied cures, as many of his patients returned to him later with a return of their symptoms. He now altered his practice, and began to treat such cases by stitching up the rents of the cervix, with most satisfactory results; so that his conviction now is that in every instance where a laceration extends beyond the crown of the cervix it is good practice to perform the operation even as a preventive measure, in order to forestall effects which, in his belief, are almost sure to follow, sooner or later, unless the condition is corrected. It is not, however, to be supposed that all cases so treated will be promptly relieved of all symptoms. For not only may other morbid conditions coexist, but even in cases where this lesion is really the primary cause of all discomfort the recovery of complete health may be slow after the relief of the deformity.

With regard to the occurrence of the ruptures, Dr. Boardman stated that careful inquiry into these cases inclined him to the belief that the passage of the shoulders in a precipitate second stage was the most common cause.

The preparatory treatment before the operation he regards as of great importance. The cystic and indurated conditions of the mucous membrane, so often present, should be removed as completely as possible.

After the operation he enjoins rest even for several days after the removal of the sutures, which he leaves till the tenth day.

Dr. BAKER agreed with the reader in his estimate of the importance of the operation and in the indications for its performance. He, too, thought the preparatory treatment very necessary. At the time of the operation the parts to be brought together are often insufficiently denuded, and this is a fruitful source of failure. As Dr. Boardman had said, all cicatricial tissue should be carefully dissected off.

Dr. PORTER mentioned two cases of accident after this operation. In one a considerable hemorrhage followed five hours after the operation, and was only checked by tamponing the vagina. In the other, violent reflex vomiting occurred, resembling that seen after conception, but so persistent that the patient kept no food on her stomach. On the fourth day he felt obliged to remove the stitches, as the woman was weak from want of nourishment. The vomiting ceased at once. The union was good in this case, and there was no subsequent gaping of the wound, which result suggests that perhaps the stitches are ordinarily left longer than is necessary.

Dr. MARCY, who was present by invitation, said that he had not thought the preparatory treatment necessary in these cases. It is his habit to dissect off the

hyperplastic and cystic material at the time of the operation, and then, after preparing the edges of the rent, to sew the whole together, leaving a drainage tube in the uterus to keep the cervical canal patent, and to provide for the escape of fluids. He reported one death occurring four days after the operation, from general peritonitis. The autopsy showed one Fallopian tube to be widely dilated. He now operates with such antiseptic precautions as he can apply.

Dr. BAKER said that he thought it important to save the cervical mucous membrane, and to this end the preparatory treatment seemed to him of great importance. He mentioned one case of death from septicæmia following the operation, and several cases of pelvic cellulitis. One of his patients was much troubled by vomiting, which was, however, less violent than in Dr. Porter's case.

Dr. W. L. RICHARDSON said that he believed that the haste of accoucheurs in pushing up the anterior lip of the os, at the end of the first stage of labor, was a common cause of these ruptures.

In answer to a question by Dr. Ingalls, Dr. BAKER said that he thought accoucheurs should, before discharging a patient, examine the os, as they commonly examine the perineum, to see that it had suffered no harm from labor.

NOVEMBER 1ST. DR. DWIGHT read a paper upon The Disappearance of Tumors, which is published in this number of the JOURNAL.

Dr. T. B. CURTIS said that he knew of but one variety of tumor, properly so called, that was liable to disappear spontaneously. Inflammatory swellings or growths may of course subside; and gummata may become absorbed under the influence of anti-syphilitic remedies; but the only *neoplasm* that is known to be capable of receding in the manner described by Dr. Dwight is *lymphadenoma*, otherwise called lymphoma, or lymphosarcoma. Tumors of this kind, often voluminous and multiple, formerly recorded under the name of cancer, of encephaloid disease, of sarcoma, or, simply, as "malignant growth," occur in leucocythæmia (or leucæmia), and in Hodgkin's disease (called also pseudo-leucæmia or adenia). These two affections, leucæmia and pseudo-leucæmia, according to recent French investigations, constitute forms of one disease, which it has been proposed to call the *lymphogenic diathesis*. The neoplasms characteristic of this disease are composed of adenoid tissue (of Hils) similar to that constituting the various lymphatic organs, glands, etc.; and consist of a stroma of reticular connective tissue (a network of fine filaments anastomosing together and with the walls of the capillaries) the meshes of the reticulum being filled with lymphatic corpuscles, or leucocytes. Lymphadenoma may occur as *hyperplastic*, or as *heteroplastic* growths. The former result from hypertrophy of the normally existing adenoid tissues of the economy (in the spleen, lymphatic glands, tonsils, thymus, intestinal mucous membrane, medulla of bones, etc.). The latter may be developed wherever connective tissue in any of its forms exists (in the skin, liver, lungs, kidneys, testes, serous membranes, etc.).

The leucæmic and the pseudo-leucæmic forms of the lymphogenic diathesis differ from each other, mainly, if not solely, in the excess of white corpuscles characteristic of leucæmia, and in certain disturbances and alterations resulting from their presence (thromboses and extravasations). In every other respect, the two forms

are very similar. In both, the disease eventuates, after a duration of many months or several years, in a gradually reached condition of profound cachexia, characterized by emaciation and anæmia, with pallor, shortness of breath, extreme debility and apathy. The most common termination is fatal exhaustion, attributable in many cases to persistent vomiting and diarrhœa.

It has long been known that certain tumors were liable to undergo resolution and disappear. Bazin, the dermatologist of the St. Louis Hospital, in Paris, was the first to describe a cutaneous disease called by him *pyogoid mycosis*, in which multiple tumors, growing in the skin, were liable to terminate in ulceration and sloughing, or in *spontaneous disappearance*. The pathology of these occasionally receding tumors, as lymphadenomatous growths, has been elucidated within a few years by Ranvier and his pupils, in the pathological laboratory of the Collège de France. All the instances of the cutaneous form of lymphadenia hitherto observed have been pseudo-leucæmic, without excess of white corpuscles in the blood. The opinion has been expressed by Dr. Thün, an English pathologist, that Dr. Dühring's well-known case of "inflammatory neoplasm" was an instance of cutaneous lymphadenia.

Similar adenoid or lymphomatous growths are developed in the mucous membrane of the digestive tract throughout the greater part of its extent, namely, from the cardia to the anus. The neoplasm here affects various forms: it may constitute a diffuse infiltration, thickening the mucous membrane; it may take the form of tumors, occasionally as large as a fetal head, and causing more or less obstruction of the bowel; lastly, the new growth may be the seat of thrombotic and necrobiotic processes, giving rise to ulceration and sloughing, with copious hæmorrhages. These are the forms of intestinal complication commonly met with in leucæmia and in pseudo-leucæmia or Hodgkin's disease. Professor Béhier, of Paris, however, has reported in full, under the name of *intestinal leucæmia*, a case, fatal like all the others, in which the disease was limited to the intestinal mucous membrane, the latter being the seat of a hyperplastic adenoid growth, while the spleen and lymphatic glands were free from any such alteration. The case terminated in the usual cachectic condition.

Last year a discussion took place before the Pathological Society of London, on the occasion of a case reported, with post-mortem specimens, by Drs. Coats and Gairdner, in which several tumors, out of a number, had disappeared. The nature of the disease was recognized as lymphomatous, and instances of a similar character were adduced by Sir J. Paget and others; but the members present showed very little familiarity with the admirable researches of Professor Ranvier and of his pupils, Malassez, Debove, and Demange, to whom we owe much of our recent knowledge of the pathology of the lymphogenic disease in its various forms.

Dr. DWIGHT said that Heitzmann is disposed to consider Dr. Dühring's case as one of sarcoma.

Dr. CURTIS remarked that to identify the adenoid tissue of lymphatic organs and of lymphoid growths, a special mode of preparation is necessary, consisting in the use of a camel's-hair brush to expel the superabundant white corpuscles from the microscopic section of tissue. He inquired of Dr. Fitz whether a fairly competent pathologist, if not forewarned or on the lookout for adenoid tissue, might not easily mistake a specimen of such a growth for a round-celled sarcoma.

Dr. FITZ replied in the affirmative, remarking that the structure of a lymphadenoma is that of a lymphatic gland, but may be soft or hard according as cells or fibrous tissue predominate. The softer varieties are those most likely to be mistaken for sarcoma. The tumor in Dr. Dwight's case seems to have been spongy, a fact which would suggest that the growth may have been of another nature. The peculiarity of lymphadenoma is its multiplicity. This tumor was single. He recalled a rare tumor once seen by him in a case operated on by Dr. Hodges. The growth started from the interior of the pelvis and appeared in the buttock. It was very fibrous in structure and presented large lymph spaces, thus allowing considerable variations in size.

Dr. BOLLES spoke of the suggestion of the reader that the tumor was possibly of inflammatory origin. Such tumors often appear in this region, especially in women, and may be very obscure. He spoke of the case of a woman who had a very marked tumor of this kind, which has now disappeared almost entirely and spontaneously. There are in this region a few lymphatic glands, one of which may inflame and become greatly swollen.

Dr. DWIGHT, while allowing the possibility of an inflammatory origin for his tumor, thought it could scarcely have been an enlarged gland, as the pelvic glands are near the coccyx, and not alongside of the rectum, as was this tumor. In reply to a question by Dr. Curtis, Dr. Dwight said that the blood was not examined in his case.

Recent Literature.

Lectures on the Human Eye in its Normal and Pathological Conditions. By ADOLF ALT, M. D. New York: G. P. Putnam's Sons. 1886.

While the literature of the normal and pathological histology of the eye has of late years reached no inconsiderable proportions, there has been hitherto no attempt to present the subject in a connected and systematic form, if the encyclopædia of Graefe and Sammler be excepted. But the large size of that work and the fact that it is to be found only in German limit the circle of its readers in this country. The present volume must therefore be welcome to many. The book was first written and published in German, and the translation was evidently made by one not thoroughly familiar with the English language; as a natural consequence there are many crudities of expression, sometimes obscuring the sense, and the reader is often farther confused by the promiscuous distribution of commas. Spite of these defects, however, it offers, on the whole, a good general view of the results of the more modern investigations in the anatomy and pathology of the eye, given briefly enough to be of value to those who do not desire to make a special study of ophthalmology, but do wish to know something more of these subjects than is to be found in the usual textbooks.

The author has limited himself to the eyeball itself, proposing to treat of the accessory parts of the eye later. The material has been divided into ten chapters, treating respectively of the cornea, sclerotic, conjunctiva bulbi and episcleral tissue, iris, corpus ciliare, choroidæa, opticus, retina, lens, vitreous body and

zonula Zinnii. Much more space has been devoted to the pathological than to the normal histology. Nearly a hundred wood-cuts from original specimens illustrate the text.

The author agrees with Schwalbe and Waldeyer that Schlemm's canal is a lymph canal, and separate from the venous plexus described by Leber. Admitting the existence of a dilatator muscle of the iris in the rabbit, he has not been able to convince himself of the presence of such a muscle in man. The layer of pigmented epithelium lying upon the basement membrane of the choroid he appears inclined to regard as a part of the choroid rather than, as has of late years generally been held, of the retina. In the next paragraph, however, it is stated that, since this layer secretes the retinal purple, "it represents therefore a kind of gland lying between retina and choroid, as an independent organ." To the cells of this layer considerable pathological importance is attributed. The so-called colloid excrescences of the lamina vitrea of the choroid are regarded as probably secreted by them, though possibly the result of their degeneration, and these excrescences again as not very infrequently the origin of bony formations of the inner side of the lamina vitrea. The typical pigmentary retinitis is said to be a secondary affection due to primary proliferation of the pigmented epithelial cells.

Under the title of *iritis serosa*, pathological changes are described which certainly differ much from those found in the disease known to many writers under this name; among others, the so-called spongy exudation into the anterior chamber. This is only another example of the confusion existing in ophthalmological literature in relation to the term *iritis serosa*, and it would perhaps be better if it were definitively banished from our nomenclature.

The Orthopragms of the Spine. By ROBERT HEATHER BIGG. London: J. and A. Churchill.

A book with sentences like the following may be of interest to the author, but hardly of value to the medical reader:—

"The entire human body is a republic, and is constituted of the relief of dead and the bodies of multitudinous and minute living workers, whose constant birth, life, and death make them analogically resemble the generations of men." "Man . . . is a kind of locomotive country with myriads of inhabitants, little busy bodies, technically termed 'corpuscles,' who build up their own continent and inhabit it."¹

"This licensed mobility is still further marked in the abdomen, where the organs, namely, the stomach, liver, spleen, intestines, urinary and genital viscera, hang in apparent confusedness from the bony scaffolding behind and above, and will undergo unusual rudeness and roughness of motion without injury, or suffer only transitory inconvenience, as instanced by submission to the operation of, in pugilistic parlance, having 'one's wind taken.'"

The professional reader will pause to consider "the licensed mobility" of "the genital viscera," their "apparent confusedness," their ability to undergo "unusual rudeness" without injury, suffering, however, transitory inconvenience if they submit to having their "wind taken." Mr. Bigg has apparently but a super-

ficial knowledge of medicine; in fact, he lays no claim to a medical education; but he and his father have enjoyed excellent opportunities in the experience of fitting "orthopragms," being successful surgical mechanicians in London, who have made a collection of orthopaedic instruments now in use (as well as discarded instruments) for a museum of hygiene. The book offered to the public is Mr. Bigg's generalization on this collection, with conclusions drawn from his own observations, but there is an unfortunate lack of detail necessary to make a description of the principle of "orthopragms," or spinal splints, of value. The reviewer has not been able to find much, if anything, which has not been already better expressed elsewhere. It rarely happens that a book comes under medical consideration, bad as medical books frequently are, written in such abominable English, and where the amount of instruction with such difficulty floats the fearful verbiage, forced use of words, and misshaped sentences which load every page of the book in question.

Mr. Bigg promises us a monograph on the "dislocative disorders" of the uterus. This will be of interest, as in America, as far as we know, the civil engineers, with whom Mr. Bigg associates himself, have not yet attempted to shore up the falling womb.

Is Consumption Contagious, and can it be transmitted by Means of Food? By HERBERT C. CLAPP, M. D. Boston and Providence, 1881.

In the query on the title-page of this little book the troublesome word *contagious* is used in the sense of communicable, and the no less vague word *consumption* as synonymous with *phthisis* (chronic catarrhal pneumonia?) and *tuberculosis*. The author thinks the ancient medical world would have answered the question affirmatively with less hesitation than the modern shows, or more probably with none. If this be so, our hesitation is to be attributed to increased knowledge, not to indifference, and still less to comparative ignorance. We deal with an equation presenting more factors, and consequently resolve it more slowly and more carefully.

Induction and physiological experiment may be properly appealed to in forming an answer as to the communicability of the group of symptoms included by the author under the term *consumption*; but pathology is certainly not yet ready to identify these symptoms necessarily with *tuberculosis*, nor even to speak positively in regard to *tubercle* itself.

Any answer to the query reached from any point of view must be so little categorical and so much modified as to be hardly worth giving; or, in other words, to a query so attractive and interesting, especially for the public, the scientific answer of to-day must be lame and disappointing.

The book makes no pretense to originality, and is largely composed of extracts judiciously and impartially chosen from the writings of recent investigators. Our objection to it, even as a compilation, is that if intended for professional readers it is ahead of time; if for the public, it is unnecessary, and perhaps calculated to do more harm than good. It bears the same relation to the solution of the question discussed as a statement of an election would have to the final result in a close and doubtful State, where several important districts were still to be heard from.

¹ The italics are ours.

Medical and Surgical Journal.

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Remittances by mail should be sent by money-order, draft, or registered letter to Houghton, Mifflin and Company, Boston, Mass.

THE STATE BOARD OF HEALTH OF NEW YORK.

THE State Board of Health of New York, which recently met in Albany, as previously reported in the JOURNAL, held an adjourned meeting at the residence of Prof. Charles F. Chandler, in New York, on the 27th of November, for the purpose of arranging the details of its first annual report, which, according to the requirements of the law, must be presented to the governor of the State by the 1st of December. The report will give a comprehensive statement of the work of the board since its organization on the 29th of May last, and will contain much matter of public and professional interest.

There are in the State nine hundred and thirty townships, three hundred and thirty incorporated villages, and thirty-four cities, each of which should of course have a local board of health. The State Board found, on beginning its duties, however, that there were less than one hundred such boards in existence, and only a few of these were at all active or efficient. Its first work was to secure the organization of as many local boards as possible, and in this particular it has been very successful. The local boards in the rural districts, consisting of the supervisor and justices of the peace, are of no expense to the people, and it is through them that the State Board expects to accomplish its most important practical work.

The board has also, in accordance with the provisions of the law creating it, perfected a system by which a complete and accurate report of all births, marriages, and deaths is to be kept by the clerk of each township, and forwarded every month to the office of the State Board. These records have, as a rule, been very imperfectly kept (if such records were preserved at all) outside of the cities of New York and Brooklyn. In addition, arrangements have been made for regular and special gratuitous reports from physicians in every county of the State in regard to the rise, spread, extent, character, and causes of contagious diseases and of epidemics of every kind. These reports will be begun regularly with the opening of the new year. Another important work has been the issuing of a manual containing all the sanitary laws now on the statute books, as well as copies of a number of local ordinances, the adoption of which is recommended by the board.

In many neighborhoods sanitary surveys have been begun in a small way, and the local investigations in special cases form the most interesting part of the

report. One of them related to a malaria-breeding tract of eighty acres, known as the "Schaghticoke Malarial Elbow," in Rensselaer County, near Hart's Falls. It is a flat district, in a high state of cultivation, which is considered very valuable, and it was found that stagnant and pestiferous ponds had been created in it by the building of a railway embankment and of a mill-dam. It has been decided that the tract must be thoroughly drained, and a resolution was passed at this meeting condemning the nuisance, and requesting Governor Cornell to take such action as will abate it. On whom the costs in this and similar cases must fall is a question that will have to be decided by the courts. In Babylon, Long Island, there were two hundred cases of dysentery during a short period, and the cause was found to be the contamination of wells by the percolation of deleterious matter from cess-pools and privies. Many similar instances were found, and efficient measures recommended for the prevention of such trouble in the future; and in like manner the causes of various epidemics of diphtheria, typhoid fever, and other infectious diseases have been thoroughly investigated. The board reports that it receives the hearty coöperation of physicians and of the people, and it proposes, during the coming year, among other matters, to deal with the causes of some of the nuisances existing in New York city.

ANNUAL REPORT OF THE SURGEON-GENERAL OF THE ARMY.

IN striking contrast with the work done by the medical department of the army appears the diminutive report of the surgeon-general.

One naturally turns first to the Index Catalogue, which is dismissed with a very brief mention. The surgeon-general leaves the praises of the first volume to be told by others. The first part of the second volume was just going to press on October 1st. An estimate has been forwarded for the printing of Volumes III. and IV., and medical men everywhere will join heartily in the hope that this "may be granted, that the progress of the work may not be interrupted." The library now numbers about 51,500 volumes and 57,000 pamphlets.

The need of a fire-proof building for the protection of the surgical records, the library, and the Army Medical Museum is strongly urged. These valuable collections are now exposed in a building not fire-proof, surrounded by, and in some parts in immediate contact with, inflammable houses and sheds under the control of private individuals. The sad experience of the Smithsonian Institute in 1865 and of the Patent Office in 1877 has demonstrated the perils to which valuable collections are exposed in such buildings. Search in the records has been made during the past year in 36,277 cases referring to pensions. The loss of these records by fire would be irreparable.

The health of the white and colored troops is reported upon separately, and a slight balance in favor of the colored troops is shown by the figures.

The total number of wounds, accidents, and injuries amounts to 6020, — a number insignificant when compared with the enormous figures of the war, but somewhat surprising for a nation supposed to be at peace with all the world.

THE LEGISLATIVE INQUIRY INTO INSANE-ASYLUM MANAGEMENT IN NEW YORK.

THERE seems to exist just now in New York a very active and probably generous rivalry between societies and individuals as to who shall be first and foremost in protecting the insane, and in reforming the management of asylums and the construction of the buildings. The Neurological Society, the Society for the Protection of the Insane, the State Board of Charities, and various specialists with reputations made and with reputations to make are all in the field.

The immediate exciting cause of this activity is the sitting of the committee of three senators, appointed at the last session of the state legislature to investigate abuses alleged to exist in the management of asylums for the insane, to inquire into the general subject of lunacy administration in the State, and to report the results at the next session of the legislature by bill or otherwise.

This committee had a preliminary meeting last July, and re-umed its sittings in the city of New York December 1st. The committee expects to examine into the workings of every asylum in the State, and invites suggestions from experts in regard to any proposed measure of reform.

The proper composition of a lunacy commission; the mode of appointment and removal of superintendents, assistants, and attendants, together with the salaries and opportunities to be allowed to aid the duties to be expected of officers and nurses; the questions of mechanical re-trait and active occupation for the insane; the form of building and organization, in a word, best adapted to caring for the insane with the greatest advantage; and the sort of insane most likely to profit by confinement in an asylum, — all this must pass through the alchemic of the senatorial committee, which it is greatly to be desired may be happily conducted to judicious conclusions. We hope the wisdom acquired in New York may not be dissipated in Albany.

In a circular prepared by the committee of the Neurological Society a somewhat recent estimate of the proportion of assistants to patients in the different state asylums gives the following results: —

At the Utica Asylum, four assistants to 600 patients; at the Hudson River State Hospital, Poughkeepsie, two assistants to 250 patients; at the Willard Asylum, Ovid, five assistants to 1340 patients; at the City Lunatic Asylum for Women, Blackwell's Island, seven assistants to 1267 patients; at the institution for men, on the same island, five assistants to 1087 patients.

The investigations and conclusions of the legislative committee will be watched with general interest. A better state of things certainly can and probably

will be evolved out of the present position; the result may disappoint the enthusiastic reformer, but we hope it will prove at least equally distasteful to the routine political official. In any case there is an excellent opportunity to testify before a committee.

GASTRIC ULCER AND CANCER OF THE STOMACH.

In a clinical lecture¹ on simple gastric ulcer, by Trousseau, in which the question of the diagnosis of cancer of the stomach is touched upon, the following instructive passage occurs: "Should the cancerous tumor not be accessible to investigation, as in the case to which I have just alluded, there remains a valuable diagnostic sign which I must indicate to you. This sign, to which, over fifteen years ago, I first called the attention of the profession, consists in the appearance of a *venous thrombosis*. When you are in doubt as to the nature of a gastric disorder, and are hesitating between a chronic gastritis, a simple ulcer, and a cancer, a *phlegmasia alba dolens* of the lower or the upper extremity will put an end to your indecision, and it will be allowable for you to assert positively the existence of a cancer."

Trousseau died, as is well known, of cancer of the stomach. Not long after his death, Professor Lasèque, of Paris, published an obituary notice,² in which he related the following striking incident. Having described the earlier phases of Trousseau's illness, Lasèque proceeds to relate how "he was with difficulty persuaded, by the solicitations of his friends, to make a short visit at the sea-side. There a certain degree of improvement showed itself. . . . But, alas! it was only of short duration. A warning, which he less than any one could fail to understand, signified to him that thenceforth he had only to resign himself to his fate. I see him now before me, as he was on that never-to-be-forgotten day, when, taking me by the hand, he said, 'My friend, a phlebitis set in last night; it gives me but little pain; nevertheless, I know too well, by long experience, the meaning of this symptom to need any further warning.'" Trousseau's death followed not long after this interview with his friend and biographer, Lasèque.

MEDICAL NOTES.

— We find the following items in the *Canada Lancet*: "In fissure of the anus, instead of employing forced dilatation, which is the classic remedy, Dr. Hamon advises the following means, which has succeeded with him in fifteen cases consecutively: It consists simply in touching the fissure with a camel's-hair pencil imbibed in a mixture of five grains of chloroform and ten grains alcohol. Two or three applications effectuated at two or three days' interval

¹ A. Trousseau. Clinique médicale de l'Hôtel Dieu. Paris, 1868. Vol. iii., page 85.

² Eloge de Trousseau. Par le Professeur Lasèque. Archives générales de Médecine, 1869, vol. ii., p. 374.

suffice generally. The first time the pain is very acute, but diminishes on successive applications."

"A doctor tells with pardonable pride how, being called in, at the *début* of his career, to a consultation with an eminent prince of science, he had insisted, despite the opinion of his famous senior, that the patient had an incurable affection of the heart. 'And what were my delight and pride,' he says, beamingly, 'on learning three days later that my patient had gone off precisely as I had declared he would.'"

—The executive committee of the Alumni Association of Jefferson Medical College, Philadelphia, have elected our collaborator, Dr. Hamilton Osgood, anniversary orator at their annual meeting, March 10, 1881.

—The residents of West Medford, Mass., express themselves as greatly distressed on account of the condition of the lower Mystic Pond, into which the Mystic sewer, built by the city of Boston, empties. The fish in the pond are said to have died from its filthy condition, and the smell arising from it is regarded as a nuisance.

—We find a new patent pamphlet and magazine box, manufactured by Thomas L. Clacher, of New York, a convenient form of receptacle for papers and pamphlets.

—At a late meeting of the council of the National Association for Protection of the Insane, held in New York, a committee was appointed to take such steps as shall be best calculated to induce medical colleges, medical journals, and asylum authorities to do all in their power to diffuse a better knowledge of psychiatry among the profession, and specially to educate physicians who may desire a thorough knowledge of the subject. Another committee was appointed to obtain facts and statistics relating to the methods of restraint and system of labor in use in the asylums of the country.

NEW YORK.

—The twenty-fifth anniversary exercises of the New York State Woman's Hospital were held on the 18th of November at the hospital buildings, corner of Fourth Avenue and Forty-Ninth Street. Ex-Governor E. D. Morgan presided, and the annual report of the board of governors was read by Mr. Charles N. Talbot. Mrs. Jonathan Edwards read the report of the board of lady supervisors, and in this it was stated that greater accommodations, including more buildings, were needed to carry on the work of the institution. In the treasurer's report, which was presented by Mrs. Russell Sage, the receipts for the past year were placed at \$38,677, and the expenditures at \$37,677. The report of the medical board, which was made by Dr. James B. Hunter, stated that the increase in the number of paying patients had been large, and special request was made for another detached cottage. The necessity of first-class nurses was urged, and a suggestion made that all good nurses should be retained as long as possible on account of their peculiar fitness for the duty required of them. Since the foundation of the hospital there had been treated in it 5397, and of these 3480 had been com-

pletely cured. The number then under treatment was 105. An address was then made by the Rev. Henry C. Potter, rector of Grace Church, in the course of which he said that the institution had here become widely celebrated on account of three things particularly: first, success in the treatment of evils which, fifty years ago, men supposed to be incurable; second, its singular success in the diseases peculiar to women in general; and, third, the fact of its being a witness of the practicability of men and women working together in a good cause. The medical address of the anniversary was made by Dr. Robert F. Weir, surgeon to the New York and Roosevelt hospitals, who traced the progress of the institution from its humble origin in 1855 until the present, when it was conceded by all, both at home and abroad, to be the best hospital of the kind in the world.

—Five thousand dollars have been bequeathed to the Woman's Hospital by the late Daniel N. Lord, of this city. He also left fifty thousand dollars to the New York Society for the Relief of the Ruptured and Crippled.

—At the monthly meeting of the County Medical Society, November 22d, Dr. David Webster was announced to read two papers: one on Recovery of Vision after Total Blindness from Optic Neuritis, and one on Amblyopia from Alcohol and Tobacco. The reading of the latter, however, had to be postponed to a special meeting of the society, held on the 29th.

—At a recent meeting of the board of health a report was submitted by a member of the committee on hygiene, of the County Medical Society, in regard to several cases of diphtheria, which were apparently caused by impure air in houses where no imperfections could be detected in the plumbing. The report attributed these cases to the exhalations from filthy streets, and was concluded as follows: "One of the principal sources of foul air in the city is the filthy condition of many of the streets, and especially the street gutters; for even when the streets are swept, much dirt is left in the gutters. I am fully convinced that much sickness and some mortality are produced by the foul exhalations of the streets and gutters alone. In addition, a large portion of the street dirt and gutter filth, which should be regularly and carefully swept up, is washed down into the receiving basins and sewers with every rain-shower, and this adds to the quantity and malignancy of the sewer gases. To the imperfect cleaning of the streets much disease of various kinds is mainly attributable."

—*Apogee* of the recent meeting in New York of the National Association for the Protection of the Insane and the Prevention of Insanity, a meeting of the state senate committee on lunatic asylums will be held in the early part of December, when reports will be made upon the condition of the asylums in the eastern part of the State, and testimony will be taken in regard to alleged abuses. The committee is said to be opposed to the further building of "palaces" for the pauper insane. One of the asylums in the State cost four thousand dollars for each patient it can hold, and another is now projected which it is

estimated will cost fifteen thousand dollars *per capita*.

—The night medical service has not as yet assumed very extensive proportions. During the month of October thirty-eight persons were attended under its auspices, and the calls were made by twenty-five physicians.

—Dr. Isaac A. Nichols, an old practitioner of Newark, N. J., much respected for his professional attainments, and highly esteemed on account of his philanthropy, died on the 22d of November. For many years he served the city as health physician without remuneration.

LITERARY NOTES.

—We learn that M. M. MacHardy, of London, is engaged in the preparation of a fourth edition of Soelberg Wells's Treatise on Diseases of the Eye. The popularity of the original work is attested by the fact that three editions were published in England from 1868 to 1873, that it was reprinted in this country, and was translated into French and German. A revised edition would, without doubt, have appeared earlier in England but for the death of the lamented author.

Miscellany.

LETTER FROM WASHINGTON.

MR. EDITOR, — Our season is now well under way, and the medical schools are conducting their sessions as usual, but with small classes. The want of facilities for thorough practical work is very much felt, and no amount of theoretical teaching would seem to supply this want. Both colleges are well equipped with facilities capable of teaching satisfactorily, but there is little or no money in it to them, and the mother universities do not seem to be alive to the necessity of helping these departments; and so the classes go on year by year, just paying expenses and holding together.

Practical anatomy is well taught, with as commodious and well-ventilated dissecting-rooms as are needful, and no lack of material; practical chemistry is taught, after a fashion, in an elementary manner; no practical pharmacy and no practical physiology, although with the latter attempts have been made, but it is impossible to teach this branch without an outlay of money; practical histology and pathology is receiving a very fair share of attention. The medical department of Georgetown University has made a new departure this year by admitting two female students to the lectures on anatomy, chemistry, and physiology.

The Training School for Nurses is struggling along, with a certain amount of enthusiasm on the part of those directly interested, with hopes for a successful future; but the profession do not encourage the enterprise greatly, on the ground that the trained nurse may attempt to turn doctor; and there is still a large proportion of our patients who prefer the old colored "auntie" or "mammy" to coddle and humor them to their hearts' content, despite the orders of the doctor

and the laws of hygiene and common sense. One of the nurses in the school, last winter, was a well-trained *masseuse*, but it is doubtful whether she found enough to do to keep her employed. A very sensible idea in this connection comes to us from abroad, — that of employing the blind for this purpose, by training them to the use of massage. Their delicate sense of touch and their naturally quiet manners would seem peculiarly to adapt them for this employment. The trustees of the school are about opening an Art Loan Exhibition, and hope to profit by the proceeds. Fairs, festivals, and tea fights seem to be pretty well worn out in the service of such enterprises, and the Loan Exhibition is the substitute of the present day, — particularly with our new-found fondness for old things, and centennial curiosities. An historic house will be selected for the purpose; for, young as we are compared with Boston, we have yet a few historic houses.

So far this letter has assumed rather a depreciating tone, which is an unfortunate fact, and the main reason for the necessity of such criticism is the want of a general hospital to stimulate medical men, medical students, and nurses by clinical teaching. This city of 180,000 inhabitants, fast becoming a centre of wealth, literature, and science, is without a general hospital worthy of the name. It is filled during the winter season with strangers, who come here for a holiday; some spending the whole winter, and making the boarding-houses and hotels their home for the time being. Should they be taken sick or sustain serious accidents, there is no proper place for them to go. What hospital accommodations have we, then? For the deserving poor an almshouse hospital, miles from the centre of the city, in the most unhealthy location possible, and all patients on a common footing with vagrants, prostitutes, and criminals; a Freedman's Hospital, well established and conducted, but intended for a special class of colored patients. The "poor white" of this region has his prejudices, which would prevent his seeking assistance there, and there is a large number of the colored population who, if they go to a hospital, want to go to a white man's hospital. For the wealthy and poor classes alike there remains Providence Hospital, under the charge of Sisters of Charity; admirably constructed, with a well organized visiting staff; but open to the fatal objection of being controlled by a sect whose rules prevent any medical man from residing in the house; so that through the long watches of the night many serious cases must be left entirely to the judgment of the Sisters themselves. This hospital provides only for the non-resident poor. Another objection is that the Sisters themselves cannot assist in any way at operations or examinations involving exposure of the genital organs. This, however, is not so serious an objection, as Columbia Hospital provides admirably for all obstetrical and gynecological cases. It is an institution where any lady may take board for treatment of uterine disease, with every prospect of comfort and satisfactory attendance, and the poorer classes are also well provided for. We have, too, a Children's Hospital, which will compare favorably with any in the country.

The members of the profession are fully alive to these wants and necessities, and with a number of our citizens are about to petition Congress, through the commissioners of the district, for a proper remedy. What success they will meet with remains to be seen. Already little jealousies and personal feelings are show-

ing themselves. The projectors form a clique. They want it for the colleges and their own personal ends; it is an attack upon the Catholics who control Providence Hospital; so-and-so was not invited to attend the meeting; a location proposed is not suitable, because one man owns property in the neighborhood, and is afraid it will depreciate in value, — and so on, in the way so familiar to many of us. What a curious commentary upon our relations to one another!

Speaking of the colleges, we have recently lost by death a very thorough and useful anatomist, Frederick Schafhirt, acting assistant surgeon, U. S. A. Schafhirt came to this country, in 1847, from Germany, where he had been associated with Von Langenbeck, for whom he had a great admiration. He settled in Philadelphia, and remained there until 1858, working for the University of Pennsylvania, and more directly associated with Professor Leidy. He came to Washington in 1860, and became curator of the Museum and janitor of the National Medical College, working at the same time for the Smithsonian Institution. During the five years that he was associated with the college he did much valuable work, and assisted materially in protecting the interests of the college at a very critical period. For the most of the time he was virtually the demonstrator of anatomy, and for the last two or three years received the title. About 1865 he became connected with the Army Medical Museum, where he remained until his death, in October, 1880. Early in his connection with the college he succeeded in preparing and arranging a really valuable little museum of anatomy, now for the most part scattered and neglected, and many a student of that period owes a grateful remembrance to "Old Schafhirt," as he was always called, for the interest he took in advancing his knowledge of practical anatomy, and for fostering a determination to do his work thoroughly and well. The Army Medical Museum is filled with specimens of his handiwork, which give better evidences of his skill than words can convey. Peace be with you, old fellow! Many of us will long think of you with pleasure!

Schafhirt's predecessor (by a couple of years) as demonstrator of anatomy in the National Medical College was Dr. Selden W. Crowe, whose name has recently attained so much notoriety in connection with the Washington Medical Institute as selling diplomas in an irregular way. Crowe was a *bona fide* graduate of the college, and possessed the impudence of the — Well, he is reported to have recently died of heart disease, on the cars between New York and Philadelphia. If this report be genuine, and it is not a death *à la* Buchanan, so much the better for the profession, for otherwise he might have occasioned considerable annoyance. He freely admitted his connection with and modes of operation through the Washington Medical Institute, both in writing and in print. The revelation of this state of things was as much a surprise to medical men here as elsewhere, and it is not believed that his operations were very extensive.

The recent issue of Volume I. of the Index Catalogue of the Library of the Surgeon-General's Office, U. S. A., seems still to be exciting comment and surprise at the vastness of the undertaking, as well as its thoroughness and utility. One of the latest and most interesting additions to this library is from the Van Kaathoven collection of portraits of medical men, with which are to be found medical caricatures and

illustrations of medical subjects. This collection was sold at Amsterdam recently; a large portion of it has become the property of the library, and it is arranged in folio books for alphabetical reference. Simply glancing over these illustrations is a task in itself. There are 2000 German, 600 French, 400 Italian, and 365 English portraits of medical men, — 3365 in all. In the combined collection are some very curious old prints. Among the English we find Gillray's forcible, if not elegant, delineations, Hogarth, and others; among the French the characteristic signature of G. Doré, now so well known, but then obscure; Gavarni and perhaps others might be also referred to, if one undertook to study the collection. Some of the prints are quite rude in execution, while others are beautiful examples of the engraver's skill, and comprehend many of the best of the engravers known to us. It is interesting, too, to note the duplicate copies, of which there are many, by different hands, of the same original engraving. It may not be generally known that we possess in Washington a great prize in medical portraiture, now in private hands, in an original portrait in oils of William Harvey, large size, well preserved, and painted by Jose Ribera, called Spagnoletto. The study is entirely different from any we are familiar with; is bold, somewhat after the Spanish style, with a head covered with short, curly, black hair in disorder, a short, thick beard of no particular cut, throat bare, and the loose mantle in careless folds. The master has just taken the heart out of a rabbit, and is demonstrating it, with scalpel in hand. The picture bears every evidence of being genuine, is well authenticated by documents, and was purchased in Italy for a considerable sum of money; it is said that an agent of the British government was in negotiation for its purchase at the time it was secured. From its characteristics and what we know of the life of Harvey, it was probably taken at the time of Harvey's second visit to Padua. The only copy that has been attempted to be made from it, so far as known, was for a bust while it was in Italy.

It would seem as if, in addition to these medical portraits and illustrations, there should be some attempt on the part of a public institution to collect the various medals which have been issued from time to time as struck in honor of medical men and medical events. They are quite numerous. Comparatively little is known of them, and some of them are beautiful specimens of the graver's skill. Some of the French medals struck in honor of Jenner and vaccination, especially those by Andrien, are very handsome. The reverse of the Brodie medal, by Wyon, has been adopted by the *Art Journal* for its frontispiece, and the Cheselden medal is very fine. Our own medals, although few and comparatively insignificant, are showing some fine specimens of work from the hands of Paquet, Barber, and others, — as the Pancoast and N. S. Davis medals, for example. The Greek and Roman medals, with Hygieia, *Freunditas*, *Aesculapius*, *Telesphorus*, and the various insignia accompanying them, must be of considerable value to the student of the history of medicine, especially as there is such a mine to be worked out of them; we really know but little about them. Dr. Richard Mead, whose collection of medals brought at public sale, after his death, nearly \$10,000, attempted in 1724 to decipher those struck in Smyrna, but, according to later authorities, got most woefully and inextricably mixed up. He

was inspired to answer the charge that medical men of that date were mostly slaves and without honor by attempting to prove through these medals that they were free men, and especially honored; from his time to the present we have had but little written to throw light on the subject. C. A. Rudolphi published in Berlin, in 1825, an index of all medals struck in honor of medical men, but confined himself to describing the more modern series; and Renaudin, in 1851, in Paris, published a curious book of historical and critical studies of numismatic physicians and their writings. This is about all the literature of a general nature that we have on the subject. W. L.

November, 1880.

DIPHTHERIA, WITH CROUP.

MR. EDITOR, — It sometimes takes a great many blows to drive in a nail, — especially when the wood is hard and thick. Dr. O. F. Ham's communication in your last number,¹ entitled *Croup or Diphtheria?* is one more blow upon a nail which had already before received several taps in your journal.² He contributes a fresh instance, to be added to the many already on record, of so called "membranous croup," originating distinctly as a result of diphtheritic infection. Cases of unequivocal diphtheria spreading from croup, and of croup derived from diphtheria, have often been previously reported.³

Dr. Ham remarks that as his case of "croup" occurred in conjunction with two cases of diphtheria, it was comparatively easy to determine its specific and infectious character as a diphtheritic laryngitis; but he inquires how it would have been likely to be regarded if it had occurred by itself. In the latter case, according to the views which still prevail in this community, it would have been perfectly allowable to regard and to treat the case as an instance of a simple inflammatory, local, unspecific, non-infectious disease, namely, "membranous croup," and to neglect all sanitary precautions, such as isolation and disinfection. It is, however, manifest that such precautions would have been as necessary in this case of "croup" as in any case of the most malignant form of diphtheria.

The *Lancet*,⁴ not long ago, contained an editorial article on The Nature of the Diphtheritic Membrane, in which the following pertinent statements were made: "There have been few subjects in pathology more debated than diphtheria and the special lesion which characterizes it, — from which, indeed, it takes its name; and few about which so much needless confusion and mystery have clung. We may now fairly assume that the vexed question of identity between this disease and that styled 'membranous croup' has been set at rest. . . . At any rate, it has been shown conclusively on all sides that there is no anatomical difference in the two diseases, but only a topographical difference as to the seat of the exudation; and similarly, one by one, all aetiological, clinical, and other distinctions have faded before the exhaustive analysis of modern inquiry."

¹ See the JOURNAL, December 2, 1880, page 554.

² See the JOURNAL, July 5, 1877, page 4; and March 14, 1878, page 331.

³ See J. Lewis Smith's Diseases of Infancy, etc., Philadelphia, 1876, page 329; also Dr. B. E. Elson, in the New York Medical Record, May 5, 1877.

⁴ The Lancet, September 4, 1880, page 383.

The practical interest of the question raised once more by Dr. Ham lies in the now generally admitted *infectiousness* of all cases of *true* or *membranous* croup. As I once had occasion to remark⁵ in your journal, "it is comparatively unimportant, after all, under what *names* cases are recorded, provided that we are careful to keep on the safe side in matters relating to their practical management." Yours truly,

T. B. CURTIS.

MALPRACTICE CASE.

The *Canada Lancet* publishes the following: An action for damages was brought up at the October assizes in this city by a man named O'Dea against Dr. Irwin H. Cameron, for alleged unskillful treatment and neglect of a dislocation of the elbow-joint, in November of last year. The plaintiff, a coal-heaver, in a scuffle with a fellow-workman, was thrown down, striking the plunk of the sidewalk and dislocating his elbow. Dr. Cameron, assisted by Dr. Nevitt and a medical student, attended to the injury. They adopted the usual methods of reduction, and state that they heard distinctly the "click" caused by the return of the bones to their places, and were satisfied that the dislocation was reduced. Pain and swelling still continued for a considerable length of time, but finally subsided. Passive motion was resorted to after the lapse of a few weeks. The arm was examined some time in February, 1880, by Dr. H. H. Wright, but beyond some thickening and a little outward motion of the fore-arm nothing amiss was discovered by him. The patient was not seen afterwards until the month of May. At this time the thickening at the elbow had entirely disappeared, and, while the motions of the joint were apparently good, there was undoubted dislocation of the ulna and radius outwards and backwards. This was the condition of the joint as seen in court. Flexion and extension were present to a very considerable extent, and the arm showed a strong disposition to fall outwards. The plaintiff had resumed work, and it was found that he had very fair use of the arm, except when working overhead, or in climbing out of the hold of the vessel.

The trial lasted two days, and excited considerable interest among the members of the medical profession. As is usual in such cases, there was abundant medical evidence on both sides of the case. Some of the medical witnesses for the plaintiff thought the dislocation had never been reduced, and that negligence and unskillfulness might be imputed. The plaintiff, his wife, and father testified that the arm had not received any subsequent injury. A large number of medical witnesses were examined for the defense, and all concurred in the opinion that neither unskillfulness nor negligence was manifested in the treatment of the case. They all agreed that there was dislocation of both radius and ulna, outwards and backwards, and that it was secondary; caused either by fracture of the outer condyle of the humerus, which had failed to unite properly, from using the arm too soon after the injury, or by the occurrence of a second accident, taking place probably between the months of February and May. The judge (Justice Morrison) decided that there was no case for the jury, and a nonsuit was accordingly entered.

⁵ The Relations of Diphtheria and "Croup." The JOURNAL, March 14, 1878, page 334.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 27, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diphtheria and Croup.	Lung Diseases.	Scarlet Fever.	Typhoid Fever.
New York.....	1,209,561	638	248	28.06	16.93	16.77	4.39	1.10
Philadelphia.....	846,980	343	103	19.53	4.66	7.00	4.08	3.21
Brooklyn.....	566,689	257	98	32.30	27.24	15.56	2.30	3.28
Chicago.....	503,298	200	95	33.50	27.00	10.50	3.00	1.00
St. Louis.....	—	121	38	14.88	4.96	7.44	—	2.48
Baltimore.....	393,796	151	54	25.17	11.26	7.28	3.97	3.97
Boston.....	363,938	167	64	26.85	17.37	11.38	2.39	3.59
Cincinnati.....	280,000	98	28	22.45	10.20	13.27	—	8.16
New Orleans.....	210,000	131	42	10.69	3.82	6.11	1.33	.76
District of Columbia.....	180,000	82	34	13.41	4.88	15.85	—	—
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,649	75	30	25.33	6.67	12.00	12.00	4.00
Buffalo.....	153,159	38	15	28.95	13.16	5.26	2.63	2.63
Milwaukee.....	127,000	52	29	30.77	5.77	5.77	21.15	—
Providence.....	104,862	35	8	22.86	14.29	8.57	—	2.86
New Haven.....	63,000	24	8	8.33	8.33	—	—	—
Charleston.....	57,000	28	8	7.14	—	7.14	—	—
Nashville.....	43,343	15	3	26.67	6.67	20.00	—	6.67
Lowell.....	59,340	14	8	21.43	7.14	—	—	—
Worcester.....	58,040	22	12	36.36	9.09	—	4.55	4.55
Cambridge.....	52,860	13	5	15.38	7.69	38.46	—	—
Fall River.....	48,626	19	7	15.80	5.26	—	—	—
Lawrence.....	39,068	15	3	6.67	—	6.67	—	—
Lynn.....	38,376	12	5	25.00	8.33	—	8.33	—
Springfield.....	33,536	6	3	16.67	—	—	—	—
Salem.....	27,347	14	4	14.29	14.29	14.29	—	—
New Bedford.....	27,268	7	1	—	—	—	—	—
Somerville.....	24,964	7	3	14.29	14.29	14.29	—	—
Holyoke.....	21,961	3	0	—	—	—	—	—
Chelsea.....	21,780	10	5	60.00	50.00	—	—	10.00
Taunton.....	21,145	11	2	9.09	9.09	27.27	—	—
Gloster.....	19,388	5	1	—	—	40.00	—	—
Haverhill.....	18,478	7	4	28.57	14.29	—	—	—
Newton.....	16,994	—	—	—	—	—	—	—
Newburyport.....	13,470	10	3	20.00	10.00	10.00	—	10.00
Fitchburg.....	12,270	6	0	—	—	16.67	—	—
Nineteen Massachusetts towns.....	153,746	44	16	29.55	9.09	6.82	—	9.09

Deaths reported 2680; 987 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 653, consumption 421, diphtheria and croup 361, lung diseases 306, scarlet fever 86, typhoid fever 58, diarrheal diseases 40, malarial fevers 32, small-pox 28, cerebro-spinal meningitis 15, whooping-cough 13, measles 12, erysipelas eight. From *diarrheal diseases*, New York 11, Brooklyn four, Baltimore, Cincinnati, and District of Columbia three, St. Louis, New Orleans, Charleston, and Nashville two, Chicago, Boston, Buffalo, Milwaukee, Providence, Gloucester, Lynn, and Clinton one. From *malarial fevers*, New York 11, St. Louis five, New Orleans four, Brooklyn, Baltimore, and District of Columbia two, Chicago, Buffalo, Providence, Worcester, Lawrence, and Northampton one. From *small-pox*, Philadelphia 25, New York three. From *cerebro-spinal meningitis*, New York four, Worcester two, Chicago, Baltimore, Boston, District of Columbia, Pittsburgh, Buffalo, Milwaukee, Haverhill, and Brockton one. From *whooping-cough*, New York and Baltimore three, Chicago, Cincinnati, District of Columbia, Buffalo, Lowell, Fall River, and Springfield one. From *measles*, Boston four, New York three, Chicago, St. Louis, Pittsburgh, Lowell, and Fall River one. From *erysipelas*, Boston two, New York, Philadelphia, St. Louis, Worcester, Weymouth, and Milford one.

One hundred and thirty-nine cases of diphtheria, 63 of scarlet fever, seven of measles, three of typhoid fever, and one of whooping-cough were reported in Brooklyn; diphtheria 55, scarlet fever 15, in Boston; scarlet fever 32, diphtheria 23, in Milwaukee; diphtheria five, scarlet fever four, whooping-cough four, measles two, typhoid fever two, in Providence; scarlet fever two, typhoid fever two, diphtheria one, in Cambridge; scarlet fever seven, diphtheria three, in New Bedford; diphtheria three, typhoid fever two, in Somerville.

In 37 cities and towns of Massachusetts, with a population of

1,055,501 (population of the State 1,783,086), the total death rate for the week was 19.42, against 18.70 and 19.68 for the previous two weeks.

For the week ending November 6th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 22.7. Deaths reported 3258: acute diseases of the respiratory organs 355, scarlet fever 150, diarrhoea 78, fever 70, measles 50, whooping-cough 49, diphtheria 24, small-pox (London) seven. The death-rates ranged from 16 in Portsmouth to 30 in Salford and Liverpool; Sheffield 18; Birmingham 20; London and Leeds 22; Bristol 21; Manchester 26. In Edinburgh 24; Glasgow 25; Dublin 34.

For the week ending November 13th, in the 20 English cities, the death-rate was 22.8. Deaths reported 3279: acute diseases of the respiratory organs, 421, scarlet fever 163; measles 71, fever 69, whooping-cough 62, diarrhoea 60, diphtheria 32, small-pox (London) 17. The death-rates ranged from 17 in Bristol to 29 in Sunderland; Sheffield 19; Leeds 20; Birmingham 22; London 23; Liverpool and Manchester 25. In Edinburgh 23; Glasgow 24; Dublin 40.

For the week ending October 30th, in 149 German cities and towns, with an estimated population of 7,656,526, the death-rate was 22.8. Deaths reported 3354; 1597 under five: pulmonary consumption 397, acute diseases of the respiratory organs 246, diphtheria and croup 163, scarlet fever 100, typhoid fever 62, whooping-cough 53, measles and rubella 37, puerperal fever 16, small-pox (Königsberg) two. The death-rates ranged from 13.5 in Lübeck to 33.2 in Würzburg; Königsberg 21.4; Breslau 22.4; Munich 28.4; Dresden 19.4; Berlin 25.7; Leipzig 17.2; Hanburg 21; Hanover 19.4; Bremen 17.7; Cologne 27.5; Frankfurt 16.4; Strassburg 24.2.

For the week ending November 6th, in 149 German cities and towns, with an estimated population of 7,740,471, the death-rate was 23.1. Deaths reported 3412; 1562 under five: pulmo-

nary consumption 446, acute diseases of the respiratory organs 269, diphtheria and croup 172, scarlet fever 93, typhoid fever 74, whooping-cough 57, measles and rubella 30, puerperal fever 18. The death-rates ranged from 12.9 in Duisburg to 36.1 in Dortmund; Königsberg 27.7; Breslau 25.4; Munich 24.7; Dresden 22.4; Berlin 25.4; Leipzig 22.1; Hamburg 21.9; Hanover 16.1; Bremen 23.4; Cologne 29; Frankfurt 21.2; Strasburg 17.6.

In the 20 chief towns in Switzerland for the weeks ending

November 6th and November 13th, population 522,856, there were respectively 27 and 18 deaths from acute diseases of the respiratory organs, diarrhoeal diseases 16 and 16, diphtheria and croup three and eight, typhoid fever five and two, small-pox five and two, whooping-cough one and one, scarlet fever one and none, measles none and one. The death-rates of the principal cities were: Geneva 24.3 and 18.4; Zurich 19.5 and ?; Basle 30.6 and 15.3; Berne 20.9 and 24.6.

The meteorological record for the week in Boston was as follows:—

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
1880.																			
Nov. 21	30.207	25	37	20	64	34	45	48	W	W	W	23	24	16	F	C	C	—	—
" 22	30.493	18	24	14	48	21	35	35	W	W	W	15	19	13	C	C	C	—	—
" 23	30.489	18	25	11	80	24	37	47	W	W	W	12	22	14	C	C	C	—	—
" 24	30.598	25	34	11	62	34	24	40	W	W	S	15	6	7	C	H	O	.25	2
" 25	30.284	26	33	21	88	58	74	73	W	N	NW	7	15	11	S	O	F	7.10	.02
" 26	30.462	21	32	13	81	42	47	57	N	SE	W	11	5	5	C	O	F	—	—
" 27	30.404	24	35	13	65	51	75	64	W	W	W	7	6	6	O	F	C	—	—
Week.	30.420	23	37	11					W	W	W							7.35	—

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

² Too small to measure.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM NOVEMBER 27, 1880, TO DECEMBER 3, 1880.

MAJORS J. R. SMITH and J. S. BILLINGS, surgeons, directed to represent the medical department of the army at the eighth annual meeting of the American Public Health Association in New Orleans, La., on December 7, 1880, and upon adjournment of the association to rejoin their proper stations. S. O. 251, A. G. O., November 26, 1880.

COLES, ELLIOTT, captain and assistant surgeon. Relieved from duty assigned him in S. O. 134, July 3, 1876, from A. G. O., and to report in person to the commanding officer, Department of Arizona, for assignment to duty. S. O. 251, A. G. O., November 26, 1880.

KING, J. H. T., captain and assistant surgeon. Granted leave of absence for four months. S. O. 253, A. G. O., November 29, 1880.

HOFF, J. V. R., captain and assistant surgeon, Fort Monroe, Va. Granted leave of absence for one month. S. O. 208, Department of the East, November 26, 1880.

THE "HAMMOND PRIZE" OF THE AMERICAN NEUROLOGICAL ASSOCIATION.

THE American Neurological Association offers a prize of five hundred dollars, to be known as the "William A. Hammond Prize," and to be awarded at the meeting in June, 1882, to the author of the best essay on the Functions of the Thalamus in Man.

The conditions under which this prize is to be awarded are as follows:—

(1.) The prize is open to competitors of all nationalities.
(2.) The essays are to be based upon original observations and experiments on man and the lower animals.

(3.) The competing essays must be written in the English, French, or German language; if in the last, the manuscript is to be in the Italian handwriting.

(4.) Essays are to be sent (postage prepaid) to the secretary of the Prize Committee, Dr. E. C. Seguin, 41 West Twentieth Street, New York City, on or before February 1, 1882; each essay to be marked by a distinctive device or motto, and accom-

panied by a sealed envelope bearing the same device or motto, and containing the author's visiting card.

(5.) The successful essay will be the property of the association, which will assume the care of its publication.

(6.) Any intimation tending to reveal the authorship of any of the essays submitted, whether directly or indirectly conveyed to the committee or to any member thereof, shall exclude the essay from competition.

(7.) The award of the prize will be announced by the undersigned committee, and will be publicly declared by the president of the association at the meeting in June, 1882.

(8.) The amount of the prize will be given to the successful competitor in gold coin of the United States, or, if he prefer it, in the shape of a gold medal bearing a suitable device and inscription.

Signed:

F. T. MILES, M. D., Baltimore,
J. S. JEWELL, M. D., Chicago,
E. C. SEGWIN, M. D., New York.

SEFFOLK DISTRICT MEDICAL SOCIETY.—A regular meeting will be held at the hall, No. 19 Boylston Place, on Saturday evening, December 11th, at seven and a half o'clock. The following paper will be read: Dr. F. H. Hooper, Two Cases of Subcapsular Abscess, attended in one case by Perforation of the Lung.

By vote of the society, the last regular meeting of this month will be omitted.

All members of the Massachusetts Medical Society are cordially invited to be present, and to take part in the discussion.

H. C. HAYEN, M. D., Secretary.

BOOKS AND PAMPHLETS RECEIVED.—On the Construction, Organization, and General Arrangement of Hospitals for the Insane, with some Remarks on Insanity and its Treatment. By Thomas S. Kirkbride, M. D. Second Edition. Philadelphia: J. B. Lippincott & Co., 1880.

A New Case Record.—General and Gynecological. For Chronic and Acute Cases. Joel A. Miner, Ann Arbor, Mich.

The Physician's Memorandum Book. Arranged by Joel A. Miner. Fifth Improved Edition, with Clinical Columns and Ledger Sheets. Ann Arbor: Joel A. Miner.

Lectures.

THE CARTWRIGHT LECTURES ON THE PHYSIOLOGICAL ANTAGONISM BETWEEN MEDICINES, AND BETWEEN REMEDIES AND DISEASES.

BY PROFESSOR ROBERTS BARTHOLOW, M. D.

FIFTH LECTURE. THE ANTAGONISM BETWEEN REMEDIES AND DISEASES.

IN commencing the second division of his subject, Dr. Bartholow said that the doctrine or law of antagonisms was necessarily applicable only to the state of physiological pathology,—if he might be permitted such a phrase,—and not to structural pathology, unless remediable by physiological processes. For example, the pathological state induced by fluxionary hyperemia might be removed by agencies acting on the vessels in the opposite way. A cachexia or diathesis, as the cancerous or tubercular, sclerosis of organs, etc., could not be affected by opposed or similar remedies; yet some important symptom occasioned thereby might be acted on, as, for instance, fever, which might be subdued, and its ill effects prevented, by the proper use of some antagonist to the fever process.

The first historical example of the treatment of a symptom of a diseased state by its physiological antagonist was the treatment of paralysis by strychnia. As had been already shown, we owed our present knowledge of strychnia to the labors of Magendie, whose research was so thorough that subsequent investigators had been able to add but little to his results. Fonquier and Magendie, recognizing the opposition of actions between the new poison and paralysis, proposed to prescribe it when suitable cases occurred, but Fonquier had the good fortune to meet with suitable cases before the discoverer. Strychnia exalted the reflex functions of the spinal cord, and was therefore properly the antagonist of those conditions of disease in which this function was weakened. It also energized the heart and raised the arterial tension by stimulating the vasomotor system, and therefore opposed all actions from disease of a contrary kind. Furthermore, it was a powerful stimulant of the respiratory function, and caused death by asphyxia,—by so stimulating the muscles of respiration that they became tetanically contracted,—and was, consequently, the antagonist of those symptoms indicating respiratory depression. After speaking more particularly of the good effects of strychnia in diphtheritic paralysis and the so-called reflex paralyses, the lecturer went on to say that the power of this remedy to give energy to the cardiac movements and to raise the arterial tension was not utilized in medical practice as it should be. The weak heart, from degenerative changes in the cardiac muscle, and coincident low tension of the vascular system were conditions antagonized by strychnia; and exhausting hemorrhage, the action of the heart being weak and the vascular tension low, also afforded a combination to which the action of strychnia was opposed. Modern experience had in a similar way utilized strychnia in the treatment of depressed states of the respiratory organs by a merely empirical method; and it had come to be recognized that it was a respiratory stimulant which was of special service in chronic bronchitis, in asthma from paresis of the diaphragm, and in emphysema, with dilated right cavities of the heart.

The relation in which strychnia stood to paralysis was comparable to that of the paralyzing agents to spasm and cramp. The first physiological research to determine the existence of muscular irritability was the memorable study of woorage by Bernard. This was the only remedy which had, apparently, exerted a curative influence on hydrophobia. It destroyed the irritability of the end organs of the nerves in the muscles, leaving the muscles themselves intact, but it also depressed and suspended the reflex function of the spinal cord, and paralyzed respiration. Hydrophobia produced symptoms in opposition to these, and hence they ought to cease on the exhibition of woorage. Unfortunately for any certain results, however, this agent varied much in composition, and in hydrophobia a peculiar virus was present, which did not apparently diffuse out of the blood, but continued in action until death occurred from exhaustion, if not from the spinal effects of the poison.

No similitude in the action of a remedy and the symptoms of a disease could be greater than that between strychnia and tetanus, so that it might, perhaps, naturally be supposed that the affection would be cured by strychnia. As it was not, however, we had a striking illustration of the fallacies in the ancient doctrine of similars. There were six remedies which had been used with success in the treatment of tetanus: chloroform by inhalation, chloral, tobacco or its alkaloid nicotine, bromide of potassium, physostigma, and gelsemium. How much so ever these agents might differ in other points of action, they all agreed in the power to diminish or suspend the reflex functions of the spinal cord. They therefore acted in opposition to this distinctive symptom,—an exaggerated reflex sensibility.

In convulsions of an epileptiform type some antagonists that had a similarity of action, and some, also, that acted in the opposite way, were employed. Picrotoxine represented the former class, and potassium bromide the latter. Agents having a similarity of action stimulated the spasm centre, but as inhibition resulted when two impressions coming from different points were made on the spinal cord simultaneously, so here quiescence, or the normal equilibrium, was the result when the disease impression and the medicine impression acted on the spasm centre at the same time. As picrotoxine rather increased cerebral hyperemia, if it existed, and promoted the intracranial circulation when weak or deficient, it was obviously adapted to those states characterized by anæmia and depression. On the other hand, bromide of potassium produced its best effects when the subject rather tended to plethora, and when the intracranial circulation was too active.

A capital application of the principle of antagonism, as exhibited in the opposition of the action of a medicine to an important symptom of a disease, was the use of nitrite of amyl to abort the epileptic paroxysm. It was known to all, of course, that the epileptic paroxysm was inaugurated by a sudden deathly pallor, in which the arterioles of the brain were strongly contracted, and an extreme degree of anæmia induced. Then followed the tetanic stage, with suspension of respiration and cyanosis. By the timely administration of amyl nitrite by inhalation, these phenomena might be prevented and the fit aborted. No sooner was a whiff of the vapor inhaled than the arterioles became dilated (a bright flush taking the place of the pallor), the stage of rigidity did not come on, and, in

fact, the epileptic paroxysm, which had been imminent, failed to develop. The principle of antagonism applied equally to the treatment of chorea; and the most successful treatment was that which had for its objects the maintenance of a quiet-cent state of the motor centres and the prevention of those irregular discharges of nervous force which constituted the physiognomy of the malady.

In certain neuroses of the respiratory and circulatory organs the phenomena of antagonism were exhibited in perfection. Having dwelt briefly upon the treatment of laryngismus stridulus, spasmodic asthma, whooping-cough, and other diseases of the respiratory organs which were characterized by the occurrence of spasm, he stated that singultus, or hicough, afforded an apt illustration of both modes of antagonism,—by similarity and by opposition. In singultus, a recurring spasm of the diaphragm was supposed to be the condition, and it had already been shown that if a powerful faradic current were passed at the moment the spasm was to take place it was entirely aborted. The reflex spasm did not take place because of the strong irritation of the peripheral fibres, inducing inhibition. The remedies acting by opposition were those which lessened and suspended reflex action, as the anaesthetics, morphia, the bromides, amyl nitrite, chloral, etc. He next explained the action of nitrite of amyl in relieving angina pectoris; after which he said that the same principle of antagonism obtained in the treatment of pain.

The sensation known as pain was composed of several elements: the peripheral irritation, the transmission of the impression to the centre, and its realization by consciousness. It followed that pain might be relieved both by interrupting its transmission to the centres of conscious impressions and by suspending the functions of these centres. For example, aconite and gelsemium relieved pain in the former, and the anaesthetics in the latter mode. The anaesthetics, if locally applied, had the same effect in relieving neuralgia as aconite, and were therefore antagonistic to both peripheral and centric neuralgia. The deep injection of chloroform for sciatica, cervico-brachial neuralgia, coccydynia, and neuralgia of nerves in accessible situations generally was an expedient of the highest value. Since he had brought this method forward, a few years ago, Dr. Bartholow had had a large experience of its use in sciatica, neuralgia of the infra-orbital and supra-orbital branches of the fifth, and intercostal and cervico-brachial neuralgia, and he could reaffirm with emphasis his original statements.

The most powerful means for the relief of pain which we now possessed—the hypodermic injection of morphia and atropia combined—was an illustration of the utility and advantage derived from the study of physiological antagonism. The mutual interactions of morphia and atropia were such that, whilst the pain-relieving power was not impaired, but enhanced by combination, other signal disadvantages of each were compensated for in the action of both. He then enlarged upon the advantages of combining the subcutaneous injection of morphia and atropia with the administration of anaesthetics, in accordance with the principles mentioned in a preceding lecture, after which he passed on to the consideration of mental states and their antagonists.

The antagonism of a mental state by the action of a remedy, he said, implied the fact that the mental

was a mere symptom of the physical condition. Those who believed otherwise were, indeed, few in number, and were constantly diminishing, as the progress of our means of minute research developed more and more fully the dependence of symptoms on lesions. The antagonism of insomnia to sleep-producing medicinal agents was conspicuously demonstrated in the action of chloral. Acute delirious mania and acute mania, when due to physiologic-pathological states, and not dependent on unchangeable structural lesions, were antagonized by the same agent, and often speedily cured by its timely exhibition. High excitement, with illusions and hallucinations, and great motor activity were antagonized by gelsemium, duboisia, hyoscyamia, conium, and other remedies acting similarly. Melancholia, with torpid movements and suicidal notions, was antagonized by morphia. Acute cerebral congestion of the active form was opposed by such arterial sedatives as aconite, veratrum viride, and potassium bromide, and acute congestion of the passive form by digitalis, ergot, etc. Anæmia of the brain was removed by strychnia, brucia, atropia, quinia, and other excitants. It followed that mental changes dependent on these vascular states must be largely controlled by the timely use of the appropriate antagonist.

Closely allied to these conditions was that state of the vessels disposing to the formation of military aneurisms. It might appear a fanciful speculation to suggest that these changes preparatory to cerebral hæmorrhage, as affecting the nutrition of the brain unfavorably, might be retarded, possibly prevented, by the early use of such agents as ergot, digitalis, quinia, chloride of barium, etc. Although the nutritional alterations in the vessel-walls preceded the formation of military aneurisms, the progress of the changes was promoted by the relaxation of the muscular layer. Agents which improved the vascular tones had therefore the important function of retarding the nutritive changes.

In the whole pathological field, the lecturer continued, there were no more perfect illustrations of the applicability of physiological antagonism to the therapeutics of disease than in the case of the various heart maladies. The most exact antagonism had been shown between remedies acting on the heart, and it would now be seen that similar exactness existed in the antagonism between remedies and diseases of the heart. As an example of opposition to excessive action of the heart from a diminution in the energy of the inhibition, the treatment of exophthalmic goitre by galvanism, digitalis, and ergot was explained; and he then went on to say that in some maladies such a strong inhibitive influence descended along the pneumogastric that the heart was restrained and its movements greatly retarded. Again, the heart might be slowed by agencies paralyzing the accelerator apparatus or the motor ganglia. The excess of the inhibition was overcome by such an agent as aconite, which depressed the functions of the inhibiting nerve, while the paralysis of the accelerator apparatus or the motor ganglia was overcome by the stimulants of these organs, of which atropia was the best representative. After mentioning the causes of palpitation of the heart, he spoke of the action of digitalis, and stated that he believed that its use was carried much too far at the present day in the treatment of cardiac weakness. Long-continued medicinal doses (like lethal doses acting more promptly) eventually exhausted the irritability of the apparatus on which the effects of the agent were expended, and

it would then cease to antagonize the symptoms against which it had been prescribed. The practical deduction was that digitalis should be given in moderate doses, and not too frequently repeated. This branch of the subject was concluded with a reference to the treatment of aneurisms by medicinal means, and respiration remedies and diseases were then taken up.

The action of remedies employed against the neuroses of the respiratory organs, Dr. Bartholow said, had already been sufficiently elucidated. As regards the remedies which depressed the respiratory function, it was enough to remark that the only purpose to which they could be properly applied was to impose rest on the breathing organs by diminishing the number and lessening the exertion of the respiratory efforts. In respect to the stimulants of the respiratory function, much good resulted from their timely use. The special uses of strychnia and atropia in this connection were then pointed out.

The action of antagonistic medicines, he continued, was well exhibited in the diseases of the intestinal tube. A serous diarrhoea was promptly checked by belladonna. Opium suspended intestinal movements and stopped secretion; it therefore relieved conditions of an opposed kind, namely, diarrhoea and dysentery. Constipation, due to torpor or paresis of the muscular layer of the bowel, was often promptly cured by the faradic current. When the muscular layer was parietic and secretion deficient, the relief afforded by opposing agents, such as *nux vomica*, belladonna, and physostigma, was very remarkable.

Coming now to the action of remedies upon the skin, he said that in the night-sweats of consumption atropia, duboisia, hyoscyamia, and other members of the group opposed the conditions present, and dried the surface. A deficiency in the amount of cutaneous secretion required the use of sudoriparous medicines, and pilocarpine stood at the head of the agents of this class. Picrotoxin had considerable power as a sudorific, but it was far inferior to pilocarpine. Finally, he discussed the action of remedies on affections of the kidneys and bladder, and then concluded the lecture in these words: "With this general survey of the organs and systems of the body, I conclude the first part of the second division of my subject. In the next, and final, lecture of the course I have to discuss the most important of the practical relations of this subject to the treatment of diseases, namely, the application of the principle of physiological antagonism to the therapeutic management of general or constitutional states."

— Gaillard's *Medical Journal* makes the following comment: "Rabelais. The *Boston Medical Journal* twits this journal with spelling this word incorrectly, thus: Rabalais. A prominent medical friend states that he saw 'the proof,' and that the error had been twice corrected by the editor. Were Rabalais alive Johannes Caballus would have a dangerous rival.

"As the anecdote (contributed by Dr. Geddings of South Carolina) has been quietly appropriated by a half dozen medical editors, who have all spelled the name Rabalais incorrectly, cannot the Boston editor use a few arrows from his overstocked quiver? The list of the editors who have been caught in this trap would be amusing." — These remarks being sufficiently barbed, our arrows may well be kept for other uses.

Original Articles.

FÆCAL ANALYSES.¹

BY EDWARD D. PETERS, JR., M. D., OF DORCHESTER.

INTRODUCTION.

THE great mortality still existing among children under one year of age in private life, and more especially in foundling hospitals, seems to the author of this paper a sufficient apology for adding a few more pages to the enormous mass of literature already bearing on this subject. He has limited himself to a partial study of the digestive process in infants, and must therefore omit any mention of the almost equally important factors of cleanliness, ventilation, and motion. His aim has been rather to give the results of actual experiment than to enter into any extended discussion of the subject.

The chemical and microscopical investigations described in the second section are imperfect and partially unsatisfactory, owing to the great difficulties that are inseparable from work of this peculiar character.

The opportunity for most of this work was kindly furnished by the authorities of St. Mary's Infant Asylum.

SECTION I.

Nature has indicated so plainly to man the food suited to his wants during the first eight months of existence that any discussion on the subject might seem a waste of time. But the wide-spread domestic use of flour and rice gruels, paps, and other varieties of starchy aliment as a partial or entire substitute for milk, in the feeding of infants, shows that natural laws are disregarded or misunderstood, and invites a repetition of the well-worn though convincing proofs that animal food is the proper nourishment for the human infant, and that among the various animal foods milk is the natural and only necessary one.

The analogy of comparative anatomy demonstrates with great force and distinctness that all young animals, whether carnivorous or herbivorous, require animal food for a greater or less period after birth, and to omnivorous man this proposition applies with equal weight. This nourishment is provided in a great variety of manners; but in whatever form it is produced, it is almost universally animal, either from the beginning, or by undergoing various modifications before reaching its destination. In the lower forms of animal life, especially among the mollusca and the batrachian reptiles, a nidamentum is produced together with the egg, which serves as nourishment for a considerable period after birth. Carnivorous birds bring food to their young, either in their claws or beaks, in the shape of worms, insects, fish, or carrion.

According to Cuvier, some of the granivorous birds, even, change their habits during the breeding season to such an extent as to bring flies, spiders, and worms for the nourishment of their young, — a species of food which, under ordinary circumstances, they would never touch. Others of the granivorous birds find this practice unnecessary, as they are provided with a dilatation of the mucous membrane of the œsophagus, forming a crop, into which the grain and seeds, so difficult of digestion, are first conveyed, and with the aid of an acid fluid, having a strong resemblance to the gastric juice,

¹ Read before the Norfolk District Medical Society, October 26, 1880.

are converted into a species of chyme, which on being disgorged is readily digested and assimilated in the stomach and intestines of their offspring. This occurs with all pigeons and among several species of sparrows; and the half-digested, regurgitated, semi-fluid mass is popularly called "pigeon's milk."¹

Among the mammalia we arrive at the perfection of nutrition: for here, the mother, no matter what the character of her own food, supplies an animal fluid in every way perfectly adapted to the nourishment of her offspring. A very little reflection would convince any observer, that if among herbivorous mammalia the young require animal food, this is *a priori* a strong argument against the use of vegetable food in omnivorous animals.² But if this seem insufficient, a glance at the physiological construction and anatomical arrangements of the digestive organs of a young child should remove all doubt.

The only faculty possessed by the new-born infant which is of any value to it as a means of obtaining nourishment is the power of suction. But this it possesses to a remarkable degree, as will be seen on examination of its anatomical peculiarities, which are well described in Burdach's *Physiologie*. The jaws are capable of only slight motion, and the gums can bear but little pressure, while the hard palate is very imperfectly developed. Such a condition of things forbids the use of any food requiring mastication; and, aside from this, there is during the first two months of life a total want of the salivary secretion, showing plainly that of all aliments starchy food would least subserve the purposes of nutrition.

The mouth must therefore be looked upon simply as a canal for the transmission of fluids; possessing the power of suction, but having neither taste, by which proper food might be discriminated, power of mastication, by which vegetable or other hard foods might be chewed, or saliva, through the agency of which starch might be converted into sugar. The lips are long, large, and prehensile, and in every way suited to the grasping of the nipple; while the tongue, pharynx, and uvula are disproportionately developed, and peculiarly adapted to the faculty of suction.

The stomach is extremely small and tube-shaped, and in fact seems merely an œsophageal dilatation; while its walls are thin and translucent, and their muscular structure very slightly developed. The liver is disproportionately large, and the pancreas, on the other hand, almost rudimentary; while the intestinal tube is short, the large intestine approaching more nearly in its length to the small. The peristaltic motion is wonderfully rapid, and shows, in connection with the above-stated anatomical peculiarities, that any food taken will remain but a short time in the alimentary canal, and requires, therefore, to be in a very favorable condition for digestion.³

The complete absence of teeth agrees perfectly with this conclusion, and it is not until their eruption that the stomach enlarges, and develops its strong muscular coat; the peristaltic motion of the intestines becomes slower, the vulvula conviventes appear, and in fact⁴ "all the changes calculated to retard the food in its progress, and thus expose it more completely to the solvent juices for digestion, occur."

SECTION II.

The study of the digestive process in the human infant, as ordinarily conducted, is accompanied by many difficulties and inaccuracies. By weighing the subject of experiment at stated intervals, carefully noting the quality and amount of food ingested, and the condition of the stomach, bowels, kidneys, and skin, a general idea may be obtained as to the kind of nourishment best adapted to its wants. By extending these observations to a large number of cases, some very useful results may be obtained, and certain laws may be laid down with considerable accuracy. But in most instances this plan will be found very insufficient for any one who desires to obtain a reasonable degree of scientific exactness; and to such an observer the examination of the excretions offers a more promising field.

Without recapitulating the work that has already been done in this direction, the author simply proposes to give in this paper the result of his own investigations and some of the inferences that can naturally be drawn from them. These investigations comprise the chemical and partial microscopic examination of the feces of infants of different ages, enjoying various degrees of health and fed on a variety of substances. Care has been had to lessen the unavoidable inaccuracies as much as possible by taking every feasible precaution. The feces were collected, weighed, their percentage of moisture determined, and their digestion with alcohol begun, in every case, within twenty-four hours after being passed.

The first series of experiments consisted of the examination of the excrement of six healthy infants, between six and nine weeks of age, and whose sole nourishment was their mothers' milk.

A valuable paper by H. Wegscheider⁵ might perhaps have rendered these first experiments unnecessary; but it was thought best to repeat them in order to establish a positive normal basis for the succeeding work.

The color of the dejections varied between a pale yellow and a yellowish-green; those infants in whom it most nearly approached a green being most subject to wind and colicky pains,—a fact well known among the nurses. The reaction was acid in nearly all cases. The stools examined were, without exception, in a semi-fluid condition, and their original weight and percentage of water could not therefore be exactly determined. The figures contained in the following table must consequently be accepted as relative, and not absolute.

	Average number of motions in 24 hours.	Weight in 24 hours, in grammes.	Per cent. of water and substances volatile at 100° Cent.	Actual weight of solid matter in 24 hours, in grammes.
1	3	44	82	7.92
2	3.33	32.5	80	6
3	2.66	47.4	76	11.4
4	3	20.5	75	5.12
5	4	51	82	9.18
6	3.66	48.5	80	9.7

¹ Burdach's *Physiologie als Erfahrungswissenschaft*.

² Routh's *Infant Feeding*, page 46.

³ West's *Diseases of Children*.

⁴ Routh's *Infant Feeding*.

⁵ Ueber die normale Verdauung bei Säuglingen. Berlin, 1875.

A few deductions may be made from these experiments: (1.) Under similar conditions, the quantity of feces passed daily may vary greatly. (2.) The amount of the feces stands in no constant proportion to the quantity of food ingested. No. 4, The greediest feeder of all, passed a less weight both of fluid and solid matter than any of the others. The feces of the same infants were collected during the next twenty-four hours and examined qualitatively, with results that agree closely with those obtained by Wegscheider. Under the microscope, large numbers of epithelial cells were visible, probably from the walls of the intestine. In all cases but one, crystals of margaric acid were found, and other crystals, soluble in ether, whose composition was not determined. Mucus was present in considerable quantities. *Albumen* was not detected on digesting a portion of the feces with an equal quantity of warm water, filtering, and testing the filtrate, by boiling after slight acidulation with acetic acid, and with nitric acid. *Casein* was supposed to be present from the quantity of yellowish, curd-like flakes that could be readily isolated. Their insolubility in dilute hydrochloric acid and their speedy removal by ether proved them to be agglomerations of fatty particles. *Sugar* was found in every case—though always in small quantities—by Trommer's test, after extraction of the feces with alcohol, evaporation, and solution of the alcoholic extract in water. *Starch* was in no case detected by the customary iodine test. *Hæmotin* could not be found in the two samples in which it was tested for, by lixiviation with cold alcohol, boiling the residue with alcohol acidulated with sulphuric acid; evaporation to a small quantity; the addition of soda in excess; filtration and evaporation of the filtrate; the addition of a drop of nitric acid, with subsequent incineration of the residue, and examination of the ash for iron in a borax bead, by means of the blow-pipe.¹ *Biliary pigments* were found in all cases examined, but were neither isolated nor carefully tested; this being considered unessential for the purpose of these experiments.

The most important inferences, therefore, seem to be that in the excrement of healthy nursing infants, under three months of age:—

- (1.) Neither albumen nor casein are found.
- (2.) Sugar occurs constantly, but in very small amounts.
- (3.) Fat is present in large quantities.
- (4.) Starch does not occur.

The next set of experiments was conducted during the succeeding forty-eight hours with the same infants, except that only four were employed instead of six; two being dropped in consequence of slight digestive disturbances. In this case the four children received, in addition to their mothers' milk, about thirty grammes each of cracker, made into a pap with water, and sweetened with a little cane sugar. This small amount of starchy material was distributed over twelve hours, in three feedings, at intervals of four hours, and the feces for the succeeding forty-eight hours, beginning after the first feeding, were examined qualitatively, with the following results:—

The amount in three cases was larger, and the dejections more liquid, greener, and slightly offensive. In the fourth case there was no apparent difference. *Albumen* and *casein* were wanting, and *sugar* was not

perceptibly increased. *Starch* was found in large amounts in all four cases by the iodine test, both in the aqueous solution and in the more solid portion of the feces. The fatty constituents of the dejections were much increased, as well as could be determined by the eye, microscope, and roughly approximative quantitative tests. The dejections during the last quarter of the forty-eight hours presented these peculiarities in a much less marked degree than those passed about eight hours after the first meal of pap.

It would seem, therefore:—

That ten, or at most twenty, grammes of starch produces a considerable effect on the digestive tract of a nursing infant under three months of age; that it can be detected in the excrement in large amount within eight hours after ingestion; that it increases the quantity and fluidity, and heightens the color, of the stools; and, finally, that it either directly or indirectly interferes with the absorption of fat, and consequently with the processes of nutrition.

The next observations were made on two healthy infants, aged, respectively, six and eight weeks, who were fed entirely on artificial food, consisting of equal parts of cow's milk and water, slightly sweetened and salted. The number of daily dejections averaged between two and three. Their color was a yellowish-gray, and their consistence that of very thin putty, containing a large amount of curdy masses. Examined under the microscope, after dilution with water, there was found: (1.) A great abundance of epithelial cells. (2.) Fat globules in large quantities. (3.) A considerable number of crystals of the fatty acids. (4.) Long, string-like bodies, which proved to beropy mucus.

A qualitative examination of this material yielded the following results: *Albumen* was absent. *Casein* was found in small quantities. The curd-like masses referred to above, after being isolated as far as practicable, were treated with ether, which removed about seventy per cent, by weight, of their substance. There remained a yellowish, skeleton-like material, which was found by the tests already mentioned to consist principally of casein, stained with coloring matters. These curd-like flakes therefore consisted of a delicate framework of casein, inclosing about twice its own weight of fat. *Sugar* was present in considerably greater amounts than in the preceding cases. The same may be said of the fatty constituents. *Starch* could not be found by repeated tests.

These results are about what might be expected in the case of infants fed on cow's milk. The only feature of particular interest is the occurrence of the casein, which was no doubt coagulated in the stomach, and then partially redissolved by means of the gastric and intestinal juices. The actual amount of casein, however, was far less than one would suppose from a superficial examination of the dejections; for, as already stated, more than two thirds of the weight of these coagulated masses was made up of fat.

The same children were fed during the next twenty-four hours, on exactly similar food, with the addition of fifteen grammes of rice flour, prepared with the milk and water. The dejections for the twenty-four hours succeeding the first meal of rice flour were three in number from each child; their color more of a greenish hue, and their fluidity somewhat increased. They were more homogeneous in character, and contained none of the large coagula found in the preceding observations,

¹ Handbuch der physiologisch- und pathologisch-chemischen Analyse. Hoppe-Seyler, s. 378.

On dilution with water, a considerable number of whitish granular specks could be seen, which gave the starch reaction, and on chemical examination were made out to consist of a mixture of starch with free and saponified fat. No casein could be found; but the amount of fat, so far as could be judged by the microscope and qualitative tests, was considerably increased.

This point seemed of sufficient interest to demand closer investigation, which was pursued as follows: The feces from the same children, after several days' feeding on their regular diet of diluted milk, were examined quantitatively for the amount of fat, by subjecting a sample of five grammes from each dejection to a drying temperature of 38° Centigrade, until free from moisture, as determined by simple condensation tests. The loss of weight is given in the table below:—

No. 1	68 per cent.
No. 2	71 per cent.
No. 3	64 per cent.
No. 4	62 per cent.
No. 5	66 per cent.

The dried faecal matter was next triturated with alcohol and filtered, to remove fat and free fatty acids; the residue was treated with hydrochloric acid and ether, to remove the fatty acids existing in combination with the alkaline earths.¹ The biliary pigments and small quantities of alkaline salts are also soluble in these reagents, but the error is a very slight one. The residue, after washing with ether, was again dried and weighed, giving the following figures, which represent the per cent. of loss:—

No. 1	44 per cent.
No. 2	48 per cent.
No. 3	36 per cent.
No. 4	37 per cent.
No. 5	51 per cent.
No. 6	50 per cent.

The average amount of fat, therefore, in the dried feces of these milk-fed infants was about forty-four per cent. Exactly similar experiments were made, after the same children had taken for twenty-four hours fifteen grammes each of rice flour in addition to the milk, which latter was given in almost precisely the same amount as before. The percentage of loss, that is, fat, after subjecting the dried feces to a similar treatment as above, was as follows, the samples being five in number:—

No. 1	57 per cent.
No. 2	64 per cent.
No. 3	60 per cent.
No. 4	41 per cent.
No. 5	66 per cent.
Average	57.6 per cent.

This seems to show that there is a decidedly greater loss of fat during the use of starchy food, a difference of 13.3 per cent. being too considerable to pass over as of no consequence. On the other hand, the total absence of casein in the feces of the rice-fed infants seems to indicate that the addition of starch to cow's milk acts favorably in promoting the assimilation of the nitrogenous portions of the food.

This last set of experiments also contains a possible source of error that must not be overlooked. A glance at the tables will show that the figures do not pretend to indicate the *actual* loss of fat during a given period, but simply the *percentage* of loss in a small sample of the dejections. The *actual* loss could only be esti-

mated by an exact weighing of the feces for a given space of time, and the determination of their percentage of fat during that time. It might even be possible that the *actual* loss of fat was greater during the period in which milk constituted the sole nourishment, provided that during such time the stools were larger or more numerous than while the starch was added. This, however, is not probable, for the amount of feces, as estimated by the eye, seemed, if anything, somewhat greater during the ingestion of the rice flour. An attempt was made to obtain their exact weight, but was given up as being too inaccurate to possess any value for quantitative purposes.

A final set of experiments was instituted to determine whether the substitution of one of the various artificial foods for the rice flour might be followed by still better results. Ridge's food was selected for the purpose, as representing a large class of the best of these preparations. It consists of wheat ground fine, without bolting, and cooked for a considerable time, with the addition of water, by which a variable but tolerably large proportion of the starch is converted into glucose. A little sugar and carbonate of soda are added. Twenty grammes of this material was made into a thin gruel with water, and added to the daily supply of milk given to each of three infants, fed heretofore on cow's milk diluted with water. The dejections for twenty-four hours were examined, with the following results: The number of motions remained as before, averaging three daily. The color was yellow, and the feces rather more liquid than usual. *Albumen* in a soluble form was wanting. *Casein* was found in two stools only, and then in very small amount. After the extraction of the fat there remained in these two cases a delicate web of casein, so fine and thread-like that it possessed no appreciable weight. *Starch* was present in all cases, but in very minute quantities. The same may be said of *sugar*. *Fat* in its various forms was found in abundance, though not in such quantities as in the preceding experiments. This same work was repeated at two different times, with pretty constant results; the details are consequently omitted.

A brief synopsis of the deductions which it seems to me may be legitimately drawn from the foregoing observations may be here in place: (1.) That in the feces of healthy, nursing infants neither albumen, casein, starch, or sugar occurs in appreciable quantities, but that fat, both saponified and in the shape of fatty acids, is always present in large amounts. This we are forced to accept as the normal condition. (2.) That the addition of a small quantity of starch to the food of nursing infants, the other conditions remaining the same, causes more liquid and offensive dejections, and increased secretion of mucus, and a decided increase in the amount of fat that escapes digestion. A large proportion of the starch passes through the digestive canal unchanged, and is found in the feces. (3.) That the feces of infants fed on diluted cow's milk contain a greater or less quantity of casein, but never so much as a superficial examination would seem to indicate, and that there is a still greater loss of fat. (4.) That the addition of starch to the cow's milk, partially or entirely, prevents the loss of casein, but that the undigested starch acts otherwise unfavorably on the processes of digestion, and particularly upon the assimilation of fat. (5.) That the addition of an alkaline mixture of starch and glucose, prepared

¹ Hoppe-Seyler.

at a high temperature, to cow's milk prevents the loss of casein, does not seem to increase the waste of fat, and is itself mostly absorbed.

MASSACHUSETTS LAWS REGARDING ANATOMICAL SCIENCE.¹

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On the 1st of January, 1831, the select committee whose appointment has already been alluded to, made its report, and brought in a bill "more effectually to protect the sepulchres of the dead and to legalize the study of anatomy in certain cases." The report was written by the chairman of the committee, Mr. John Brazer Davis. The report constitutes No. 4 of the house documents for 1831, and in the printed copy is dated January 6th. Pages 3-82 inclusive are devoted to the report proper; the bill is found on pages 83-86; the list of documents accompanying the report is found on page 87; and the documents themselves fill twenty-nine pages more.

This is altogether the most exhaustive document on the subject that we have seen; inasmuch as the committee undertakes to consider, in "all its aspects, the subject committed to them, and to present not only the results, but the details, of their researches and reasonings on it." This report was considered too voluminous for the pages of this journal nearly fifty years ago. We shall not undertake to outline it within the limits of a latter-day article, in face of the fact that twenty pages octavo are taken up in tracing "the progress of anatomical science from the first rude attempts of the Greeks, through a slow progress of near two thousand years," before it is attempted to show, in nearly thirty-six pages more, that "the study and knowledge of anatomy are essential to the safe and successful practice of medicine." We unhesitatingly recommend this "faithful compilation of the facts and reasonings of distinguished men, who have devoted their attention to this subject," to the consideration of those who have to snatch time from the practice of medicine to get up "inaugural addresses" for medical colleges in States still fifty years behind the times. They will find Dr. Southwood Smith's *Uses of the Dead to the Living*, and the Report of a Select Committee of Parliament on the Hindrances to the Study of Anatomy, London, 1828, poor beside and because of the riches of this report of the Davis committee.

The legal status of dissection is noticed in the report as follows: "In 1815 a law was passed for the protection of the sepulchres of the dead, which punished the exhumation of any dead body, or the knowingly and willfully receiving, concealing, or disposing of any such dead body, by a fine of not more than one thousand dollars, or imprisonment for not more than one year. Before the passing of this act, several cases at common law were brought before the Supreme Judicial Court, in all of which, where there was a conviction, the party was punished. Where it appeared that the exhumation was for subjects for dissection, a small fine was imposed. The last case of this kind was against a now eminent physician, then of Essex County, in which several important

law points were raised; but the case does not appear to have been reported. Under the statute there have been several prosecutions, convictions, and punishments. With truth it may be said that in Massachusetts a student or teacher of anatomy cannot be found who is not indictable under the statute of 1815.

"While the law of this commonwealth is thus severe against the exhumation of dead bodies, another law has been passed, by which every practitioner of medicine is required to obtain a degree at Harvard University, or license from the medical society, before he can maintain an action for debt for his professional services. The license or degree is given on examination, and one of the prerequisites for this examination is that the applicant shall have gone through such a course of dissection as shall give him a minute knowledge of anatomy.

"The only legalized mode of supplying subjects for dissection is the sentence or order of the Supreme Judicial Court of this State and of the Circuit Court of the United States in capital convictions within their respective jurisdictions. The insufficiency of this supply may be inferred from the statements of the secretary of the commonwealth and of the clerk of the United States District Court. The former states, in answer to inquiries addressed him by the chairman of this committee, that the whole number of executions or suicides of convicts from January 1, 1800, to December 31, 1830, is but twenty-six — less than one a year. The clerk of the United States District Court, in reply to like inquiries, states that from the adoption of the federal constitution and the first organization of the federal courts down to the present time the whole number of executions and of suicides of convicts sentenced by that court in this district is but fourteen, — being about one in three years."

The text of the act reported by the committee to the house is as follows: —

"An act more effectually to protect the sepulchres of the dead, and to legalize the study of anatomy in certain cases."

SECT. 1. *Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same,* That if any person, not being authorized by the Board of Health, overseers of the poor, or selectmen in any town of this commonwealth, or by the directors of the House of Industry, Board of Health, overseers of the poor, or mayor and aldermen of the city of Boston, in said commonwealth, shall knowingly or willfully dig up, remove, or convey away, or aid and assist in digging up, removing, or conveying away, any human body or the remains thereof, such person or persons so offending, on conviction of such offense in the supreme judicial court of this commonwealth, shall be adjudged guilty of felony, and shall be punished by solitary imprisonment for a term not exceeding ten days, and by confinement afterwards to hard labor for a term not exceeding one year; or shall be punished by a fine not exceeding two thousand dollars, to enure to the benefit of the commonwealth, and by imprisonment in the common jail for a term not exceeding two years, at the discretion of the court, according to the nature and aggravation of the offense.

SECT. 2. *Be it further enacted,* That if any person shall be in any way, either before or after the fact, accessory to the commission by any person or persons of the offense described in the first section

¹ Concluded from page 567.

of this act, such person or persons shall be adjudged and taken to be principals, and shall be, on conviction in the court aforesaid, subject to the same punishments and forfeitures as are in said first section provided.

SECT. 3. *Be it further enacted*, That from and after the passing of this act it shall be lawful for the Board of Health, overseers of the poor, and selectmen of any town in this commonwealth, and for the directors of the House of Industry, Board of Health, overseers of the poor, and mayor and aldermen of the city of Boston, in said commonwealth, to surrender the dead bodies of such persons as may be required to be buried at the public expense to any regular physician, duly licensed according to the laws of this commonwealth, to be by said physician used for the advancement of anatomical science; preference being always given to the medical schools, that now are or hereafter may be established by law in this commonwealth, during such portions of the year as said schools or either of them may require subjects for the instruction of medical students. *Provided always* that no such dead body shall in any case be so surrendered if, within twenty-four hours from the time of its death, any one or more persons, claiming to be kin, friend, or acquaintance to the deceased, shall require to have said body inhumed; but said dead body shall be inhumed, and when so inhumed any person, without the authority specified in the first section of this act, disinterring the same, or being accessory, as is described in the second section of this act, to its exhumation, shall be liable to the punishments and forfeitures in this act respectively provided. *And provided further* that every physician so receiving any such dead body before it be lawful to deliver him the same shall in each case give to the mayor and aldermen of the city of Boston, or to the selectmen of any town in this commonwealth, as each case may require, good and sufficient bond or bonds that each body by him so received shall be used only for the promotion of anatomical science; that it shall be used for such purpose only in this commonwealth, and so as in no event to outrage the public feeling; and that after having been so used the remains thereof shall be decently inhumed.

SECT. 4. *Be it further enacted*, That, from and after the passing of this act, it shall be lawful for any physician, duly licensed according to the laws of this commonwealth, or for any medical student under the authority of any such physician, to have in his possession, to use and employ, human dead bodies, or the parts thereof, for purposes of anatomical inquiry or instruction.

SECT. 5. *Be it further enacted*, That the act passed March 2, 1815, entitled, "an act to protect the sepulchres of the dead," and also all other acts or parts of acts, contravening the provisions of this act, be and the same are hereby repealed."

Appended to the report are following documents: A. Circular to Physicians of Massachusetts. B. Circular to Physicians out of Massachusetts, and letters from the following-named individuals: (1) E. D. Bangs, secretary of the commonwealth; (2) John W. Davis, clerk of Massachusetts District Court; (3) S. H. Hewes, superintendent burial grounds, Boston; (4) Dr. George C. Shattuck, Boston; (5) Dr. A. Bancroft, Groton; (6) Dr. John Bartlett, Roxbury; (7) Dr. A. Holbrook, Milton; (8) Dr. Jos. Sampson,

Brewster; (9) Dr. Joshua Frost, Springfield; (10) Dr. H. H. Childs, Pittsfield; (11) Dr. Daniel Thurber, Mendon; (12) Dr. B. Lynde Oliver, Salem; (13) Dr. A. L. Peirson, Salem; (14) Dr. Samuel L. Mitchell, New York city; (15) Dr. J. Knight, Yale College; (16) Dr. Thomas Sewall, Washington, D. C.; (17) Dr. Philip S. Physick, Philadelphia, Pa.; (18) Dr. N. Chapman, Philadelphia, Pa.; (19) Dr. Joseph Lovell, surgeon-general United States Army; (20) Dr. Valentine Mott, New York city; (21) Dr. Wm. Ingalls, Boston; (22) Dr. Chandler Robbins, Jr., Boston; (23) Dr. John C. Warren, Boston. The letters of Drs. Lovell, Peirson, and Warren are the most noteworthy.

The bill reported by the select committee on the 1st of January, 1831, appeared in print five days later. January 25th it was taken up for consideration by the house, and read twice. February 10th it was amended, and the day following, when it came up by special assignment, after being read a third time, it was passed, to be engrossed by a nearly unanimous vote, and sent up to the senate for concurrence. The bill was reported February 12th in the senate, without amendment, by Mr. Everett, and ordered to a second reading. February 24th it was passed to be engrossed, by a vote of twenty-seven to eleven, the yeas and nays having been ordered. February 26th the clerks of the two houses caused the enacted bill to be laid before Governor Lincoln, by whom it was approved and signed February 28th. The act of 1831, as approved by the governor, was printed in the Boston Medical and Surgical Journal, Volume IV., 1831, pages 85 to 87. It differs slightly from the bill brought in by the select committee. The act requires that an unclaimed body shall be kept thirty-six hours before surrendering it to the anatomists, instead of twenty-four hours, as provided in the bill. The following, found in Section 3 of the act, after the words, "have said body inhumed," is not contained in the bill: "Or, if it be made to appear to the selectmen or overseers of the poor of any town in this commonwealth, or to the mayor and aldermen or overseers of the poor of the city of Boston, that such dead body is the remains of a stranger or traveler, who suddenly died before making known who or whence he was." The act contains an entirely new section, namely, Section 5. Section 5 of the bill appears as Section 6 of the act. The interpolated section reads: "Sect. 5. *Be it further enacted*, That nothing in this act shall be so construed as to give to the board of health, overseers of the poor, or selectmen of any town in this commonwealth, or to the directors of the House of Industry, overseers of the poor, or mayor and aldermen of the city of Boston, in said commonwealth, any power to license the digging up of any dead human body or the remains thereof other than was possessed by them before the passing of this act, or is given them by the third section of this act."

The wisdom of the Medical Society and the select committee in acting on Governor Lincoln's recommendation that "the reason of men be addressed, and prejudice be dispelled by information and the force of argument," is justified by the lack of opposition to the enactment of the Davis bill. The Boston Advertiser for February 11, 1831, notes the fact that on the day previous the Davis bill had passed to a third reading in the house by a vote almost unanimous. It adds: "No discussion took place touching the general provisions or tendency of the bill. Several amendments

were offered relating to the details only. No one expressed any sentiments or opinions in opposition to the general features of the bill, but it received the approbation of all as a necessary step in the progress of improvement. This shows a marked change in public opinion since 1829, "when," to use the words of Dr. G. Hayward "the proposition to mitigate the severity of the law against those engaged in dissection was driven almost by acclamation from the legislature."

Subsequent legislation has considerably modified the act of February 28, 1831, as may be seen on consulting the acts of April 1, 1834, March 26, 1845, May 10, 1855, and March 28, 1857.

In the Revised Statutes of Massachusetts, 1835, the act of 1831 is cited as the law of "1830, 57; and its provisions, somewhat changed, are found in chapter 22, sections 9-12, page 216, and in chapter 130, section 19, page 741.

In sections 1 and 2 of the original act, unauthorized exhumation is made a felony. Offenders guilty of it, whether principals or accessories, are punishable by a fine not exceeding \$2000, and imprisonment for not more than two years in the common jail, at the discretion of the court." In chapter 130, section 19, the term felony is not used, and the punishment provided for resurrectionists is imprisonment in the state prison not exceeding one year, or in a county jail for not more than two years, or a fine not exceeding \$2000. In chapter 22, section 10, "directors of work-houses" are added to the list of those specified in section 3 of the original act, who "may surrender the dead bodies of those who are required to be buried at the public expense." Section 11 provides that such bodies shall not be given up "if the deceased person, during his last sickness, requested to be buried, or if, within twenty-four hours after his death, any person claiming to be kindred or a friend to the deceased person, and satisfying the proper board thereof, shall require to have the body buried;" whereas, 1830, 57, § 3, forbids the surrender "of such body if, within thirty-six hours from the time of its death, any one or more persons claiming to be kin, friend, or acquaintance to the deceased shall require to have said body inhumed." The requirement concerning the bond to be given by the anatomist before the surrender to him of a cadaver, which is contained in 1830, 57, § 3, appears as section 12 of chapter 22. Section 5 of the original act is dropped; and section 4 constitutes section 9, chapter 22, of the revision of 1835. By the act of 1845, chapter 212, former acts are simplified, amended, and improved. Section 1 provides that the overseers of the poor of any town and the mayor and aldermen of any city, in the commonwealth, "shall, upon request, give permission to any regular physician, duly qualified according to law, to take the dead bodies of such persons as are required to be buried at the public expense within their respective towns or cities;" and also makes "the duty of all persons having charge of any poor-house, work-house, or house of industry, in which any person required to be buried at the public expense shall die, immediately to give notice thereof to the overseers of the poor of the town or the mayor and aldermen of the city. . . . and the dead body of such person shall not, except in cases of necessity, be buried, nor shall the same be dissected or mutilated until such notice shall have been given and the permission therefor granted." According to section 2, "No such body shall in any case be surrendered if the deceased

person, during his last sickness, of his own accord, requested to be buried." Excepting the repeal of sections 10 and 11 of the Revised Statutes, the act of 1845 contains no other noteworthy new provision.

Chapter 323, Laws of Massachusetts, 1855, section 1, confers the powers and duties of overseers of the poor, as defined in chapter 242, Laws of 1845, upon "overseers and superintendents of state almshouses." Section 2 contains provisions new to the statute book. It reads: "Whoever buys, sells, or has in his possession, for the purpose of buying, or selling, or trafficking in, the dead body of any human being shall be punished by fine of not less than fifty nor exceeding five hundred dollars, or by imprisonment in the jail not less than three months nor exceeding three years." The duty of giving immediate notice to the proper authorities of the death of friendless persons in the institutions under their control, devolved by the act of 1845 upon the directors of houses of industry, etc., etc., is also, by the act of March 28, 1857, laid upon the board of directors of public institutions," of Boston.

So far as the writer has been able to learn, the Massachusetts legislature has enacted nothing of interest concerning anatomical science since 1857.

We have already noticed the provisions of the act of 1784 concerning the dissection of dead duelists. The act of 1781 was repealed March 15, 1805, when the following was enacted: ". . . Ju-tees of said court, before whom the conviction shall, in cases of murder committed in a duel, and in other cases may, at their discretion, further sentence and order the body of such convict to be dissected and anatomized."

In chapter 125, section 2, page 716, Revised Statutes, 1835, we find no mention of "murder committed in a duel;" but we do find that "in every case of a conviction of the crime of murder the court may, in their discretion, order the convict to be dissected, and the sheriff shall deliver the dead body of such convict to a professor of anatomy and surgery in some college or public seminary, if requested; otherwise it shall be delivered to any surgeon who may be attending to receive it, and who will engage for the dissection thereof." The last revision of the Massachusetts statutes contains the above provision for the dissection of a dead murderer's body, practically unchanged, excepting this saving clause: "unless his friends desire it for interment."

The consideration of the working of the Massachusetts acts is deferred to a future article.

RECENT PROGRESS IN SURGERY.

BY H. H. A. BEACH, M. D.

ADMINISTRATION OF ANÆSTHETICS.

DR. ROBERT SAUNDY, M. D., chloroformist to the Birmingham General Hospital,¹ admits that ether is to be generally preferred as an anæsthetic, and gives general direction in his article for the employment of that agent and chloroform. In common with other observers of anæsthesia under chloroform he states that "the pulse may be disregarded, as it gives no timely warning of approaching danger." That he has not made himself familiar with the full advantages of ether is evident from the following passages: "Fractures, hernia, and other conditions in which complete muscular

¹ Lancet, November 20, 1880.

relaxation is required are cases in which, *ceteris paribus*, I should use chloroform." "Operations about the face can sometimes be performed only with difficulty, or not at all, while ether is being administered; in these chloroform must be employed." "The ether must be given almost continuously throughout the operation." Dr. Samuelby has probably administered ether with the same care that he would devote to chloroform anesthesia, and has not pushed the narcotism to complete anesthesia; otherwise the *continuous giving of ether throughout the operation* would not be necessary. With a patient well etherized, the upper jaw may be removed without difficulty or the patient being conscious of suffering during the intervals when the ether is unnecessary.

COLLES'S FRACTURE OF THE RADIUS.

Dr. Henry O'Neill, of the Belfast Royal Hospital, published in the *Dublin Journal* for June, 1880, a paper on this subject, adopting the views of Dr. R. W. Smith as to the probability of impaction, and advocating the treatment proposed by Dr. Gordon with the use of his splint. Dr. O'Neill believes that "the fracture is usually caused by falling on the palm of the hand, with the wrist violently extended; the anterior common ligaments and flexor tendons, being forcibly stretched, act on the anterior border of the carpal surface of the radius at right angles to its long axis, forcing it backwards, so that the radius breaks almost transversely, or with a variable degree of obliquity from before backwards and upwards." He also admits that impaction occurs when the end of the radius is broken by a fall on the back of the wrist.

In his experiments upon the dead subject, Dr. O'Neill has been unable to produce impaction, and in support of his position quotes Smith (year 1850) as follows: "Until the result of the examination of recent specimens can be adduced in support of the theory of impaction, I shall be inclined to believe that the impaction is only apparent, and that the compact tissue of the shaft is not found enveloped in bone from its having penetrated the lower fragment at the time of the occurrence of the injury, but because it becomes subsequently incased in osseous matter during the process by which the bony union of the fracture is accomplished." Fifteen years after the above was written Mr. Callender published the notes of three cases where this fracture was dissected in the bodies of persons who had died of other injuries a few hours after the accident, and found to be impacted.¹ Dr. Cameron furnishes another case where the impaction was undoubted.² These cases are on the side of Diday and Voilemier (in favor of impaction), and those of Mr. Callender are held by Mr. T. Holmes³ as strong evidence in opposition to the views of Dr. O'Neill. Mr. Holmes considers that the Callender cases have been quietly ignored by Dr. O'Neill, though they answer the challenge repeated by Dr. O'Neill in Professor Smith's words. Mr. Holmes believes in impaction, and the necessity for its dislodgment to secure satisfactory results; that the great "essential is to restore the proper concavity of the front surface of the lower portion of the radius; and, so far as Gordon's splint insures this end, it is of value. But accurate reduction necessarily involves the restoration of the natural shape of the bone, and it is difficult to see

what there is to displace the lower end again when once it has been reduced and is kept quiet." "The injury may be very successfully treated by back and front splints."

TRANSVERSE FRACTURE OF THE PATELLA.

Mr. W. I. Wheeler publishes an article in the *British Medical Journal* for September 25, 1880, describing a special apparatus for the treatment of this lesion, and a report of cases where bony union had resulted. Professor Macalister, of Trinity College, Dublin, macerated one specimen, cut the bone longitudinally, and "found it bony throughout." Mr. Butcher and Mr. Tuftell have used the fracture-box in their practice, and had satisfactory results. The advantages claimed for the appliance are as follows: (1.) It is suitable to any limb. (2.) Tilting of the fragments cannot occur, the traction being downwards and backwards. Should there be a slight tendency to such, the strap fastened to the two buttons on the adjusting pads will prevent it. (3.) The splint provides for the position of the limb. (4.) There is no pressure on the arterial supply of the patella. (5.) There is no risk to the life or limb of the patient (as may be by the hooks or stitching the fragments). (6.) It will produce perfect coaptation without injury to the soft parts, and without pain and irritation. (7.) It can make well-maintained traction on the upper as well as the lower fragment, if required. (8.) No fluid can separate the fragments. (9.) The patient cannot interfere when adjusted, as in the plaster and other methods. (10.) It has produced the best results, bony union. The paper is illustrated.

EXCISION OF THE KNEE-JOINT.⁴

Mr. T. Holmes has considered the practice of seven large hospitals for the five years ending in 1878 in the treatment of two hundred and forty-five cases where this joint was involved, and states that it may be taken as "a fair specimen of English hospital practice." The principles which govern the employment of the operation are given in detail, and the following conclusions are drawn:—

(1.) "Excision of the knee is one of the indispensable resources of surgery, and is useful in all three classes of cases, namely: in those where, otherwise, amputation would be indicated; in those where the expectant treatment might succeed, but is dubious; and in cases of vicious ankylosis."

(2.) "As a substitute for amputation it is indicated in early life, and in non-tuberculous subjects; in cases of limited caries of the bones, of degeneration of the synovial membrane, and in some conditions of necrosis of the articular surfaces; possibly, also, in abscess in the ends of the bones."

(3.) "As a substitute for the expectant treatment it seems to be justifiable, and is extensively used in cases where the patient's circumstances and the slow progress of the case render the surgeon hopeless or very doubtful of recovery with sound ankylosis."

(4.) "It is also frequently used and is very successful in cases of vicious or deformed ankylosis."

(5.) "Attempts have been made to limit the place of excision by opening the joint, and drainage, and by some other partial methods. These attempts have been fairly successful, especially in cases where the affection is rather of the synovial membrane than of

¹ St. Bartholomew's Hospital Report, page 281, 1865.

² Glasgow Medical Journal, March, 1878.

³ London Medical Record, October 15, 1880.

⁴ Medical Times and Gazette, page 201.

the bones, and they deserve more extensive trial than they seem as yet to have obtained."

(6.) "At the same time the mortality from excision of the knee seems of late years to have been so greatly diminished as to encourage the hope that the limit of age which it has been found necessary hitherto to observe may be extended, and it may be judged prudent to apply the operation to the treatment of the more chronic affections of later life, — such as chronic rheumatic arthritis, more extensively than has been done up to the present time."

Mr. Holmes has also considered the question of excision of the hip, in the same paper, from the study of two hundred and fifteen cases, and concludes that "the question between the relative value of the cure by spontaneous ankylosis and that obtained by excision is one of very great importance. My own opinion is strong that the limb after excision, however successful. — and I may say that I have had the opportunity of examining some very successful cases of my own many years after operation, — is very rarely indeed as useful as it is even after the average cure by ankylosis." "It ought to be very rarely indeed required, if the disease were treated properly at its commencement. In cases seen at an advanced stage of the disease, it is chiefly when sequestra exist that the operation is necessary, though it may be *advisable* as a means of shortening the treatment in other cases also, when the patient cannot obtain the prolonged surgical care which is essential to natural recovery." "In vicious ankylosis, of course, the milder measures of division of the neck or shaft of the bone, introduced into practice by Mr. Adams and Mr. Gant, have proved so successful as to supersede the need for excision."

INTRODUCTION OF TRACHEAL TUBES BY THE MOUTH INSTEAD OF BY TRACHEOTOMY.

Mr. W. MacEwen, of Glasgow, has adopted this treatment in four cases, all adults, and describes his experiences in the *British Medical Journal* for July 24th and 31st. Case I. For the Removal of Epithelioma from the Pharynx and Base of the Tongue. Tube inserted to prevent blood from entering the larynx, and for the administration of an anæsthetic. Case II. (Edema Glottidis. Case III. Acute Edema Glottidis following Chronic Laryngeal Affection. Case IV. Epithelioma. Tube introduced and removed before the administration of the anæsthetic. Patient died. The appliance answered admirably in the other three cases. After a historical review of treatment requiring the introduction of respiratory instruments by the natural passages, he states that "the introduction of tracheal tubes would be more difficult than the passage of urethral catheters into normal urethra; but they could be passed a great deal more easily than catheters in most cases of urethral stricture. Before passing tracheal instruments in the living, it would be well to practice on the 'subject,' as this helps to cultivate the touch. Given a quiet patient in health, the introduction of the tracheal tube will be found almost as easy for the operator as its passage post mortem. In the two cases of *edema glottidis* which I have treated in this way, the introduction of the tubes was more easy than in the cases with healthy larynges. In the former, the parts were fixed, thrown further forward in the mouth, and much less sensitive, — all favoring the introduction of the tubes. The first insertion is for the patient the most

disagreeable; the subsequent ones being attended with comparatively few manifestations of uneasiness."

MODE OF INTRODUCING THE TUBES.

"If any hitch occurs at the level of the cords it might be overcome by asking the patient to take a deep inspiration, during which the instrument ought to be passed. The head ought to be thrown back during the insertion of the tubes."

ADVANTAGES OVER TRACHEOTOMY.

"Besides the superiority which the simple introduction of a tube into the trachea through the mouth has over a cutting operation, which, in itself, is not unattended with danger, the following points may be noted as advantages on the side of the former: The air, as it passes through the natural passages into the lungs, becomes warmed, moistened, and filtered. When a wound is made into the trachea through the neck, and a short tube is inserted, the cold, dry, unfiltered air gets access to the lungs, and often produces fatal congestions. Every surgeon knows how difficult it is, even in a hospital, to maintain for days continuously an uninterrupted supply of extraneous warmth and moisture, and how, now and again, in spite of the very best arrangements, a hitch occurs, during which cold, dry air gains access. The tubes introduced through the mouth do away with the necessity of supplying extraneous warmth and moisture. A tubular instrument passed through the mouth into the trachea will convey heated, moist air into the lungs, and to a considerable extent will filter it of its dust and organic particles." "Even a tube, with one end in the trachea and the other projecting from the mouth, will attain, a few minutes after insertion, the same heat as the human body, and as a consequence will temper the air as it passes into the lungs. After a short time its interior will be covered with moisture, which will offer an extended surface for adhesion of organic particles, and so help to filter, and at the same time moisten the air."

CASES IN WHICH THESE TUBES MIGHT BE USED.

"It will be observed that I do not particularize the kind of cases in which the tracheal tubes passed through the mouth may be used further than by stating that there are obvious reasons for preferring tracheotomy or laryngotomy when foreign bodies are in the windpipe; and, on the other hand, for preferring tubes through the mouth where there are effusions of blood or serum, or collections of pus, into or about the submucous laryngeal tissues, or when anything overhangs or threatens to occlude the laryngeal orifice. Again, it may be asked whether such instruments might not be of very considerable service in cutting short many spasmodic affections of the cords and upper portions of the larynx, such as spasmodic croup, laryngismus stridulus, and in some cases of incarceration of the epiglottis, etc. Tubes inserted in some such cases might not only relieve the spasm, but also help to cure the disease by destroying the habit."

"Cases in which the disease, or at least the necessity for using the tubes, would be of short duration are the most suitable for this procedure. Again, where the person is too weak or objects to have tracheotomy performed, or where the practitioner does not care about performing it, the tubes passed through

the mouth might be used, even in the latter case, to gain time to allow an operating surgeon to be called."

"The tubes must necessarily be of various sizes, so as to suit the various larynges into which they may be introduced. At present, a tube of a better shape and form than that now in use, and one which will present other advantages, is being prepared for me." "It must be obvious that the time during which the tubes are retained must depend on the case. In some a few hours might be sufficient to dispel the oedema; in others, a much longer period is necessary."

"How would one recognize the presence of the instrument in the trachea? (1.) By finding the instrument pass over the first ring or two of the trachea. (2.) By finding that the air flows into the tube during inspiration and out during expiration, the opposite being the case if it be in the oesophagus. (3.) By the mucous expectoration being expelled from it. (4.) By the negative signs that it is not in the oesophagus or stomach; that is, blowing of the stomach through the tube, etc." "Before introducing the tubes an examination by the laryngoscope ought to be made to ascertain the precise state of the parts."

Deductions: "(1.) Tubes may be passed through the mouth into the trachea not only in chronic but also in acute affections, such as oedema glottidis. (2.) They can be introduced without placing the patient under an anæsthetic. (3.) The respirations can be perfectly carried on through them. (4.) The expectoration can be expelled through them. (5.) Deglutition can be carried on during the time the tube is in the trachea. (6.) Though the patient at first suffers from a painful sensation, yet this passes off, and the parts soon become tolerant of the presence of the tube. (7.) The patient can sleep with the tube *in situ*. (8.) The tubes in these cases, at least, were harmless. (9.) The ultimate results were rapid, complete, and satisfactory. (10.) Such tubes may be introduced in operations on the face and mouth, in order to prevent blood from gaining access to the trachea, and for the purpose of administering the anæsthetic; and they answer this purpose admirably."

Hospital Practice and Clinical Memoranda.

STRANGULATED INGUINAL HERNIA; OPERATION; INTESTINAL FISTULA AND DEATH.

BY D. E. MYSHRAILL, M. D. HARY, MALDEN.

ABOUT noon on June 23, 1876, I was summoned into the country, some six miles from Calais, Maine, where I was then engaged in practice, to see a patient who was said to be suffering from "rupture." Upon my arrival, I found such to be the case; and from the patient, a man of sixty, I received the following history:—

The rupture first appeared about fifteen years previous, whilst he was engaged in performing some heavy labor; and upon that occasion, as also several times subsequently, he returned the intestine with little or no difficulty. He has never worn a truss. Three days previous to my visit, while engaged in chopping wood, he felt "the lump come down," and, upon attempting to return it, found, much to his surprise, that he was unable to do so.

Throughout the following day he had considerable "pain in the bowels," and everything he ate distressed

him. That evening he took a dose of salts; and the following morning, the pain having increased, vomiting having set in, and no operation from the bowels having taken place, he became alarmed, and called in a physician in the vicinity, who explained to him the nature of his trouble, made an unsuccessful attempt at reduction, without anæsthesia, and then advised him to send to the city for surgical aid.

Examination revealed a tense and exceedingly painful scrotal tumor, extending up into the inguinal canal on the right side. Patient's general condition pointed strongly toward strangulation of the bowel. He was in severe pain, and consequently restless; expression anxious, pulse quick and feeble, tongue dry and brown, and abdomen swollen and tender to the touch. His attendants laid particular stress upon the odor of the substance he vomited, stating that it smelt worse than an ordinary operation from the bowels.

Dr. W. T. Black, of St. Stephen, N. B., who saw the case in consultation, agreed with me as to the presence of strangulation, and that the patient's only chance lay in immediate operation, should renewed attempts at taxis prove ineffectual.

The patient having been thoroughly etherized, taxis, with the body in every position, was tried, without success. The swelling was then punctured with an aspirator needle, and two drachms of bloody serum withdrawn, but without any decrease in the size of the tumor. I then proceeded to cut down upon the hernia, and, division of the various layers having been effected, reached the sac with the loss of scarcely a drop of blood. It being impossible to reduce the hernia within the sac, the latter was opened, and the stricture found in the neck of the sac above the internal ring; the sac itself was attached, and proved irreducible.

The bowel, upon examination, showed evident signs of strangulation, in its dark claret color and dull appearance; but both Dr. Black and myself thought we saw signs of returning circulation. The wound was closed with silk sutures, and compress and bandage applied. Opium and stimulants to be given *pro re nata*.

June 24th. Six p. m. After operation last evening the patient was quite comfortable until ten A. m. to-day when he had a movement from the bowels, attended with severe pain. Two one-grain opium pills having been given, he became quiet about one p. m., and has remained so since. No vomiting since operation.

June 26th. All symptoms favorable. Wound presents appearances of immediate union. Two stitches removed.

June 28th. Patient had a small operation to-day, accompanied with only slight pain. Sleeps well. Pulse 90; temperature 99° F. Continue pill opi.

July 1st. Found patient much changed for the worse since last visit. Wound open and discharging terribly offensive pus. He complains of severe abdominal pains, and has vomited several times during the night. Pulse 98; temperature 100.5° F. Ordered to continue opium *pro re nata*. Diet, milk and lime water. Wound to be kept thoroughly clean, and carbolic-acid dressing applied.

July 2d. Since last evening fecal matter has been constantly pouring from wound. Patient slightly delirious. Pulse 104; temperature 100.5° F. Ordered whisky punch and sulphate of quinine, two grains, three times per day.

July 4th. To-day found patient violently delirious, requiring constant attention from at least two attendants. Faecal matter, about the consistency of Indian porridge, flows from the wound incessantly, and patient's groin and thigh are much excoriated, notwithstanding all efforts have been made to keep the parts clean.

July 7th. Delirium unabated, opium having been given in very large doses without producing sleep; in its place was given chloral hydrate and bromide of potassium, of each fifteen grains, to be repeated every four hours, till sleep is produced.

July 9th. Some improvement in patient's condition to-day. Delirium somewhat less. Chloral mixture to be given sufficiently often to insure quietness. Wound still pouring out faecal matter.

From July 9th until the 22d, patient improved slowly, but the wound remained in the same condition. Upon the latter date it was first noticed that the faecal discharge was somewhat less than usual.

July 24th. Faecal discharge has lessened very much since last report.

July 25th. The discharge from wound in groin has decreased from quarts to ounces.

July 27th. To-day patient had a natural operation from the bowels, — the first since the 28th ultimo.

August 6th. Since last report patient has constantly improved, and has had daily evacuation from the bowels. The discharge of faecal matter from the wound has entirely ceased.

August 10th. Wound in groin entirely healed. Patient discharged well.

August 26th. To-day was requested to visit Mr. M. again. I found that since last record not only had he been up and around daily, but he had even attempted to perform some light labor, contrary to express orders. Yesterday morning, when getting up, he found great difficulty in "handling his legs," on account of severe pain extending down the inner surface of the right thigh. Examination revealed extreme tenderness in that locality, extending upwards to site of old wound in groin, and inwards to symphysis pubis. Patient stated that he had suffered from "cold chills" all day yesterday. To remain in bed, and have thigh enveloped in a flaxseed-meal poultice.

September 1st. Since last visit patient has had several distinct chills. Fluctuation along inner side of thigh quite distinct, but the patient will not allow an opening to be made.

September 6th. To-day pain had become so severe and constitutional irritation so great that he could stand it no longer. About six ounces of pus was evacuated, and the opening found to communicate with the old wound in groin.

September 9th. Since last visit wound in groin has partially reopened, and a small quantity of faecal matter discharged at different times. Regular operations of the bowels still take place about every other day. Wound in thigh is syringed daily with a solution of carbolic acid. Pain and tenderness over pubic region daily getting greater. Pulse 98; temperature 100.5° F.

September 12th. Wound in groin thoroughly opened, and faecal matter pouring out, as of old. Pain along inner surface of left thigh complained of.

November 8th. Since last report, patient has slowly but surely lost ground. Wound pours forth faecal discharge incessantly, although a natural operation with a normal-looking stool takes place about every third

day. Despite every precaution, it is impossible to keep the clothing and bed-linen clean; and, taking the appearances of the wound and clothing and the constant faecal odor into consideration, our patient's condition has become a pitiable one.

November 10th. Was called to-day particularly on account of agonizing pain, beginning in pubic region, and extending over to left groin and down inner side of left thigh. No fluctuation could, however, be detected. Ordered sulphate of morphia, *pro re nata*.

From this date until December 7th, when death relieved his terrible sufferings, our patient's case presented no new clinical facts; he gradually became weaker, and death seemed to be caused purely by exhaustion. No post-mortem examination was allowed.

After an extensive search through the files of all the prominent American and many foreign journals, I have been unable to find reported a case of stercoraceous abscess at all resembling this one in its clinical peculiarities.

En résumé, we find a history extending from time of strangulation until death,—one hundred and seventy-one days. Upon June 28th, the fifth day after reduction of the gut, Mr. M. had his second natural evacuation; but from then until July 27th, a period of twenty-nine days, all excreta from the bowels came out at the wound in the groin. From July 22d, at which period the faecal discharge commenced to lessen, until August 10th, the patient's improvement seemed wonderfully rapid. Indeed, the manner in which he gained in flesh and strength has always been to me a clinical mystery; but certain it is that when I left the case, August 10th, I considered him perfectly recovered. Indeed the original draught of this report was made about August 20, 1876, to be given to the profession as A Complete Recovery. The second attack, as I have always styled it, was, no doubt, brought on by the patient's own imprudence in attempting to perform manual labor; and, from its commencement until death, its course was one of constant and gradual failure.

Reports of Societies.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

JANUARY 10, 1880. DR. MINOT, in answer to a question as to the relative danger of plugging the vagina and plugging the os in cases of hemorrhage from the unimpregnated uterus, replied that he thought there would not be much difference, if thoroughly done. The chief difficulty in the latter case would be to make the tampon stay in place.

DR. STICHLAIR said that he had seen the os plugged in such cases, but that he himself would do what he should consider equally efficient, namely, plug the vagina.

DR. ARNOLD remarked that to plug the os would be not only more difficult, but he apt to give rise to more pain and fever. He mentioned a case which gave him much annoyance, the difficulty being to make anything stay, whether cotton, or sponge, or other tons.

DR. HODGSDON said that he could not conceive of the difference between the plugging of the vagina and the os so far as concerns regurgitation.

DR. SINCLAIR observed that the tampon in the vagina as a colpeurynter sets up an action on the part of the uterus to expel whatever is in the vagina or within its own cavity. This might result in a forcing of the fluid through the Fallopian tubes. He remarked that we need not go to the uterine cavity for the origin of hæmatocele.

DR. BOARDMAN stated that the subject as presented by Dr. Reynolds suggested three points for consideration, in comparison with the more common method of tamponing the vagina merely. In the first place, which is the most effective method? In either case the object desired is to bring about coagulation at the bleeding points, so that whether one or the other method be employed, the final result is the same, and they differ only in the greater time required to fill up the cervix with blood than with cotton.

Secondly, as to the rapidity of the entire operation, it may be asserted that whenever there is hæmorrhage sufficient to require its arrest by plugging or tamponing the os and cervix will always be found dilated, and to some extent dilatable, and, also, there will be a constant effort of nature to expel anything within the organ; so that, as a matter of experience, it will be found, in order to plug the cervix effectually, it will always be necessary at the same time to tampon the vagina.

Thirdly, as to danger attending the method of plugging the cervix, it may be said there is no difference in this respect between the two methods. If the anatomical and pathological conditions are such that regurgitation may ensue, either plugging the cervix or tamponing the vagina, or the two combined if they produce a complete obstruction to the escape of the blood externally, will possibly lead to the accident mentioned.

UTERINE FIBROID.

DR. MINOT exhibited the specimen, which he had removed from a woman thirty-five years old, a patient of Dr. Patrick Gavin. The woman had two children, the younger being now four years old. During the last two years there had been profuse flowing, with great prostration; during the last two months the flowing had been less, though still enough to make the patient uncomfortable. The tumor, which was of the size of a walnut, lay just within the os, and was connected by a pretty broad pedicle with the posterior and left aspect of the uterine wall pretty high up. The tumor was seized with double hooks and drawn down, and the pedicle was divided by strong curved scissors, a short stump remaining. This, Dr. Minot stated, always, in his experience, shrinks up and disappears, giving no further trouble. No application of any kind was made, and no hæmorrhage whatever ensued upon the operation. Dr. Minot called attention to the circumstance that when the tumor in its downward course reached the mouth of the womb the hæmorrhage diminished, which was by no means usually the case.

DR. SINCLAIR mentioned a case of just the opposite character to that reported by Dr. Minot, where the hæmorrhage became profuse just as the tumor made its appearance at the mouth of the cervix.

DR. WELLINGTON asked whether, in case of considerable uterine hæmorrhage in a woman not pregnant, and with no appearance of a polypus, it were advisable to dilate a closed os for examination, espe-

cially if the hæmorrhage has meantime diminished, and is prevented from becoming excessive by the use of a colpeurynter.

DR. MINOT (to Dr. Wellington's question) replied that it would depend upon the amount of hæmorrhage, and asked what internal treatment, if any, had been employed since the flow began to diminish.

DR. WELLINGTON said that there had been but little internal treatment except ergot and iron.

DR. MINOT stated that ergot combined with iron had given most satisfactory results in his experience in hæmorrhage from uterine fibroid. He had several patients now under observation with large uterine fibroids, in which the hæmorrhage has been entirely controlled in this way, and the menstruation has become normal in amount. One of these patients had enormous losses of blood, and became entirely blanched. She has a very large tumor, which cannot be reached, and the os is closed. Thirty to sixty drops of the fluid extract of ergot combined with reduced iron, three times daily, have controlled the flow. Another patient, matron of a large charitable establishment, had profuse hæmorrhage, and was treated with perfect success by the same remedies. In another case, that of a lady who had always flowed excessively, there was a large fibroid external to the uterine cavity; the same treatment was adopted, with like result. In another, the wife of a coachman, the tumor, which had existed for more than two years, gave rise to profuse hæmorrhage at the times of the catamenia and a constant flow in the intervals. These same remedies stopped the constant oozing and brought about a normal menstruation. The effect, in fine, has been almost as uniform as it has been remarkable, and no trouble has ever arisen from the free use of the ergot. In a patient in the hospital, who had a very large uterine fibroid filling the pelvis, the hæmorrhage was very great, and was not so effectually controlled by the remedies cited as in some other cases. She died, after some years' illness, from chronic peritoneal inflammation and exhaustion. The uterine hæmorrhage became quite moderate, but there was considerable hæmorrhage from the rectum, which could not be controlled so readily. She took about a drachm of the fluid extract of ergot daily for about a year, without the slightest bad effect from the ergot, so far as could be ascertained. In one of the other cases spoken of above, the patient took thirty to forty drops for a long time with impunity. Dr. Minot said that he was satisfied that it has no injurious effects, not even causing constipation of the bowels.

DR. SINCLAIR stated that he was now giving ergot effectually in a case of uterine fibroid. Twice he had seen abscesses in patients taking the remedy.

DR. WELLINGTON remarked that half a teaspoonful of the fluid extract, together with the tincture of iron, three times a day, did not seem in his case to have had any such effect as that described by Dr. Minot.

DR. MINOT stated that one should be sure of the quality of the drug, and give large doses. He would not say that he had not met with failures, but he could not remember many. He suggested in Dr. Wellington's case dilatation with a tent and exploration with the finger.

DR. LYMAN remarked that he had reported cases here and in the Transactions of the American Gynecological Society showing the great value of dilatation. There is benefit, no doubt, in some cases from ergot and iron, but there were many instances in which these did

no good, though long persevered in. In such cases he had never failed in giving relief by dilatation of the internal os. It is the proper preliminary also for the use of ergot in reducing the size of large fibroids, in which it was of quite as much value as in staying the hæmorrhage. In a case in the hospital the fibroid was so large that it could not be removed; dilatation arrested the continued metrorrhagia, and there has been no recurrence, while the fibroid has become much reduced in size. In this particular case, after the dilatation there were inflammatory symptoms, but nothing serious resulted. Dr. LYMAN said he was convinced that dilatation was not employed so much as it should be. The trouble is not at the external but the internal os. In some instances he has reduced the hæmorrhage by a simple rapid dilatation, where the patients would not submit to the tent. Nowadays he should never think of using internal remedies until after dilatation.

Dr. MINOT stated that in cases where he had used ergot alone the result had been less satisfactory.

Dr. LYMAN said that he had given ergot to one patient continuously for two years; forty to fifty drops for a year in many cases. He did not look upon ergot as having any poisonous property, or as endangering gangrene. In some cases he would use the steel dilator, in others laminaria tents. Goodell and Elwood Smith constantly employ the procedure in cases of hæmorrhage. Any ordinary force would not tear the uterus, but of course the proceeding must be properly conducted.

Dr. SINCLAIR remarked that in dilatation we must tire out the uterine fibres so that they will not contract again, in order to get real benefit from the proceeding. This he would insist on as the key-note of the procedure.

Dr. LYMAN concurred that this was an important point (tire out the fibres). The process of stretching changes the innervation. There is a physiological point connected with the inner cervix which is not understood and has never been elucidated. In fact, there is no thoroughly good exhaustive treatise upon the minute anatomy of this portion of the uterus.

Dr. LYMAN, in answer to a question upon the use of ergotin, stated that two or three drops well rubbed up with twenty to twenty-five of water can be used as a hypodermic injection; and is so used for a variety of purposes, as hæmoptysis, etc.

Dr. RICHARDSON stated that he had used ergotin subcutaneously five years ago in the Lying-In Hospital, and had got some very good abscesses from it. In London the same results have been reported, and the solution there is mixed with glycerine. In one or two cases he had seen uterine contractions from its use, as in the case of ergot, but no better. He stated that one sixth of a grain of ergotin is said to be equal to a drachm of the fluid extract.

Dr. C. E. STEDMAN said that he had always used the fluid extract, only taking care to make the injection deep at right angles, and not hypodermically.

—A patient with a supposed scalp wound recently applied for treatment at Guy's Hospital. He was seen by a nurse, who dressed his wound and sent him home without his being seen by the house surgeon or dresser. His wound proved to be a fracture of the skull, and ended fatally.

—An ovation in honor of Hyrtl's seventieth birthday was celebrated in Vienna on the 6th of December.

Recent Literature.

The Descriptive Atlas of Anatomy. A Representation of the Anatomy of the Human Body in Ninety-Two Royal Octavo Plates, containing Five Hundred and Fifty Figures. Philadelphia: J. B. Lippincott & Co. London: Smith, Elder & Co. 1880.

If it were not for a very remarkable point in this work, our criticism of it would be brief. We should say that the conception of the plates is excellent, but the execution rather poor, and in parts very bad. The only text in the book is the preface, in which we are told that, "in order to supply the wants of the student, *The Descriptive Atlas of Anatomy* has been prepared, with a view to correctness, clearness, simplicity, and completeness. The parts have been copiously named and described *in situ*, and the ARTERIES AND VEINS HAVE BEEN COLORED."

"Every figure has been carefully revised by a Metropolitan Hospital surgeon and a successful teacher of anatomy in one of the chief London medical schools."

No name except those of the publishers appears. The remarkable point to which we have referred is this: this collection is simply a reproduction, without acknowledgment, of almost the whole of Dr. C. Heitzmann's *Die descriptive und topographische Anatomie des Menschen*, published by Braumüller, of Vienna, where the first part appeared in 1871, and the last in 1875. Some of the figures have been slightly modified, English names have here and there been put in the place of Latin ones, and, as is set forth in capitals, the arteries and the veins have been colored. We do not believe that there are ten figures among these five hundred and fifty that are not to be found in Heitzmann's atlas. It is also curious to observe that, while Heitzmann conscientiously acknowledges several figures from other sources, this ceremony is in the work before us occasionally complied with in the case of these borrowed figures, and occasionally disregarded. We have failed to find Dr. Heitzmann's name anywhere. We do not wonder that the "Metropolitan Hospital surgeon and a successful teacher of anatomy" should prefer to remain unknown; but if anything could surprise us on the part of the authors of this performance, it would be the coolness of the announcement at the foot of the title-page, "All rights reserved." It would have been better to have reversed the wrongs. T. D.

How Persons threatened or afflicted with Bright's Disease ought to Live. By JOSEPH F. EDWARDS, M. D. Philadelphia: Presley Blakiston. 1881.

A small book of a large and increasing class provided for the laity, it is divided into four parts, of which I. is devoted to general remarks, in the course of which the writer thinks he shows it to be a fact beyond dispute that "Bright's disease has become much more frequent of late years, and is steadily and rapidly on the increase;" II. treats of the functions of the kidneys and their derangements; III. defines Bright's disease as hastily as possible, and assures the reader that a good physician is a great gift bestowed upon man by an all-wise and benevolent God; and IV. gives rules of life, which are sensible and thorough enough, and would certainly keep any one guided by them out of mischief. The author shows but little quarter to alco-

hol and tobacco, and to a certain extent properly so; but we do not believe anything is to be gained by exaggerating the evil effects of these agents. Alcohol produces disease of the kidney as it produces many kinds of want and misery; it is no more an immediate cause of Bright's disease than fret and worry are. In regard to tobacco, "the twin brother of alcohol," as he calls it, the writer's remarks would have more weight with the reader if more consistent.

On page 77 we find that "to realize the fact that tobacco smoke must be injurious you have only to recall those instances among your acquaintances where persons unaccustomed to tobacco have been made sick even unto vomiting by its use in their presence, and to remember that the large majority of smokers have to be initiated into the art of smoking through a series of headaches and sick stomachs." On page 84, in the course of some remarks recommending a glass of cold water, drunk after sitting down to breakfast and immediately before eating, as an efficacious aperient, we find that "some people with delicate and sensitive stomachs will complain that this water will make them sick. If they persevere in its use for a few days it will not make them sick." What is sauce for the goose is sauce for the gander. The argument should not work one way with vile tobacco, and another way with pure water.

We do not mean that this little book is not up to the average of its class, but the query suggests itself whether the primer may not be overdone. The answer will probably be sought in the readiness of the public to purchase.

Atlas of Histology. By G. E. KLEIN, M. D., F. R. S., and E. NOBLE SMITH, L. R. C. P., M. R. C. S. Part XII. Philadelphia: J. B. Lippincott & Co. London: Smith, Elder & Co. 1880.

The number before us is an uncommonly large and a very excellent one. The first chapter is devoted to the skin and its appendages; the second to the eyelids, conjunctiva, and lachrymal glands; and the four following to the minute anatomy of the eyeball. In the description of the rete Malpighii, Klein gives us the results of some of his recent studies in the minute anatomy of cells. We must be permitted a short quotation: "The nucleus of some of the cells of the deepest layer contains within a distinct but delicate membrane a honey-combed reticulum without any nucleolus. That of others does not possess any special limiting membrane, and includes a more or less dense convolution of fibrils, deeply staining in the different dyes. Then there are cells whose nucleus has still further advanced towards division; the nucleus is larger, does not possess any membrane, and its fibrils become arranged as a rosette; then they change into a star, monaster, and later into a double star, dyaster. Now the cell itself becomes divided into two, in a line separating the two stars of the dyaster. The daughter star changes into a *convolution*; this again changes into a nucleus, similar in size, shape, and appearance to the nucleus of the cells of the middle layer of the stratum Malpighii, being spherical, well defined by a distinct membrane, and including a honey-combed reticulum, with or without one or more thickenings, — nucleoli." We are glad to see that in a future chapter the changes of nuclei will be further discussed. Klein does not appear to be acquainted with Dr. J. Collins Warren's

discovery of the so-called fat canals, which was published in the JOURNAL April 19, 1877. This is the more surprising as Dr. Klein's knowledge of histological literature is extremely minute; but it must be remembered that Dr. Warren's discovery has never received the attention it deserves.

Knowing our author's interest in nerve terminations and in the cornea, we were prepared for a full description of that organ, in spite of the recent appearance of his long article in the *Quarterly Journal of Microscopical Science*. Klein finds that the nerves do not enter the corneal, but form net-works on their surface. He describes a series of very minute lateral branches given off by the nerves in the anterior epithelium. Each branch breaks up into the finest fibrils, which form an ultimate net-work between the cells, except in the most superficial and in the deepest layers.

The plates illustrating this number are as beautiful as usual. T. D.

Cutaneous and Venereal Memoranda. By HENRY G. PIFFARD, A. M., M. D., etc., and GEORGE HENRY FOX, A. M., M. D., etc. Second edition. New York: William Wood & Co., 27 Great Jones St. 1880.

This is a "vest-pocket" volume of 309 pages, prepared by the authors for students unable, during their pupillage, to procure voluminous works upon this special subject; to inculcate principles rather than to elaborate details; and to present facts in as compact a form as possible by avoiding all discussion of theoretical questions and omitting histological details. Most of the book is by Dr. Piffard; five chapters only being furnished by Dr. Fox. This edition varies from the first one merely in the correction of typographical errors, the amendment of the nomenclature, and the addition of a valuable practical formulary; so there is no occasion to modify the opinions expressed as to the first edition. The work is good of its kind, — the reputation of its authors would naturally vouch for that. Dr. Piffard still cherishes the views of the French school as to diathesis, but lays rather less stress upon them than formerly. The style is clear; there is quite an amount of valuable information condensed into a short space; the book is pretty well up with the times; the increasing use of the metric system in prescribing has led the authors to express the various formulæ both by the old and the new methods; the paper and typography are excellent, and there is a complete index.

The Compend of Anatomy. For Use in the Dissecting-Room, and in preparing for Examinations. By JOHN B. ROBERTS, A. M., M. D. Philadelphia: C. C. Roberts & Co. 1881.

We have often expressed plainly enough our disapproval of compendiums. They, no doubt, are convenient for the student, but we fear they do not promote scholarship.

We must say, however, that this little work of Dr. Roberts deserves a good deal of credit. It is very compact, but less meagre than one would imagine from its size. We are pleased with the arrangement in several respects, and look on it as one of the best of its kind.

Medical and Surgical Journal.

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THE NATIONAL BOARD OF HEALTH.

RUMORS come from Washington that the National Board of Health is to be abolished. We observe that the dispatch, purporting to announce this, appears only in one paper, and therefore trust that it is a false report.

But if the rumor be correct, and Congress should resort to this severe measure, we feel sure the act will only be the forerunner of another arrangement for the sanitary supervision of the country, and we hope that it will have less money left at its disposal, except under great emergencies. The circumstances, which existed at the time of the establishment of the board, happily have passed away. Memphis was decimated by yellow fever, which threatened, unless the strongest preventive measures were taken, to devastate the whole of the Mississippi Valley, and to bring about the horrible "shot-gun quarantine" and anarchy of a previous day. To avoid, if possible, this dire result, Congress and the nation alike called for a national board of health, armed with ample powers; and a very large sum of money was placed at its disposal. It is now said that these funds have been unwisely expended, and therefore that the board must be abolished.

We, on the contrary, claim that the board may point proudly to all that it has done, and reply that the money thus expended is comparatively insignificant, when compared with the amount of good done to the whole country.

Let us glance at a few of these benefits accruing to the Union. The board, with its powerful quarantine around Memphis, compelled the yellow fever to die there instead of spreading, as it undoubtedly would have done, if it had not been so restrained. Moreover, while thus shutting up Memphis, it has permitted, under the close inspection by its officers at places above and below that city upon the river, almost unrestricted commerce; trains running daily from New Orleans and St. Louis. That the services of the board were properly appreciated by railroad directors is proved by the fact that, on two of the main roads along the river bank, they were willing to pay for the services of the board's inspectors, if the board would simply order that a proper inspection of passengers should be made. They did this, of course, because by this method only could traveling be safely and easily carried on.

But this is not all. The board, having saved the valley from yellow fever, immediately turned its attention to Memphis, and the board's inspectors, with the aid of able sanitary experts, induced the citizens to undertake the thorough cleansing and sewerage of

their city, whereas previously every family had, as its own privy vault, only a deep hole dug in the cellar. As each privy, after years of use, became filled, earth was thrown over the festering mass, and a new hole was dug! At times, five or six of such places, all filled but the last, were found under a house! All this has been changed by the vigorous urging of the board, so that now Memphis, acting earnestly for itself, under the advice of the board, is one of the model cities of the Union in all sanitary arrangements. When we reflect upon these facts, namely, the crushing-out of the fever at Memphis; the restoration of that city to the influence of sanitary law; and finally to the enabling the commerce of the mighty river to go on without interruption, we feel that, even if all the money granted by Congress had been used for these purposes alone, it would have been well and nobly spent. But this is not all, for which due honor should be given to the board. Its scientific embassy to Havana, etc., in order to study the yellow fever in places, where it always exists, promises to produce a work of great value to all countries, which hold intercourse with those places. The establishment of various quarantine and inspecting stations during the summer, off New Orleans, at Hampton Roads, etc., should also redound to the honor of the board in the minds of all reflecting persons.

We are not, however, surprised at the rumor alluded to. We have observed with regret a difficulty growing up between the board and the Louisiana Board of Health, and perhaps between the sanitary organizations of the upper and lower parts of the Mississippi Valley. We allude to these facts not for the purpose of taking sides with either, nor for the purpose of deciding points of diagnosis between "yellow fever" and "rice fever." But we must say that we see in them no valid reason for the violent attacks upon the board, and especially upon the member of it, resident at New Orleans; who, knowing that an epidemic existed not far from New Orleans of a fever with "black vomit" as a prominent symptom, deemed the cases so important that quarantine was proposed. Was it wrong for the board to give public notice of the fact that a disease which bore such prominent symptoms, resembling yellow fever, did exist, and that it should be avoided?

Even *supposing* an error of diagnosis was made on that occasion, surely that is no reason for destroying the board. The board, we believe, is the natural outgrowth of that professional and public sentiment, which has brought into being state and local boards of health in various parts of the country, and which was never more prominent and active than at the present day. From the nature of things we *must* hereafter have a national sanitary authority, of some kind. The care of the public health is as important (to use the mildest expression) as the care of any other of the departments of the government. Everywhere, in civilized countries, we see this idea influencing the people and governments. No such thought *can* go backwards. Governments are groping, somewhat darkly, in order to get the most appropriate arrangements. The present National Board of Health is one of these attempts to

meet a great emergency, and to prepare for the long future. If, therefore, it should be abolished, — which we sincerely hope will not be done, — another *must inevitably arise*. Some have suggested that, perhaps, the hour has arrived when a department of public health is a necessity. Such a department, from analogy, should have a secretary, with, as we think, a council of medical men, engineers, and citizens, among whom should be a lawyer, to aid him in emergencies. Such a secretary should be rather below than above the middle age, a sanitarian by profession, and not a simple politician. He should have wide views, — should be a wise man; above all, one immaculate in his honorable intention and acts, and with an intellect superior to common men. Like the judges of our courts, he should hold office during life, or until removed for good reasons and by legal measures. Such a person will inevitably arise, when demand is made for his presence.

AN ENGLISH REVIEWER'S IDEA OF AMERICANISMS.

THE *Medical Times and Gazette* of November 6th closes a review of an American book with references to two Americanisms. The first is the "use of the word *crowd* as a verb, in the sense of push or press." The reviewer asserts that it is not a verb, though occasionally used as such to express the movement of a crowd, and that it is an extension of its use not uttered in any good author to speak of crowding the os uteri in a given direction with a spatula. The second is the word *sag*, of which he says: "We should like to know what its precise meaning is, and what advantage it has over words which are a recognized part of the English language." He then proceeds to say, "We suppose that as Americans have a country of their own and a government of their own they have a right to a language of their own; but while they use the language we have given them we wish they would use it properly."

As a nation we are not unaccustomed to similar rebukes, though they are sometimes expressed in a less disagreeable manner, as when the *Lancet* crowns its praise of Booth's Hamlet by saying that his pronunciation is free from Americanisms.

We usually with due humility allow Englishmen to rejoice in their supposed superiority in the use of our mutual tongue, but this reviewer is so arrogant, and speaks with such an air of authority, and withal with such ignorance of his own language and literature, that it may not be unprofitable, even in a medical journal, to discuss the matter for a moment.

Croude (Anglo-Saxon), to shove together, is found in Halliwell's Dictionary of Archaic and Provincial Words.

Crowd is given as a verb in every dictionary to which we have access. We will not quote American lexicographers, though we believe they are not entirely without authority in England; but in Richardson it is given not only as denoting the movement of a crowd, but with a derived meaning, "to thrust or press to-

gether;" and if the reviewer will cut the leaves of the second part of King Henry IV. he will find, —

"The time misorder'd doth, in common sense,
Crowd us and crush us to this monstrous form."

The use of the word simply in the sense of push is not common, but did not originate in America; for before Columbus sailed Chaucer wrote, —

"But in the same ship . . .
Hire and hire yonge sone and all hire gere
He soude put and *croude* hire for the lond."

But where the object acted upon is pushed into a confined space its use is common enough. Did no passing dray ever crowd the reviewer into a corner? Were the cervix uteri removed from its normal position and placed upon the table, one would not usually speak of crowding it in a given direction with a spatula; but when it moves only in the confined space of the vagina we believe it to be a perfectly legitimate use of the word.

Hosea Biglow was guilty of an Americanism when he wrote

— "there 's the old J. B.
A *crowdin'* yon and me."

And possibly the use of the word in question is more common in America, but certainly it is not so far removed from correct usage as to merit the harsh language quoted.

Sag often spelled *sagg*, is found in every dictionary within our reach. Sheridan and Walker say it is not in use. Nearly all quote Shakespeare: —

"The mind I sway by and the heart I bear
Shall never *sag* with doubt nor shake with fear."

In Fuller's Worthies we find, "No hospital is tyed with better laws that he may not *sagg* from the intention of the founder." (He did not refer to Guy's.) Archbishop Trench says, "To *sag*, a Shakespearean word, too good to lose, is alive almost everywhere in England except in our literary dialect; thus, a tired horse *saggs* his head, an ill-hung gate *saggs* on its hinges."

And so one might quote indefinitely, but surely no more is necessary to show that it is a "recognized part of the English language," and that our American author sinned in very good company.

After all, the language of educated people of the two countries is not very different, and it may interest the reviewer to know that the author whose Americanisms are so unmeaning to his ear was born and spent all his boyhood under the shadow of the British flag.

The true critic should be not only "indifferent" modest, but also moderately well informed.

MEDICAL NOTES.

—The meeting of the American Public Health Association took place last week, as announced, in New Orleans. A report of the papers and discussions will be given in our next number. Savannah was selected as the place of meeting in November, 1881. The following gentlemen were elected as officers for the ensuing year: president, Dr. Charles B. White, of New Orleans; first vice-president, Dr. R. C. Ked-

zie, of Lansing, Mich.; second vice-president, Dr. Henry F. Campbell, of Augusta, Ga.; secretary, Dr. Azel Ames, of Boston; treasurer, Dr. J. Berrien Lindsay, of Nashville; executive committee, Drs. D. C. Halliday, of New Orleans, E. M. Hunt, of New Jersey, George M. Steinberg, United States Army, E. S. Griffin, Wisconsin, J. G. Thomas, Savannah, Thomas F. Wood, North Carolina.

—At a meeting, December 9th, of the Sanitary Council of the Mississippi Valley, Dr. Kedzie, of Michigan, presiding, the States of Wisconsin, Kentucky, Iowa, Illinois, Minnesota, Michigan, Tennessee, and Missouri were represented by members of their boards of health.

After an address by the president on the necessity for a national board of health, the following resolution, offered by Drs. Thompson and Holland, of Kentucky, was adopted:—

Whereas experience has shown that measures of quarantine, under the sole direction of local and state boards of health, have not succeeded in protecting this valley from invasion of yellow fever; and

Whereas our people habitually view with distrust all announcements and sanitary acts of local boards, when those acts and announcements are of a character to affect the commercial interests of the locality directly concerned,

Resolved, That in our opinion the general government alone, acting through its constituted sanitary agents, should have direction and control of national and maritime quarantine.

—It seems that the inhabitants of Maine are very carefully protected from doctors. Among the legislative curiosities of the State is a law providing that no man shall practice medicine in Maine without having first practiced dissection; this is supplemented by a law providing that no bodies shall be dissected excepting those of executed criminals, and the door is finally locked by another law, which prohibits capital punishment.

—The Paris correspondent of the *Medical Press and Circular* says: "M. Bouchut has written to the *Gazette des Hôpitaux* on an anæsthetic he employs in the minor operations on children. The agent he uses is chloral, of which he administers one, two, three, and four grammes, according to the age; two grammes might be given without danger between three and five years. The dose, one, two, or three grammes, as the case may be, is given in four ounces of water, well sweetened, the whole being taken at once. In half an hour afterwards the child sleeps, and in an hour is perfectly insensible. This sleep lasts from three to six hours, and the child awakens as fresh as if after natural sleep. Once insensibility arrives, a great number of operations can be performed, such as extraction of teeth, destruction of erectile tumors by caustics, application of Vicuna paste, opening of abscesses, thoracentesis, redressing of malformed limbs, ankylosis, etc., without any other inconvenience than that of leaving the children to sleep off the effects of the chloral. M. Bouchut asserts that he has administered this anæsthetic over ten thousand times

at the hospital (Hôpital des Enfants malades), and never had an accident; where the stomach rejects the chloral (which is very rare in children), a suppository with the required dose is given, and when it has melted sleep comes on. M. Bouchut, however, is not much in favor of this mode, as chloral, he has found, irritates the rectum after the third or fourth time. Although chloral is so well tolerated in the child, it is far from it in the adult. M. Bouchut never could succeed in giving a dose large enough to produce insensibility, as when four grammes were administered it was rejected at once. If the employment of this anæsthetic, says M. Bouchut, were attended with any danger, it should be abandoned, but, as I have already stated, there is none whatever."

—A somewhat remarkable case of fracture of the sacrum has recently occurred in Paris. A woman was brought into St. Lazare Hospital with a history of a fall upon her buttocks. A transverse line of depression could be felt from the back, corresponding to the middle of the sacrum, and from the rectum or vagina the line of fracture was readily felt, and the projection forward of the lower half of the sacrum verified. Pressure evoked crepitus. Reduction was easily effected, and displacement did not recur.

—The first operation in England of stretching, the facial nerve for spasm of the facial muscles was recently reported to the Clinical Society of London by Dr. Allen Sturge and Mr. Godlee. Two months after the operation the face was still paralyzed, but a month later the two sides of the face were nearly symmetrical when at rest, though there was still deficiency of movement in the muscles. The patient was, however, rapidly recovering.

—Volume I. of the Index Catalogue of the Library of the Surgeon-General's Office may be obtained from the Public Printer, Washington, D. C. Price, including postage, two dollars.

—We are asked to draw attention to an article in the *Lancet* of September 18th, on the use of olive oil as a remedy for gall-stones; but a correspondent in the succeeding number of the *Lancet* refers to the familiar remarks on the subject in Flint's Theory and Practice, where it is shown that the concretions passed after the free use of oil are not gall-stones.

—The *Louisville Medical News* copies this item from the *Medical Press and Circular*: At a recent meeting of the Northumberland and Durham Medical Society, Dr. Drummond, of Newcastle, demonstrated a new physical sign which is likely to be of great diagnostic importance in thoracic aneurism. When a patient suffering from aneurism of the thoracic aorta is made to draw a long breath (inspire deeply), and then close the mouth and expire slowly through the nose, short, puffing expiratory sounds are heard—synchronous with the systole of the heart—on auscultation of the trachea. Dr. Drummond believes this phenomenon to be due to the sudden systolic expansion of the sac expelling air from the chest. He has found it absent in cases of aortic valvular disease simulating aneurism, but has not yet thoroughly worked out the significance of the sign.

PROVIDENCE.

—The city of Providence has entered upon a new plan in the medical treatment of its out-door poor. Heretofore the city has been divided into three districts, each of which was furnished with a regular physician employed by the city. But in response to the clamors of some of the leading homœopaths, the following resolution was recently adopted by the city council:—

Resolved, That the overseer of the poor is hereby authorized to contract for homœopathic medicine and medical attendance required by the out-door poor of the city, for the year ensuing, provided the whole expense thereof shall not exceed the sum of two hundred dollars per annum, and that said sum be paid from the appropriation for the support of the poor.

In accordance with this resolution, the overseer of the poor has restricted the city, dividing it into two sections, for each of which are employed one regular and one homœopathic physician. When a patient applies for medical aid he is to be given his choice of the methods of treatment, and a record will be kept of the number of patients sent to each physician. It will be interesting to compare this record with the claim made by the homœopaths that a third of all the business in the city is done by them. The new plan went into operation on the 1st of November.

—The board of trustees of the Rhode Island Hospital have in contemplation the establishment of a lying-in ward in that institution. At present there is in this city no provision whatever for the accommodation of women who are suddenly confined without a suitable place of shelter. Such cases are sent to the nearest police station or to the almshouse, and are frequently delivered by men or ignorant women before medical attendance can be obtained. There is also another class of cases to be met with, where suitable attendance and nursing during confinement cannot be had at home on account of poverty or other unfavorable social surroundings, or where the patient, being wholly dependent upon her own exertions for her support, is entirely without resources when unable to work. For these the hospital will form a place of refuge until they are able to care for themselves again. Undoubtedly many lives, both of mothers and children, will thus be saved, which would otherwise be sacrificed. The plan meets with the approval of the hospital staff and of the internes, who are desirous of the opportunity of perfecting themselves in this important department of medical practice.

—The series of lectures to women, which met with so much success in this city last winter, is to be repeated this season. The lectures will not be wholly of a medical and hygienic character this year, but will embrace scientific topics as well. The first lecture will be given December 7th by Mrs. Walton, of the Massachusetts Institute of Technology, upon Water. She will be followed by Professor Nunn, a pupil of Huxley's, upon Animal and Vegetable Life, illustrated by the microscope; Mrs. A. M. Diaz, who will give three Household Talks; Mrs. Churchill, upon Heredity, Nutrition, and Moral Education; Dr. Keller, who

lectured last winter; and other speakers whose names are not yet announced. Tickets will be furnished gratuitously to all women who cannot pay for them, and it is the purpose of the committee to secure as large an attendance as possible of persons of this class, as it is chiefly for their benefit that the lectures are established.

NEW YORK.

—The council of the National Association for the Protection of the Insane and the Prevention of Insanity met in one of the parlors of the Fifth Avenue Hotel on the afternoon of the 11th of November, and in the evening there was an open meeting of the association, to which cards of invitation had been issued to members of the profession and to a number of prominent ladies and gentlemen interested in matters of social reform. The president, Dr. H. B. Wilbur, made the opening address, and in it spoke of the causes which led to the formation of the society, whose organization was effected in July last. There were, he said, at least fifty thousand insane persons in the United States, and to show that this was a moderate estimate, stated that in the State of New York alone, with a population of five million, there were known to be ten thousand five hundred insane. Half of these fifty thousand insane were in state asylums or hospitals, about two thousand in incorporated or private institutions, about seven thousand in city or county asylums, and about sixteen thousand in county poor-houses or in the custody of friends.

Neglect and abuse were none too strong terms with which to characterize the manner in which the majority of these unfortunates were treated, and the system of imprisonment and harsh restraints to which the insane were subjected, together with the idleness enforced upon them, in this country, even under the management of many of the best institutions, continued to augment the number of incurables.

—In Great Britain and other of the leading countries of Europe, however, the system of non-restraint and employment had produced such marvelous results that the whole treatment of the insane had been revolutionized in the last twenty years. Three asylums were under the strict supervision of national boards of commissioners of lunacy, who hold their positions for life, and were entirely independent of local asylum management, and whose inspections are of the most thorough kind. The Scotch asylums were the most perfect, consisting of rows of pleasant cottages instead of great stone prisons. All forms of restraint were abolished, and the inmates were employed and amused as if they were rational beings, so that in visiting such institutions it was difficult to realize that one was at a lunatic asylum. No windows were barred or doors locked, but the patients were watched quite closely by attendants, and very few escapes were attempted. These changes had proved the difference in many cases between restoration to health and confirmed insanity. In this country, on the other hand, money was lavished on appliances to lessen the labors of administration, and the ratio of recovery was constantly diminishing.

The Rev. Arthur Brooks spoke of the evils of the interference of politics in the management of charities and correction. A man's best work, he said, could not be expected in a position which he filled temporarily, so that political questions ought in reality never to enter into the appointment of officers in such institutions. Sooner or later the American people would be called upon to discuss how far the so-called parental functions of government should be allowed to interfere with education, charities, and correction. At present the inquiry was limited to the manner in which its duties under that function should be administered. The speaker held that politics should have nothing to do with charity, for the reason that it is impossible for politicians to bring to bear upon the subject proper individual motives, as no man could be expected to perfect himself in any special line of duty when his continuance in office was made to depend, not upon the manner in which he performed his work, but in the manner in which he served his party. To administer charities and correction properly was the hardest kind of work, requiring the wisest and best training, and politics was not the school in which to fit men for this. As regards the special subject under consideration, politics was more likely to make men insane than to cure insanity. In conclusion, he said that protection was one thing which pertained to the government, and the insane and the sane had the same right to it. The plain duty of the government was to investigate whether its citizens were all getting their rights.

Dr. George M. Beard made an extended address, in the course of which he gave a series of conclusions at which he had arrived as the result of careful personal observation of the best asylums of Europe during the past summer, which will appear in full in our next number.

Dr. E. C. Seguin read some of the strictures on Asylum Management in America (which have already been published), made by the German specialist, Von Stein, as a result of his visit to this country in 1879. He stated, it will be remembered, that he found our asylums extremely ill-managed, and the buildings, as a rule, totally unfitted for the purposes for which they were designed. The New York institutions on Ward's and Blackwell's islands in particular he pronounced as bad as they could be. One of the principal causes of this unsatisfactory state of affairs he ascribed to a lack of special education among American physicians.

Dr. Seguin called attention to Dr. Shaw's success in doing away with restraint at the King's County Asylum, an account of which was given in one of the late editorials of the JOURNAL.

Dr. J. W. Morton, who has recently returned from a visit to Europe, said he was gratified to be able, from personal observation, to verify all the statements that Dr. Beard had made. He had passed three days in one town of twelve thousand inhabitants in Belgium, half of whom had lunatics in their care (two being allotted to each family), and without special information he would have been unable to tell the insane from the sane. They were employed as nurses, messen-

gers, and in all sorts of industrial capacities, and were happy and contented. At Clermont, in France, he visited an institution, which he described as being composed of two farms of fifteen hundred acres each, with a central infirmary. Each farm was complete, having its own live stock, blacksmith shop, flour mill, etc.; the men being employed in agriculture, and the women in laundry work. Even the engineer and fireman of the laundry were insane women. All were happy and contented, laughing, joking, and discussing various subjects, and no attendants were visible. The institution had nine hundred patients, including all the phases of insanity, and all were of the lower classes, but not one was under any form of restraint.

Dr. Wilbur remarked that five years ago he visited England and Ireland, and inspected asylums containing an aggregate of twenty-five thousand patients, but in only a single instance did he see any form of restraint in use, though he always asked to be shown the refractory patients. The case alluded to was that of an epileptic with homicidal tendencies, in Ireland.

After some further discussion, of similar character, the meeting adjourned.

PHARMACEUTICAL NOTE.

DR. L. WOLFF, in the *American Journal of Pharmacy* for December, 1880, recommends the use of soluble compressed pellets for hypodermic medication.

For a morphia salt he recommends the use of the hydrochlorate with an equal amount of sodium chloride as a disintegrator. With this mixture the burning pain of the injection seems to be considerably diminished, and its absorption, probably due to the crystalloid nature of the salt and its superior diffusibility, seems to be promoted; the full effect of the injection taking place in from four to ten minutes.

The pellets of morphia, when used, should first be moistened with a drop of water from the filled syringe, then broken up with the blunt point of the syringe, all the water added, then sucked up and forced out of the syringe two or three times, until the solution is complete, which is usually in less than half a minute.

These pellets have the advantage of occupying the smallest possible space; that they can be dispensed in glass tubes of about an inch in length, closed at both ends by corks; that thus dispensed the sodium chloride, possessing antiseptic properties, will preserve them for an indefinite period. They can be easily made by any pharmacist having the necessary pill press, but should not be compressed with too much force (a tap with a light wooden mallet usually suffices), else they will not dissolve so rapidly.

There is no reason why this form for hypodermic remedies may not be extended to other remedial substances, and as salt is already suggested as an addition to mercuric bichloride for that purpose this might certainly be so prepared, as well as apomorphia, pilocarpia hydrochlorate, strychnia hydrochlorate, and other remedial agents subcutaneously administered in minute dose.

Miscellany.

CROUP AND DIPHTHERIA.

MR. EDITOR.—In a late number of this journal was a note from Dr. O. F. Ham, of North Barnstead, N. H., intimating that true croup and the croup which sometimes occurs in cases of diphtheria are essentially the same thing!

Now, for about nine years after I began practice I saw, on an average, one case of croup a year, without seeing any case of diphtheria. The cases were, as usual, mostly boys, between two and ten years of age. I never saw two cases in the same family of children; never knew of one child taking it from another. The local and constitutional symptoms in the two diseases are different; and if a child was saved from croup, which was rarely the case, he always more readily recovered strength than from diphtheria as ordinarily treated. Since I came in contact with diphtheria, nearly twenty years ago, I have occasionally seen cases of the true non-contagious croup, but many cases of diphtheria, and several of them with the croupy complication. I have not seen any cases of croup which were of true diphtheritic origin where there was any difficulty in making out their true nature, though I imagine such isolated cases may occur. But that true croup and true diphtheria are essentially the same disease it is impossible for me, with what I have seen, to believe. It has not happened to me to see a case which began as a croup which afterwards took on the characters of a diphtheria. All the cases with both croupy and diphtheritic symptoms have had the croupy symptoms succeed the diphtheritic, though in some of them these croupy symptoms were close behind the others. With only one exception, all the cases of croupy complications in diphtheria I have seen have happened in patients who, during the early periods of the disease, were attended by other physicians. Not a single case of croup in diphtheria has occurred in my practice where I have had an early opportunity to treat the case. By early directing my efforts to destroying of the poison, through constitutional means, I have hitherto succeeded in not only arresting the spread of the membranous exudation to the larynx or trachea, but in preventing the usual sequelæ of the disease.

During the last four years and a half I have found abundant cause to stand by the statements I made in this journal, June 8, 1876.—to *rely very fully on the free exhibition of the hypossulphite of soda in the early stage of diphtheria*. Indeed, I am now administering it oftener and in larger doses the first few hours, bringing in the stimulants and tonics afterwards. I am fully convinced of the power of the hypossulphite of soda over the poison of diphtheria, and also over the poison of scarlet fever. It will fail if not early and freely administered. If early and freely administered, these diseases are modified, and recovery is brought about earlier and surer than under any other treatment which I know. E. CHENERY, M. D.

BOSTON, December 4, 1880.

EXAMINATION OF THE EYES OF THE CHILDREN OF HYDE PARK.

MR. EDITOR.—I send you a copy of the report of the examinations of the eyes of the school-children of Hyde Park.

Hyde Park is, I think, the first town in Massachusetts, and perhaps the first in the United States, to put the eyes of its school-children under the permanent supervision of a specialist.

If you should agree with me in thinking this matter worthy of notice in your columns, I beg you to state that the method which will probably be adopted for future examinations is that which was originally proposed by Dr. Derby, of this city, in an article which appeared some months ago in the JOURNAL, namely, that of having a periodical examination by the teachers, who can easily be taught to select those whose vision is beginning to fail, and to refer them to some one capable of giving the requisite advice, before any serious damage has been done. Yours very respectfully, WM. T. DENNETT.

BOSTON, December 7, 1880.

OBITUARY.

THE news of the death of Dr. John Ellis Blake, in New York, on September 27th last, was received by as strong a feeling of regret by his colleagues and friends in this city as by those among whom he had passed the last two years of his life. He was born in Brattleboro', Vt., October 20, 1831, graduated at Harvard College in 1852, and three years later took his degree in the medical department of that university. A student of the late Dr. J. Mason Warren, he developed early in his career a strong taste for surgery. On the completion of his studies in this country he visited Europe, and spent two years in further study in Paris, which was at that time still the popular resort of American medical students. Being of a delicate constitution, he visited Algiers before returning to this country. Remaining in Boston until 1859, he eventually made Middletown, Conn., his home, and practiced there from 1859 to 1867. His career there was a most successful one, his services as a surgeon being particularly in demand, and he was often called in consultation from great distances. But his health was not equal to the severe ordeal to which it was subjected, and he was obliged to abandon this field of his labors and seek a rest in Europe. With restored strength he returned at the end of a year and a half to New York, where he was in active practice until the time of his death. He had long been a sufferer from chronic bronchitis and asthma, and at one time it was thought that symptoms of tubercle had developed. His final illness was a very brief one, and originated in a cold caught while on a visit to Newport early in September. On returning to New York on the 25th of this month he felt much improved in health, and his physicians, Dr. Hodges and Professor Thomas, could find nothing new in his condition to give rise to any uneasiness; but he was discovered dead in his room on the afternoon of the 27th. At the autopsy the heart was found slightly hypertrophied, with dilatation of the right side and slight fatty degeneration of the muscular fibre. The other organs were practically normal in condition. Death had apparently occurred from syncope following some sudden exertion on his part.

On account of his delicate health and frame, Dr. Blake had not been able to accomplish all that he undoubtedly would had he been the possessor of a robust constitution. His record is, however, that of a most excellent practitioner, and his professional skill was abundantly proved. On one notable occasion his

fertility of resource and his promptness to act were displayed under the most trying circumstances in a case of poisoning by aconite, rescuing his patient from imminent death.

The genial manners and polished culture of Dr. Blake, and a stock of general information which was wonderful in extent, combined to form a type of man, examples of which our profession should be proud to claim among its members. He was a Fellow of the New York Academy of Medicine, and a member of the New York Obstetrical and Pathological and County Medical Societies; also of the Middlesex County (Connecticut) and the Connecticut State Medical Societies. He was a frequent contributor to this journal and the New York journals. Recently he became much interested in the use of nitrous oxide gas as a remedy in certain cases of melancholia, insomnia, and other nervous disorders. He was married to a daughter of the late Samuel C. Gray, of this city, who, with three children, survives him. The following resolutions were passed by the New York Obstetrical Society:—

At a meeting of the New York Obstetrical Society, held October 19, 1880, the committee appointed to draught resolutions to the memory of the late Dr. John Ellis Blake offered through their chairman, Dr. Cleveland, the following:—

The Obstetrical Society hears with profound sorrow of the death of its esteemed Fellow, Dr. John Ellis Blake. For many years a valued member and co-laborer in the work of this society, he brought to its deliberations the rich experience of a careful observer and conscientious student. In Dr. Blake were conspicuous the sterling qualities of mind and heart which together make up the high-toned professional gentleman. Extremely sensitive and retiring in his disposition, he was none the less positive in his convictions, supporting them always by clear and concise reasoning. He was a man of broad and ripe scholarship, and in the literature of medicine there are many valuable contributions from his pen. There seemed nothing harsh in his nature. His criticisms of other men were always kindly. He saw the good side only. His devotion to his friends was steadfast and even enthusiastic. It was impossible for him to do a mean act. He has died with the esteem and respect of every one in the profession who was privileged to know him, and has left behind a memory that they will sincerely cherish.

(Signed) CLEMENT CLEVELAND, M. D.,
JAMES B. HUNTER, M. D.,
BENJAMIN F. DAWSON, M. D., Committee.

Copied from the minutes,
(Signed) FRANK P. FOSTER, M. D., Secretary.

REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 4, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.
New York.....	1,209,561	691	312	27.21	17.51	14.47	5.50	.87
Philadelphia.....	846,980	404	123	23.51	7.43	5.20	1.73	7.43
Brooklyn.....	566,689	251	93	32.27	17.93	23.90	5.18	—
Chicago.....	503,298	156	62	26.92	18.59	21.80	.64	1.92
St. Louis.....	—	—	—	—	—	—	—	—
Baltimore.....	393,796	158	52	22.15	8.23	8.23	5.06	2.53
Boston.....	363,938	204	67	28.92	27.45	18.63	1.47	1.96
Cincinnati.....	280,000	111	29	16.22	22.52	6.31	4.50	3.64
New Orleans.....	210,000	98	23	15.31	10.30	1.02	2.04	2.04
District of Columbia.....	180,000	67	21	25.37	17.90	13.43	—	5.97
Cleveland.....	160,000	48	13	20.83	25.00	6.25	12.50	—
Pittsburgh.....	156,649	52	16	17.31	7.69	11.54	1.91	1.91
Buffalo.....	155,159	52	—	26.87	7.46	5.97	13.43	1.49
Milwaukee.....	127,000	67	—	22.58	16.13	12.90	3.23	3.23
Providence.....	104,862	31	15	22.58	16.13	12.90	3.23	3.23
New Haven.....	63,000	30	9	30.00	6.67	26.67	—	—
Charleston.....	57,000	20	9	5.00	10.00	—	—	5.00
Nashville.....	43,543	16	5	18.75	6.25	6.25	—	6.25
Lowell.....	59,340	17	6	29.41	5.88	11.76	5.88	—
Worcester.....	58,040	21	12	9.52	4.76	—	4.76	—
Cambridge.....	52,860	26	10	15.38	30.77	—	—	3.85
Fall River.....	48,626	—	—	—	—	—	—	—
Lawrence.....	39,068	18	5	11.11	16.67	5.56	—	—
Lynn.....	38,376	8	6	12.50	12.50	—	—	—
Springfield.....	33,536	18	4	5.56	11.11	—	5.56	—
Salem.....	27,347	14	5	7.14	28.57	—	7.14	—
New Bedford.....	27,268	16	6	12.50	6.25	—	—	—
Somerville.....	24,964	10	6	20.00	10.00	20.00	—	—
Holyoke.....	21,961	16	3	40.00	—	30.00	—	10.00
Chelsea.....	21,780	9	—	—	44.44	—	—	—
Taunton.....	21,145	9	—	—	50.00	10.00	—	—
Gloucester.....	19,288	10	5	10.00	—	12.50	—	—
Haverhill.....	18,478	8	1	12.50	—	—	—	—
Newton.....	16,994	9	—	33.33	22.22	33.33	—	—
Newburyport.....	13,470	6	0	—	—	—	—	—
Fitchburg.....	12,270	3	—	33.33	—	33.33	—	—
Eighteen Massachusetts towns.....	155,203	57	21	28.07	15.79	26.32	1.76	—

Deaths reported 2664 (no report from St. Louis); 939 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 653, lung diseases 412, consump-

tion 387, diphtheria and croup 339, scarlet fever 99, typhoid fever 64, diarrheal diseases 43, malarial fevers 35, small-pox 32, whooping-cough 17, measles 12, cerebro-spinal meningitis six, erysipelas six. From diarrheal diseases, New York 18, Boston

eight, Baltimore and New Orleans three, Brooklyn, Cincinnati, and District of Columbia two, Lowell, Cambridge, Lawrence, Lynn, and New Bedford one. From *malarial fevers*, New York 12, Brooklyn and New Orleans six, Chicago three, Baltimore, District of Columbia, and Milwaukee two, Buffalo and New Haven one. From *small-pox*, Philadelphia 32. From *whooping-cough*, New York five, Philadelphia four, Baltimore three, Chicago, Providence, Nashville, Lowell, and Worcester one. From *measles*, Boston six, New York three, Cambridge two, Milwaukee one. From *cerebro-spinal meningitis*, New York three, Baltimore, New Orleans, and Milwaukee one. From *erysipelas*, New York three, Philadelphia, Baltimore, and Pittsburgh one.

One hundred and forty-four cases of diphtheria, 75 of scarlet fever, six of measles, five of typhoid fever, and three of small-pox were reported in Brooklyn; small-pox one in Chicago; scarlet fever 58, diphtheria 13, in Milwaukee; diphtheria eight, scarlet fever seven, typhoid fever three, measles two, croup one, in Providence; scarlet fever seven, diphtheria four, in Cambridge; diphtheria 13, scarlet fever eight, in New Bedford; diphtheria five, typhoid fever two, scarlet fever one, in Somerville.

In 35 cities and towns of Massachusetts, with a population of 1,003,365 (population of the State 1,783,086), the total death-rate

for the week was 24.18, against 19.42 and 18.70 for the previous two weeks.

For the week ending November 13th, in 150 German cities and towns, with an estimated population of 7,791,082, the death-rate was 23.3. Deaths reported 3484; 1612 under five; pulmonary consumption 475, acute diseases of the respiratory organs 306, diphtheria and croup 167, scarlet fever 134, typhoid fever 62, whooping-cough 48, measles and röteln 39, puerperal fever 23, typhus fever (Posen) two, small-pox (Königsberg) one. The death-rates ranged from 12.9 in Bremen to 30.8 in Darmstadt; Königsberg 31.6; Breslau 21.7; Munich 23.3; Dresden 23.6; Berlin 25.6; Leipzig 21.4; Hamburg 22.7; Hanover 18.5; Cologne 25.7; Frankfurt 13.2; Strasburg 27.7.

For the week ending November 20th, in the 20 English cities, the death-rate was 21.2. Deaths reported 3044; acute diseases of the respiratory organs 332, scarlet fever 138, measles 58, fever 55, whooping-cough 44, diarrhoea 43, diphtheria 19, small-pox (London) 10. The death-rates ranged from 16 in Birmingham and Hull to 25 in Liverpool; Sheffield and Leeds 19; London 21; Manchester 22; Bristol 24. In Edinburgh 22; Glasgow 19; Dublin 33.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.		
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
1880.																			
Nov. 28	30.161	29	33	19	71	69	89	76	W	N	NW	2	3	8	F	O	R	8.15	—
" 29	29.930	35	43	29	89	66	70	75	SW	W	SW	5	12	12	O	F	C	2.10	.06
" 30	30.301	29	38	23	73	45	66	61	N	NW	W	10	8	2	C	F	C	—	.00
Dec. 1	29.871	26	34	21	100	100	100	100	E	E	NW	8	24	14	S	F	S	20.00	.86
" 2	29.879	23	30	19	87	54	56	66	W	NW	W	4	23	14	O	C	F	5.50	.05
" 3	30.058	25	32	18	71	38	61	57	W	W	W	19	17	16	C	F	C	—	—
" 4	30.112	29	36	19	73	43	67	61	W	W	W	16	10	2	O	C	C	—	—
Week.	30.045	28	43	18					W	W	W							36.15	.97

¹ O, cloudy; C, clear; F, fair; G, fog; H, hazy; R, rain; S, snow; T, threatening.

² Melted snow.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM DECEMBER 4, 1880, TO DECEMBER 10, 1880.

BROWN, J. M., captain and assistant surgeon. Granted leave of absence for one month, with permission to apply for three months' extension. S. O., 264, Department of the Missouri, December 2, 1880.

O'REILLY, R. M., captain and assistant surgeon. The extension of his leave of absence on account of sickness granted him August 16, 1880, still further extended six months on surgeon's certificate of disability. S. O. 259, A. G. O., December 7, 1880.

APPOINTMENT.—Dr. F. H. Davenport has been appointed assistant surgeon at the Free Hospital for Women.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.—A regular meeting will be held on Monday next, December 20th, at eight o'clock, in the hall, 19 Boylston Place. Reader, Dr. Fitz. Subject, Diabetic Coma: Its Relation to Actonemia and Fat Embolism.

A. T. CADOT, Secretary.

BOOKS AND PAMPHLETS RECEIVED.—*Projet d'Organisation du Service de Santé de la Compagnie du Canal Interocéanique du Panama*. Lettre à M. le Comte Ferdinand de Lesseps. Par le Dr. Louis Campanyo. Paris: Librairie J. B. Baillière et Fils. 1880.

The Treatment of the Genito-Urinary Organs, the Use of Electricity, Daniiana, etc. By John J. Caldwell, M. D. (Reprint.)

Higher Education of Medical Men, and its Influence on the Profession and the Public. By F. D. Lente, M. D., President of the Academy. New York: Charles L. Birmingham & Co. 1880.

Diseased Meat and its Consequences upon our Health and Happiness. By Noah Cressy, M. D., V. S.

Report of the Proceedings of the Boston Society of Medical Sciences. From September, 1875, to May, 1876. From September to November, 1877.

Diet for the Sick. Notes, Medical and Culinary. By J. W. Holland, M. D. Morton's Pocket Series No. 1. Louisville: John P. Morton & Co. 1880.

The Symptoms of Sexual Exhaustion (Sexual Neurasthenia). By M. D. Beard, M. D.

"Gastrotomy or Gastrostomy." By L. L. Staton, M. D. (Reprint.)

Electricity in Medicine and Surgery, with Cases. By John J. Caldwell, M. D.

Food for the Invalid, the Convalescent, the Dyspeptic, and the Gouty. By J. Milner Fothergill, M. D., and Horatio C. Wood, M. D. New York: Macmillan & Co. 1880.

Transactions of the New Hampshire Medical Society for 1880.

Report of Examination of the Eyes of the Pupils in the Schools of Hyde Park. By Dr. William S. Bennett, of Boston. Published by authority of the School Committee. Hyde Park: Press of Norfolk County Gazette. 1880.

The Pathology and Treatment of Euphis. By N. Suen, M. D. Philadelphia: J. B. Lippincott & Co. 1880.

Photographic Illustrations of Cutaneous Syphilis. By George Henry Fox, M. D. Forty-Eight Plates from Life, colored by Hand. Parts I., II., and III. New York: E. B. Treat.

Report of the Commissioner of Education for the Year 1878. Washington: Government Printing Office. 1880.

Original Articles.

THE ASYLUMS OF EUROPE.¹

BY GEORGE M. BEARD, A. M., M. D., NEW YORK.

WHILE visiting Europe during the past summer I had occasion to study the asylums and the asylum systems of Great Britain, France, and Germany.

My method of investigation was to visit certain representative institutions, especially those that are supposed to be most advanced in their ideas of the treatment of the insane, but not to confine myself to those exclusively; and to converse with physicians and superintendents who had made themselves acquainted with the methods of managing asylums in their respective countries.

In studying these institutions I did not usually avail myself of any letters of introduction, nor did I give any preliminary announcement of my coming, nor was the special object of my visit always stated until the visit was completed.

Officers of introduction from men of the highest influence in this department met me, but I had no occasion to accept them. I wished to see the asylums as they were in their actual and average daily life; in undress rather than in dress parade.

In some cases I saw the chiefs of the institutions, in others assistants or subordinates, in others still only the chief attendants.

In England and Scotland all classes of the insane are under governmental supervision, and they are visited regularly by the officials, without any warning, whether confined in public or in private asylums. I inspected, therefore, the places that represented all these different modes of caring for the insane, — public institutions, those partly public and partly private, and those entirely private. I also spent two days at the home of Wickham Barnes, Esq., who resides near London, and who for many years has had in his house an insane patient who is regularly called upon by the commissioners in lunacy. Places like Ghel and Hanwell, and the West Riding asylums have been so often described that it did not seem necessary to go to them.

Among the institutions I visited were Saughton Hall Asylum, near Edinburgh, under the charge of J. Batty Tuke, M. D.; the Royal Edinburgh Asylum, under charge of T. S. Clouston, M. D.; Faulborn Asylum, near Cambridge, under charge of Dr. G. M. Bacon; St. Ann's Asylum, Paris; Asylum for the Insane at Munich, under charge of Dr. Gudden; the asylums at Vienna and Prague; and, lastly, the institution that is now exciting so much attention in Germany, at Alt Scherbitz, near Leipzig. I visited ten places where the insane are cared for.

Everywhere I was treated with all the kindness and courtesy that I could ask; not only was I shown through the institutions thoroughly, but my cross-examinations in order to get at the modes of treatment, methods of restraint, and general management of the institutions, were always pleasantly responded to on the part of those with whom I was brought into relation.

Assistance of the most valuable character I derived from conversations with Dr. Crichton Browne, formerly of West Riding Asylum, and now one of the Chancellor's Visitors in Lunacy, and who is therefore situated

so as to know as well as any one possibly can the present condition and the prospects of the asylum systems of England. By his suggestion I obtained a copy of the lunacy laws prepared by Danby P. Fry, Esq., and containing all the statutes relating to Private Lunatics, Pauper Lunatics, Criminal Lunatics, Commissions of Lunacy, Public and Private Asylums, and the Commissioners of Lunacy.

From this volume and my conversations with Dr. Browne, I obtained points which were more or less new to me, and which have aided me in reaching the conclusions I am here presenting. These conclusions, stated as briefly as possible, are as follows: —

First. *In the methods of supervision and in the general care of insane in public and private asylums Great Britain has been easily first of all nations.* Next to Great Britain comes Germany, which, however, is so fast improving that she soon may be on an equality with Great Britain; of the three British Isles, Scotland on the whole takes the lead of England and Ireland; and it may be positively affirmed that on the average the insane in Scotch asylums are better treated than in any other country. Next to Germany comes France in order of merit.

This relative order of excellence is derived, I may say, not only from my own personal observation, but from extensive inquiries from men best fitted of all to know the true facts on this subject in their respective countries. (For some of these facts I am under especial obligations to Dr. Westphal, of Berlin, who takes much interest in the subject of the treatment of the insane, and by whose suggestions and invitation I visited the institution at Alt Scherbitz. Professor Ball, of Paris, also gave me information of value in reference to the French system and institutions. Dr. Arnold Pick, of Prague, a student of Westphal, interested himself very much in my inquiries. Conversations of this kind with different individuals in different countries, in asylums and out of asylums, I found of quite as much assistance as visiting institutions; I depended, however, neither upon the one method of gaining information nor upon the other, but as well as I could made use of both.

I may say also that in previous visits to Europe I had seen many of the best known alienists, and year before last had corresponded with them in reference to some of the special topics of which I am here to report.

Secondly. *Some method of governmental supervision of the insane appears to be universal, both in Great Britain and on the Continent.* Of the four great countries the United States appears to be alone in compelling the insane to depend exclusively upon their attendants and superintendents and local trustees. The method of central supervision in Great Britain is somewhat complex, but it secures its object, — the guardianship of the insane.

The English commissioners must not only regularly visit the institutions, public and private, but they must visit each insane person who is kept in care for pay in any private house, and these visits must be made without any warning, and they must see the patient when they come, and they must inquire into and report upon the details of his life and treatment. In the case of wealthy patients — so-called chancery lunatics — that is, those who have property, inquiries of the most minute character are made: the commissioners are to find out whether the patients have all the cigars they want, all the means of amusement and recreation they

¹ Read before the meeting of the National Association for the Protection of the Insane, at Fifth Avenue Hotel, New York, November 11, 1880.

need; whether anything within their means, however trifling, is left undone that would be for their comfort. For all classes of patients, poor and rich, in asylums the commissioners are guardians, and for everything that has a bearing on their welfare. They are consulted in regard to the plans and sanitary arrangements of buildings; they examine the records and registers of asylums, take care of letters addressed to them by patients, and, so far as possible, see to it that no persons are improperly admitted or retained.

The system of governmental supervision of Scotland differs somewhat from that in England, and would appear, on the side of simplicity, at least, to have some advantages over that of England, but in principle it is similar.

Ireland also has a system which in its details is different from that of Scotland or England; but all these countries have a belief in central supervision; neither superintendents of asylums nor any others who have to do with the insane would think of doing away with this system of central supervision any more than they would think of doing away with the asylums.

Thirdly, *In the best asylums of Europe mechanical restraint is reduced to a very small percentage, and instead of restraint labor is employed as a therapeutic agent.* These two facts, absence of restraint and presence of labor, impress one at once on visiting institutions like those, for example, near Edinburgh, or at Alt Scherbitz, near Leipzig. In England and Scotland I found no patient in restraint, and scarcely any excitement in the wards or grounds.

Padded rooms, and in some cases camisoles, are found in European asylums; but padded rooms are often, if not usually, empty, and the camisoles I did not see in use in any of the English asylums, and but very few in France or Germany.

In one of the German asylums the assistant who took me around pointed out one or two patients with their arms confined, and said, "This is not my idea; if I could have my way I would not use these."

The extent to which labor is employed seems incredible, and cross-examinations were constantly needed in order to convince me that not only washing, cooking, cleaning, and the immense farm work on the grounds, but also various trades, were carried on by the inmates, the patients of the asylums. Again and again I asked how they succeeded in making the lunatics work. The average reply was that, in general, there was no serious difficulty; that by proper management they could be trained to work and kept at work, and would do as much as, and, in some cases very much more than, persons in health.

Out of three hundred and forty-seven private and pauper male patients in the West House of the Royal Edinburgh Asylum, two hundred and fifty-four were profitably employed: one hundred and eighty-four in outdoor work, thirty-eight as tradesmen, and thirty-two as assisting attendants. The difficulty that Dr. Shaw, of the Flatbush Asylum, encountered, that is, the objection of friends of the patients to having their insane friends and relatives compelled to work, is not met with in Europe; so far as I could learn no such prejudice has to be overcome. Of five hundred and forty-one pauper patients in the Royal Edinburgh Asylum, of both sexes, only eighteen men and twenty-eight women were prevented by their mental and moral condition from being employed.

This utilization of labor is carried out in detail not

only in England, but in France and Germany; and, as it would seem to me, more thoroughly and successfully in England than in the other countries. At Alt Scherbitz there is a farm, on which the inmates work, and on that and in the shops and in the cooking and washing rooms are carried on almost all forms of labor, — as much as one would see in a good-sized village.

Whatever can be said, or has been said, or will be said to the contrary, the general principle of reducing restraint, or employing it merely in a very small percentage of cases, is not only universal in the best asylums of England, but is growing into favor everywhere in Europe. Among the most thoughtful, scholarly, and advanced men, especially the younger men, both in England and on the Continent, it is no longer a question, but an established principle beyond discussion, the only points raised being those which relate to the degree of restraint, and the best methods to be substituted for it. In these particulars there is not and need not be entire agreement, any more than there is or need be entire agreement among physicians in regard to any hygienic or therapeutic measure.

Among the best alienists of Europe, those who have done and are now doing the most to advance our ideas relating to insanity, theoretically and practically, in and out of asylums, the belief that restraint should be reduced to a minimum is as universal as the belief in the preventive power of vaccination. According to Westphal, non-restraint is the rule in the asylums of Hamburg, Göttingen, Charité (Berlin), Halle, Marburg, Heidelberg, Eberswalde, Keppenheim, Werneck, Munich, and Alt Scherbitz, and in all the asylums of Switzerland.¹

Fourthly, *In the best asylums of Europe the insane are treated much like children.* This principle has not, I believe, been formulated in so many words; but, nevertheless, it is acted upon rationally and instinctively.

All families allow their children liberty, but it is a watched and guarded liberty; we do not chain them, nor shut them up in closets, but suffer them to come and go as they please, and as we please, according to their age, all the time keeping a guardianship over them to see that they do not wander too far away and do not harm themselves or others. The insane are children, diseases of the brain practically depriving them of the advantages that come from education and maturity, taking away their manhood, and carrying them back to childhood; it is therefore wise to treat them like children. They are not, as a rule, to be chained, or cribbed, or bound, or camisoled, or locked in dark closets, or locked up at all, necessarily, but, like children, allowed to come and go as they please and as we please; all the time watched and guarded, lest they wander away or run away, or do injury to themselves or to society.

Now and then a child must be deprived of this average liberty; now and then a lunatic must be deprived for a time — a few hours or days, or longer, — of this average liberty; but for the great majority there should be, always, the freedom of childhood.

When I visited Saughton Hall institution I asked the gentleman who showed me through the buildings what kept the patients from escaping. "Why," said I, "should they not all be in Edinburgh in half an hour?" He replied that the patients were watched more carefully than was apparent, and that the number of escapes was comparatively small. The attendants watched

¹ Alienist and Neurologist, October, 1880.

them without appearing to do so; just as we look after our children without keeping them constantly under our eyes, when we know where they are, and would at once miss them if they should wander, even though they may not know or suspect that we are looking out for them.

The experiment of carrying on a lunatic asylum with unlocked doors, dispensing almost entirely with bolts and bars, is one of the most interesting and important of all the scientific advances that have been made in the treatment of the insane, and both alienists and psychologists would do well to study it. Dr. J. Batty Tuke, of the Saughton Hall institution, near Edinburgh, in his report for 1879, says that when he was medical superintendent of the Fife and Kinross District Lunatic Asylum he ordered all the doors of the asylum, inside and outside, to be left unlocked,—only three wards being excepted, in which thirty out of two hundred and sixty patients resided. As a result of this experiment, there were no accidents and few or no attempted escapes. There was greater tranquillity among the patients, and some who had before tried to run away no longer manifested any desire to do so. At first there was a greater anxiety on the part of the officers and attendants, and this anxiety caused them to be more watchful and careful, and, for a time, there was some increase in the number of escapes; but after a few weeks this anxiety on the part of the officers and the increase in the number of attendants ceased to be necessary, and the doors were not specially watched. This system was carried out in the same asylum by Dr. Tuke's successors, Drs. John Fraser and Joseph Brown.

Dr. Arthur Mitchell, commissioner of lunacy, of Scotland, in his report for 1879, says of this asylum that "it was entered and traversed almost from end to end without summoning a servant or requiring any door to be unlocked; only three wards—two female and one male—were locked." In two other Scottish asylums for the insane this plan has been adopted. In the Barony Asylum, at Lenzie, near Glasgow, under charge of Dr. James Rutherford, every door of the institution is unlocked, although it contains four hundred and fifty patients.

When Dr. Tuke took care of Saughton Hall institution, he carried out the same system of treatment, and in his report for 1879 he says that there have been no escapes and no attempts at escape; that patients who used to stand at the doors, on the watch for a chance to get out, no longer do so; that many whose intellects were but slightly disturbed, and who have recovered, have expressed their gratitude to him for the relief experienced by the change from locked to unlocked doors; that this system has had an educational influence on all the inmates, so that it is now possible to give greater liberty to all than before. Certain select cases are allowed to go on parole.

All this, surely, is a new, interesting, and almost incredible advance on the reforms of Pinel, Hill, and Connolly; it is a higher stage in the evolution of the management of the insane. Pinel broke the chains of the insane, took off the manacles. To-day, we go farther; unlock the doors.

I visited this Saughton Hall institution, and found it difficult to believe the gentleman who showed me over the place, when he said that it was an insane asylum. In external appearance, in internal arrangements, in the attendants, in the manner of the inmates, in the furniture and arrangement of the rooms, there was

nothing that suggested an asylum or a hospital; it was more like a gentleman's delightful country residence, with open windows and doors, and ample and attractive grounds, beautified in the English style with varieties of shrubbery and flowers. I said to myself, This is the poetry of insanity, one might be willing to become insane, if he could be treated here.

In this asylum, and in others of similar character in Great Britain, it is the custom to have the patients, during the summer season, reside in villas by the sea-side, where they remain for a month or two, during July and August, and with most satisfactory results. The sea-side home of Saughton Hall institution is seventeen miles from Edinburgh. Thus it will be seen that the insane in England, who have the means to do so, live like gentlemen and ladies, with their summer and their winter residences, with proper liberty, and supplied not only with the necessities, but also with the luxuries of life.

Fifthly. *The best asylums of Europe are not enormous or imposing buildings, but a series or collection of small or moderate-sized unimposing cottages or houses.* In Europe, as in America, alienists began by placing the insane in gigantic palaces, and there, as here, they are finding out that with the increase of insanity, which could not have been anticipated either here or there, there must also be a change in the method of the construction and arrangement of asylums, although many large buildings remain.

The institution at Alt Scherbitz has six or eight cottages, a small distance from each other, each cottage being about the size of a moderate country home,—all plain brick buildings, pleasing in appearance outside, and comfortable in reality inside. The Royal Edinburgh Asylum is composed of five houses, separated by a considerable distance; between the so-called "East House" and "Craig House" there is a space of almost a mile. It is believed and asserted that this splitting up of large buildings into a number of small ones, and this scattering the insane over a wider area than has been the custom formerly, is an immense practical advantage for all classes of lunatics. It allows them variety of employment; it allows seclusion for those who wish to be secluded; it gives change of scene and environment, so needful for sane and insane.

Sixthly. *The methods of treating the insane in and out of asylums that have been most satisfactory in Europe can be and will be introduced in this country, in spite of and in the face of certain practical difficulties.*

The chief of these difficulties is the nature of our political system, the motto of all political parties being, as you know, The spoils belong to the spoiler. Whatever can be obtained from the State is so much gain to the individual. Officers are the wages that we pay those who obtain offices for us.

Lunacy reform is, therefore, on one side, a branch of civil-service reform, and must rise and fall with it.

One of the Chancellor's Visitors in Lunacy told me that he had a salary of seventy-five hundred dollars, that his position was a life one, that he could be removed only by the joint action of both houses of Parliament and the consent of Her Majesty. But as we have, on the whole, good men appointed on our health boards, with exceptions now and then, it is fair and right and rational to hope that we shall have, on the whole, good men appointed on the central supervising commissions when we get the legislation.

This practical difficulty, therefore, grave as it may

be, though it should not be forgotten, and must always be considered, is yet not to be anxiously or discouragingly feared. The first need of lunacy reform in this country is the creation of a mixed board of government commissioners in each State.

Yet another practical difficulty, not always referred to in these discussions, is that of getting as good officers and attendants at small salaries as can be obtained in Europe for the same salaries. In all departments of activity in Europe we find men of much ability, native or acquired, filling humble or badly rewarded stations, who, in this land, might be making themselves wealthy and illustrious. This fact, the result of limited geographical area and excess of competition, is an advantage to those who seek for attendants or companions for the insane, or for superintendents of asylums. A moderate amount of money will purchase a far higher order of talent and insure greater devotion, there than here. In the Saughton Hall institution they adopt the plan of having educated, cultured ladies, in reduced circumstances, as companions for the wealthy insane. The duty of these companions is to accompany the patients in their drives and walks, be with them constantly in the drawing-rooms, to supervise, in a degree, the nurses, and, in some instances to sleep with those under their charge; and from this plan results of the most satisfactory character have been gained. In this country it would be far more difficult to find cultivated ladies who would be willing to take such positions.

In the treatment of the insane outside of asylums, by general practitioners and students of the nervous system, there has probably been as much advance in this country as abroad; and especially in the treatment of various morbid states of the nervous system that often lead to insanity there has been nowhere such satisfactory progress as here. This is the philosophical method of combating insanity: treating the insane before they are insane; arresting candidates for lunacy before they have stepped on the threshold of the asylum.

In regard to private asylums, concerning which Dr. Bucknill has lately written with so much vigor, these two facts must be admitted: that the system is liable to abuse or to suspicion of abuse, even under the central supervisory commissions, but that they would appear to be in a degree almost, if not quite, a necessity, with which we cannot entirely dispense.

In this respect, as in all respects, we are to study Europe, not to imitate it; what is good we are to keep, what is evil we are to reject; the chances for improvement by invention and discovery we are to resolutely occupy. To aid all these processes of scientific advance in the study of insanity, and in the management of the insane, this society has been organized, and will be maintained.

RECENT AMERICAN ANATOMY ACTS.

BY EDWARD MUSSEY HARTWELL, M. A.,
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THE Massachusetts anatomy act of 1831 was productive of results in two directions: it lightened the burdens of the teachers of anatomy in that State, and it led to the enactment of similar laws in other States. Connecticut passed a liberal act, modeled on that of Massachusetts, June 5, 1833, but repealed the same

June 5, 1834. New Hampshire legalized anatomy in 1834, but rescinded its action in 1842. Michigan passed "an act to facilitate the study of anatomy" March 9, 1844, but repealed it April 7, 1851. New York is entitled to the place of honor next to Massachusetts on the list of States which have consistently endeavored to promote anatomical science. The New York law of April 1, 1854, has never been repealed; on the contrary, it has been improved, notably by the amendatory act of June 3, 1879.

Referring to the Massachusetts law of 1831, as amended in 1845, Dr. John C. Warren says: "The superintendent of the House of Industry opposed great difficulties to the execution of this law; but he dying in 1847 an ample supply was obtained for the medical school afterwards, particularly in consequence of the influx of Irish paupers and the great mortality among them." Concerning the working of the same law Dr. George Hayward, writing in 1855, says: "The supply has not been, perhaps, as great as could be wished, but with the increase of population and pauperism this objection will pass away." We doubt if in the judgment of the anatomists of the Harvard Medical School "this objection" has "passed away." We incline to the belief that "with the increase of population and pauperism" there has been at least an equal increase of demagogues, and that no class of men in Massachusetts have a more realizing sense than have its anatomists of the relation existing between eternal vigilance and the price of liberty.

The city government of Boston, November 3, 1869, ordered "that permits be issued by the city clerk, until otherwise ordered, to the surgeons of the Harvard Medical School to take the dead bodies of such persons dying at Deer Island, or the House of Correction, the County Jail, or City Hospital, as may be required to be buried at the public expense." The statutory restrictions concerning the delivery of unclaimed bodies are embodied in the remainder of the ordinance. The anatomists of Baltimore, Washington, and New Orleans might fairly consider this Boston ordinance a liberal one, for they are still obliged to dissect without a legal warrant, or not at all. On the other hand, in Germany or France, where for years the dissecting-rooms have been furnished with the unclaimed dead by the police, this ordinance would unquestionably be considered imperfect and illiberal.

It is unfortunate that American anatomists are forced to dance attendance upon public functionaries for "permits," as they are thereby put in the false position of seeking as a personal favor what ought to be furnished them for the furtherance of the public welfare. Possibly the time is not yet ripe for the Massachusetts anatomists to demand that the unclaimed dead of Springfield, Fall River, Worcester, Lowell, in short, the entire State, as well as of Boston, should be delivered to them at their dissecting-rooms; but such a consummation is none the less devoutly to be wished for. Massachusetts led off in legalizing the dissection of bodies required to be buried at the public expense. Would that she might inaugurate an administrative reform which should prevent the present wasteful decomposition of valuable material at the bottom of graves, and preclude the necessity which requires one who is bent on thoroughly learning practical anatomy in all its branches to seek the anatomical institutes of Europe!

The most elaborate, the most liberal, and also the

most stringent of the American anatomy acts have been passed within the last five years. Those of Michigan, Indiana, Ohio, New York, and Iowa are especially noteworthy.

The Michigan act of 1844, which, as we have noticed, was repealed in 1851, required the officers of the state prison to surrender the bodies of all unfriended convicts dying in their prison to any agent of the medical society of the State who should present an order for the same signed by the president of the society. Similarly, the unclaimed bodies of convicts dying in a county jail, under sentence of six months' imprisonment or more, were deliverable to the agents of the medical society of the county in which the jail was situated. In 1867 a new act was passed, which has since been twice amended, — once in 1871, and again in 1875, April 27th.

As this act contains certain provisions not found in any other which has come to our notice, we give it entire. It is found at page 164 of the Laws of Michigan of 1875.

The People of the State of Michigan enact, That any member of either of the following boards of officers, to wit, the board of health of any city, village, or township in the State, the mayor or common council of any city, and any officer or board having direction, management, charge or control in whole or in part of any prison, house of correction, or jail in the State, shall deliver the bodies of such persons as may be required to be buried at the public expense, when so requested by letter or otherwise, to any member of the medical faculty of the University of Michigan or Detroit Medical College, when there shall be deposited with such board or officer sufficient money to defray the expense and trouble of packing and preparing the same for shipment, which shall not exceed the sum of fifteen dollars for such subject. They shall deliver within forty-eight hours after the death of such person, to the express company or freight company at the nearest railroad station, properly placed in a plain coffin as for burial, and inclosed in a strong box plainly directed to the person and place as directed by the consignee making such deposit, to be shipped to such consignee, to be by him used for the advancement of anatomical science, preference being always given to the faculty of the medical department of the University of Michigan for their use in the instruction of medical students, and after they have made their orders and deposit of money as aforesaid; and such board or officers shall take the usual shipping receipt for such packages, and shall notify the consignee of such shipment by letter mailed on the day the packages are delivered to the express company or freight company at the railroad depot. In no case shall the faculty or the regents be entitled to require or receive from any medical student or students for any such body furnished therein any sum of money in excess of the actual cost of procuring the same. Any of the said officers who shall neglect to comply with any such request, after being tendered or receiving the money so required to be deposited, shall be subject to a penalty of one hundred dollars (\$100) for each body that he neglects to ship as aforesaid, one half of which shall go to the party making the demand and deposit as aforesaid.

Provided, That the university and each and every medical institution shall not receive into their possession such bodies as are procured in this State other than those provided for by the provisions of this act,

and every individual or party violating this provision shall be deemed guilty of a misdemeanor.

SECT. 2. No such dead body shall be shipped as aforesaid, if within twenty-four hours after death, or before such body shall be shipped, any relatives or friends of the deceased who will bury the body at his own expense, or shall require to have the body buried; or if such deceased person was a stranger or traveler, the dead body shall in all such cases be buried.

SECT. 3. No such dead body shall be sold or delivered to any person to be taken out of the State, nor shall any such body be shipped away to any person or place out of the State, or be used within the State for any purpose, except for the prosecution of anatomical science. Any person violating any of the provisions of this act shall be punished by a fine of not less than fifty nor more than one hundred dollars, or by imprisonment in the county jail not less than one nor more than three months, or by both such fine and imprisonment, at the discretion of the court.

SECT. 4. Any practicing physician or surgeon of this State, or any medical student under the authority of such physician or surgeon, may have in his possession human dead bodies, or the parts thereof, lawfully obtained, for the purposes of anatomical inquiry or dissection.

Indiana had not legalized dissection when, in the spring of 1878, the body of the Hon. J. Scott Harrison, a son of the late William Henry Harrison, president of the United States, having been stolen from its grave near to the Ohio line, was found by the son of the deceased, the day after his burial, in a Cincinnati dissecting-room, whither he had gone in search of another body. The only penalty for grave robbery under the Indiana statutes was a fine not exceeding one thousand dollars, provided by the act of June 14, 1852. This case of resurrecting led to the improvement in 1879 of the laws of both Indiana and Ohio. Possibly the stringent amendment to the Iowa law, passed March 26, 1880, might be traced to the outrage of the Harrison tomb.

Chapter LXV. of the laws of the fifty-first session of the General Assembly of Indiana is "an act in relation to the use of human bodies for the purpose of dissection; to require a record thereof to be kept, and to punish the unlawful possession or dissection of such bodies and the violation of graves."

SECT. 7. *Be it enacted, etc., That every medical school, or college, or incorporated medical association in this State shall keep, in a suitable book to be provided for the purpose, a record of all human bodies, or any parts thereof, received by such school, or college, or incorporated medical association, or by any officer, professor, or student thereof, for the purpose of dissection; in which book shall be plainly entered, at the time of receiving such body, the name of the deceased person, if known, so received, and his or her residence, when in life; the true name and residence of the person from whom said body is received, and the price paid therefor; which book shall be produced and exhibited, upon the demand of any officer who may, under proper process of law, be making inquest in the buildings or rooms of such school, or college, or incorporated medical association, for any dead body alleged to be unlawfully concealed therein, and upon the lawful demand of any court or officer thereof.*

Section 2 makes it punishable by a fine of "not less than one hundred nor more than five hundred dollars,

to which may be added imprisonment in the county jail for any period not less than one month nor more than one year." If the person having the custody of the record required by section 1 fail or refuse to produce it, section 3 declares it a felony, punishable by imprisonment for not less than one nor more than five years, for any person to "receive, or have in possession, or dissect, or permit to be dissected, . . . any such body of which the record required by section 1 shall not have been made." Making a false entry in the record is made a felony by section 4, punishable by not less than one nor more than three years' imprisonment in the state prison.

Imprisonment in the state prison for not less than two nor more than five years is the penalty provided by section 5 for the felon "who shall dissect, or have in his possession for the purpose of dissection, any human body, or any part thereof, other than such as are or may be given by law for such uses." Section 6 makes those who "have the supervision of the dissecting-room and of the instruction given therein" responsible "for bodies received or found therein." Section 7 relates to illegal exhumation, which is made a felony, punishable by imprisonment in the state prison "for not less than three nor more than ten years." According to section 9, one who knowingly aids in concealing an unlawfully procured body is liable, as a felon, to imprisonment in the state prison for from one to three years. Section 10 declares that "any person who shall buy or receive, by gift or otherwise, any dead human body, or any part thereof, knowing the same to have been disinterred . . . in violation of this act, shall be deemed an accessory to such offense, and, on conviction thereof, be punished in like manner as is prescribed in the preceding section."

The above act was approved by the late Governor Williams on March 12, 1879, on which day "a bill to promote the science of medicine and surgery by providing methods whereby human subjects for anatomical and scientific dissection and experiment may be lawfully obtained, and prescribing penalties for violation thereof," was also presented to him for approval. Not being "returned by him with objections within three days thereafter," the bill became an act without his signature. Both these acts are to be sought in the session laws of 1879, where they are found as Chapters LXV. and LXVI. respectively.

The most important sections of Chapter LXVI. are as follows:—

SECT. 1. *Be it enacted etc.,* That when the body of any person who shall die in any State, city, or county prison or jail, or county asylum or infirmary, or public hospital, within this State, shall remain unclaimed by any next of kin or relatives of such deceased person for twenty-four hours after death, and be liable to be buried at public expense, and there are no next of kin of such deceased person, or next of kin, if known, shall, upon notice, refuse to receive and bury the body of such deceased person, such body may be used as a subject for anatomical dissection and scientific examination, in aid of medical and surgical science, as hereinafter prescribed: *provided* that when any person shall express a wish to be buried the dead body of such person shall not be delivered for dissection, but shall be properly buried. . . .

SECT. 3. It shall be the duty of every superintendent, officer, or person having in charge any institution or association named in the first section of this act to

keep a book of record therein, wherein shall be entered, on the day of reception, the name, sex, and age of the person received as a prisoner or patient therein, his or her place of birth and of residence, the names of his or her parents, and their residence, if living, and the names and residence of the wife or husband, if any, and brothers and sisters, if any, of such person, and the date and cause of death of such person; if he or she die in such institution; and the body of any person dying, as aforesaid, whose record, thus made, shall afford proof or probable reason to believe that there are next of kin of such person living within the United States, shall not be delivered to any medical college or incorporated medical association, as aforesaid, except upon the neglect or refusal of such next of kin, after due notice, to receive and bury, or pay for the burial of, such body, but shall be decently interred, subject to all lawful rights or claims thereto of such next of kin.

SECT. 4. The dead body of any convict, executed under the laws of this State for any capital offense, may be, by the sheriff, delivered for dissection, or other scientific purposes in medicine or surgery, to the faculty or other proper authorities of any duly incorporated and organized medical college or association within this State in operation nearest to the place of such execution, upon the proper written request of such faculty or college authorities: *provided* that there be no next of kin, known to the sheriff, of such executed person claiming such body, in which case it shall be delivered to such claimant.

SECT. 5. In case of any vagrant found dead, or in case of any person killed while committing a felony, or if any prisoner is convicted of felony and justifiably killed in attempting to escape from prison or from officers of the law having him or her in lawful custody, upon the body of which person an inquest may lawfully be held, and shall be held by the coroner or other officer thereto lawfully authorized, it shall be the duty of such inquest to inquire as to the existence and residence of any next of kin of such deceased person; and if it shall be the verdict of such inquest that the person so found dead or killed had no next of kin the coroner or other officer holding such inquest may, at his discretion, and with the approval of the sheriff of the county wherein such inquest is held, upon the request in writing of the faculty or other authorities of any duly incorporated and organized medical college or medical association within this State, in operation nearest to the place of such inquest, deliver such dead body to such college for the scientific purposes thereof, taking a proper descriptive receipt therefor, which shall be filed with the clerk of the county.

SECT. 6. It shall not be lawful for any officer or agent of any incorporated medical college, nor for any other person, directly or indirectly, to tender or pay to any public officer, or superintendent, or other person named in or intended in the preceding sections of this act, nor for any such officer, superintendent, or person, directly or indirectly, to ask, or take, or receive any money or other gift, or valuable consideration, or reward for the delivery of any dead body as aforesaid; and any person violating the provisions of this section shall be deemed guilty of a misdemeanor, and, on conviction, be fined in a sum not exceeding one thousand dollars, and be imprisoned in the county jail not exceeding six months.

SECT. 7. Any officer, superintendent, or person named or intended in the preceding sections of this act who shall deliver over, or any person who shall, knowingly, receive for dissection or scientific purposes, as aforesaid, any dead body, in violation of the provisions of this act, shall be deemed guilty of a felony, and, on conviction, be fined in a sum not exceeding five hundred dollars, and be imprisoned in the state prison not exceeding three years.

Ohio, as early as 1831, enacted penalties for grave robbery, but did not pass any "act to encourage the study of anatomy" till March 25, 1870, when an inadequate law with the above title was passed. House bill No. 216, Ohio legislature, 1878, embodied an attempt to repeal the act of 1870 in the following remarkable terms:—

"*Whereas*, by the laws of this State the bodies of criminals, executed for heinous offenses, unless said criminals are poor and friendless, are entitled to decent burial; and *Whereas*, poverty is no crime, and the poor, honest, friendless man, in life and in death, should before the law be the equal, at least, of the depraved criminal; and *Whereas*, by the laws of this State the bodies of deceased and unclaimed poor are authorized to be given over to certain colleges and schools for dissection; therefore, —

"SECT. 1. *Be it enacted*, etc., That an act entitled 'An act to encourage the study of anatomy,' passed March 25, 1870, be and the same is hereby repealed.

"SECT. 2. This act shall take effect and be in force from and after its passage."

The person who introduced this bill, meeting with unexpected opposition, finally withdrew it, saying that he had "only introduced it for fun." The Harrison horror satisfied the Ohio legislators that anatomy could not be regulated by jocose legislation; and an earnest attempt was made to protect alike the anatomists and the dead.

Section 3763, of the Revised Statutes of Ohio, passed June 20, 1879, reads as follows:—

"All superintendents of city hospitals, directors or superintendents of asylums for the insane, or other charitable institutions, founded and supported, in whole or in part, at public expense, the directors or wardens of the penitentiary, and the coroner in possession of bodies not claimed or identified, shall, before or after burial by such superintendents or directors, on the written application of the professor of anatomy in any medical college, or the president of any county medical society, deliver to such professor or president, for the purpose of medical or surgical study or dissection, the body of any person who has died in either of said institutions from any disease not infectious, if such body has not been requested for interment by a person at his expense; if the body of any deceased person so delivered be subsequently claimed, in writing, by any relative, or the legal representative of such deceased person, for private interment, it shall be given up to such claimant. After such bodies have been subjected to such surgical or medical examination or dissection, the remains thereof shall be interred in some suitable place, at the expense of such medical college or society. But in no case shall the body of any deceased person, specified in this section, be delivered as herein provided until after one or more of the relatives of such deceased person, if known, shall have been notified, in writing, by the officer having such body under his control, and in no case shall such body be delivered until after the expiration of twenty-four hours from death. The bodies

of strangers or travelers who die in any of the institutions herein named shall not be so delivered for the purposes of dissection; and all bodies delivered, as herein provided, shall be used for medical and surgical study and dissection only, and within this State, and the possession of the body of any deceased person for the above purpose, and not authorized under this section, shall be unlawful, and the detention of any body claimed by relatives or friends for interment shall also be unlawful."

Section 7934, of the Revised Statutes of Ohio, 1880, provides as a penalty for engaging or assisting in an unlawful exhumation, a fine of not more than one thousand dollars, or imprisonment not more than six months, or both.

Section 7935 reads: "Whoever, being lawfully possessed of any corpse for the purpose of medical study, uses the same for any other purpose, or removes the same beyond the limits of this State, or in any manner traffics therewith, shall be imprisoned not more than one year."

The New York act of June 3, 1879, may be found printed in full on page 362 of this journal. The act of 1879 extends the provisions of the act of 1854, which applied only to cities having more than thirty thousand inhabitants, to "counties containing such cities." No other change is enacted.

From 1851 till 1880 it was provided in the chapter of the code of Iowa which relates to offenses against chastity and decency that every offender who should illegally disinter, or assist in disintering or concealing any human body, should "be punished by imprisonment in the county jail not exceeding one year, or by fine not exceeding \$1000, or by both fine and imprisonment." By act of March 26, 1880, every such offender is now liable to imprisonment "in the penitentiary not more than two years, or by fine not exceeding \$2500, or by both fine and imprisonment." By the act of April 22, 1872, Iowa allowed, under the customary restrictions, any coroner or undertaker in any county or city in which the population exceeded one thousand inhabitants to deliver to any medical college or school, or any physician in the State, for the purpose of medical or surgical study, the body of any deceased person, except where such body had been interred or dressed for interment.

Section 4019½ of the Iowa statutes, passed March 26, 1880, contains, so far as the writer has been able to learn, the latest American legislation regarding cadavera. It is as follows:—

"Any physician receiving the body or remains of a deceased person for the purpose of medical or surgical study, and any professor or person in charge of a medical college or school at which such body or remains are received for such purpose, shall in a suitable book make or cause to be made a legible record of the time when, the name and description of the person from whom, and the place where such body or remains were received, and whether or not such body or remains were received, and whether or not such body or remains when so received was inclosed in any box, cask, or other receptacle, and if so inclosed shall record a description of such box, cask, or receptacle, sufficient to identify the same, together with the shipping marks or directions, if any, on same; and also a description of such body or remains, including the length, weight, and sex of same, the apparent age of the person at the time of death, color of the hair, or beard if any, and any and all marks or scars on

such body by which same might be identified, and whether or not such body when so received was mutilated so as to prevent identification of same. And such physician, professor, or person shall keep the said record, and on demand exhibit same, as also any and all such bodies or remains of deceased persons then in his charge, for the inspection of any sheriff or his deputy: *provided* such record shall not be required one year or more after such body was received. Any physician or professor or teacher in a medical college or school who uses or allows or permits others under his or her control or charge to use the body or remains of a deceased person for the purpose of medical or surgical study without the record as aforesaid having been first made, or on demand being made by the sheriff or his deputy as aforesaid, shall refuse and fail to exhibit any such record or body in his charge or under his control to such officer for his inspection shall be guilty of a misdemeanor, and upon conviction be punished by imprisonment in the county jail not exceeding one year, or by fine not exceeding \$1000, or by both such fine and imprisonment."

The business of graduating medical students who are required to show evidences of at least a cursory acquaintance with *cadavera dissecta* has assumed such proportions as an industry in States without anatomy acts that further legislation for the protection of anatomists is inevitable. As we write, Maryland, which has neither a law forbidding grave robbery nor one allowing dissection, is agitated over the very recent violation of graves in a fashionable Baltimore cemetery. A newspaper even goes so far as to suggest that the legislature "frame a law of sufficient penitentiary penalty to prevent 'body snatching.'"

RECENT PROGRESS IN OTOLOGY.

BY J. ORNE GREEN, M. D.

THE TREATMENT OF OTHEMATOMA.¹

THE common methods of treatment heretofore adopted for hæmatoma auris are:—

(1.) Expectative. (2.) Resolvent (external applications of different kinds). (3.) Surgical (evacuation of the blood by aspiration, acupuncture, incision with packing the cavity and applying a pressure bandage, seton).

The proposition of Gray to ligate the arteria auricularis posterior is not known to have been attempted.

As none of these methods afforded a certain means of cure, and as opinions varied in regard to which of them was the best, Meyer decided to try for othæmatoma the treatment which had been introduced in rational medicine by Metzger, and the result was so favorable that it is worthy of further trial. This treatment consists in systematic kneading of the effusion to assist absorption, and keeping a pressure bandage continuously applied. In three cases in which this was tried the result was very satisfactory: in two of them resorption took place within a few weeks, and a cure was effected without any deformity of the auricle; in the third case resorption had been nearly completed and the cure was progressing satisfactorily when the patient withdrew from observation. The three cases are given in full, and, aside from the method of treatment, are interesting contributions to the ætiology of the disease.

The first case was that of a man, aged thirty-four, strong, not plethoric, and perfectly healthy, as was shown by a thorough physical examination. His father, however, was insane (religious melancholia) at sixty-four years of age, and died a year later. One and a half months before the patient applied for treatment, without previous injury of any kind, a hard, insensitive nodule appeared on the left auricle, which increased in size gradually and became fluctuating, without any change in the skin and without pain, tension, or sensitiveness. This was incised and dark fluid blood evacuated. From this time the tumor filled rapidly, became sensitive, and was accompanied by headache. It was again incised three days later and the cavity stuffed with charpie, but the pain increased, extending to the temple, vertex, and nape of the neck. On examination by Meyer, after this, in addition to the hæmatoma occupying the usual position on the anterior surface of the auricle, the whole auricle was much inflamed, and this inflammation was first reduced by applications of lead water. Massage was then begun four times a day, and continued for a quarter of an hour each time, the skin being first anointed with glycerine-salve. Between times the auricle was kept firmly compressed between masses of charpie by means of a firm bandage over the head. Massage was stopped as soon as it produced pain, but, except upon the first day, was well borne for the whole fifteen minutes. One week after beginning treatment the hæmatoma had almost disappeared and the skin was freely movable upon the cartilage, but there was a slight thickening of the ear. Massage and the pressure bandage were continued for some weeks. When seen ten weeks after treatment the auricle was absolutely perfect except a very slight thickening.

The second case was in the same patient, but on the right (other) auricle, one and a half years later. The tumor began in the same way, and the diagnosis was confirmed by aspiration. The same treatment was used, but massage was employed only twice a day instead of four times. In three weeks the ear was well, and when the patient was seen four years afterwards both auricles were perfect.

The third case was that of a woman, aged thirty-four, and the tumor was the result of a blow. She herself appeared perfectly healthy, but her mother had been insane. The same treatment was used, and the tumor had almost disappeared when she withdrew from observation.

In all three cases external evidence of a degeneration of the cartilage, which has been considered by some as the histological foundation of the disease, was absent; the existence of any predisposing disease was wanting, and the only cause to be discovered was in the history of the patients, in both of whom the parents had been insane. In this connection Meyer calls attention to Hun's observation that the appearance of othæmatoma usually precedes a later mental disturbance, and Roosa's that, although persons suffering from vascular tumor of the ear may not always be insane, they generally have brain disease; he considers these points worthy of further investigation.

PERICHONDRITIS AURICULÆ.

Closely allied to othæmatoma, at least in the external appearances, in the deformity which results without treatment, and often with the best care, and also in the fact that there exists a degeneration of the ear-

¹ Archiv für Ohrenheilkunde, xvii. 2, Meyer.

tilage of the auricle, is perichondritis auriculæ, till recently described under othamatoma. But few cases have ever been reported, but the literature of the subject is now enriched by three cases reported by Knapp.¹

The first case, which was quite typical, was that of a young man, sixteen years of age, in good health. The first appearance of the disease was a slight, moderately painful swelling of the right meatus, which was seen a few days after its beginning. Examination showed the external portion of the meatus slightly red and uniformly swollen, so that its calibre was obliterated, and fluctuation was discovered at its anterior lower part. It was thought to be a furuncle of the meatus, and the fluctuating portion was opened, but nothing but watery pus evacuated. This somewhat reduced the swelling for a week. Then the concha became swollen, fluctuating, and slightly painful on pressure; an incision again evacuated only watery pus. It again swelled, and became dark red, and a third incision evacuated viscid fluid, with denser yellowish flakes. With a probe the perichondrium could be raised with the skin, and the cartilage was hard and uneven. A silver drainage tube was inserted, and a pressure bandage applied. The swelling spread over the whole anterior surface of the auricle, was in some places diffuse, in others nodular and fluctuating; wherever this latter characteristic was noticed incisions were made, and viscid pus, but no blood, was evacuated. From the sixth week the swelling began to subside, first in the meatus, then on the posterior surface, which had become swollen last, and had been free from suppuration, and finally over the anterior surface. The preauricular glands, which had been much swollen, gradually returned to their normal condition, but the antihelix, the fossæ antihelices and scaphoidea, and the greater part of the concha had disappeared, and were replaced by hardish nodules and ridges; the helix was considerably atrophied, and the misshapen auricle measured only two thirds of its natural size.

The second case appeared like the first, but treatment was refused, and nothing more was seen of it.

The third case began, like the first, with reddish diffuse swelling of the cartilaginous meatus, which gradually extended into the concha. A large and deep incision was made by Dr. Brandeis, with evacuation of watery pus; but, different from the first case, and from others which have been reported, the swelling gradually subsided and disappeared in a few weeks. No report is made of the appearances after cure.

Dr. Knapp calls attention particularly to one point in the differential diagnosis of this disease, namely, the integrity of the lobule, which in this disease is unaffected, while in all other kinds of diffuse inflammation of the meatus, auricle, or its surroundings, the lobule participates in the inflammation.

The duration and severity of the disease, so different from diffuse inflammation of the furuncle of the meatus, with which it is often confounded, and above all the very serious permanent deformity which results from it, make it an important subject for investigation.

—Sir Benjamin Collins Brodie, professor of chemistry in the University of Oxford, the eldest son of the late eminent surgeon, died at Torquay on November 24th, in the sixty-fourth year of his age.

¹ Archives of Otolary, vol. ix. No. 3.

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. ROTH, M. D., SECRETARY.

DECEMBER 13, 1880. DR. JAMES C. WHITE, permanent chairman, presided.

FREE DISPENSARIES.

DR. J. H. WHITTEMORE read a paper entitled *Are Free Dispensaries Abused?* and the following is a summary of his remarks:—

Should any change from the present course be deemed advisable, to my mind, the first and most important step to be taken is the earnest, hearty, and complete co-operation of all the dispensaries and hospitals in some one distinct plan of work.

When the associated charities were first started I hoped we could find aid in this work from them; but further thought and examination induces me to believe that, as now organized, such aid would entail so much red tape, that suffering would follow.

The provident dispensaries are quite satisfactory in England; but from my imperfect knowledge of them my impression is that the detail and machinery connected with their working would render them impracticable here at present.

My last suggestion, and the one in which I have at present the most faith, is that of a competent and experienced paid inspector at each of the large dispensaries. Such an officer should examine each and every person who applies for treatment, and should have power to exclude *all* except the deserving poor. He should personally examine each case, and after the hours of admission to the dispensary he should devote the remainder of the day to visiting and examining into the condition of those who have been treated, in order to ascertain if they are as represented,—poor and deserving people.

DR. H. W. WILLIAMS said that the abuse was a crying one, and that very great injustice was done to the younger men of the profession who would be willing to take the smaller fees.

The medical profession was not exorbitant, and had always been benevolent in its intercourse with the poor.

At the City Hospital no pay was demanded from the patients, but the abuse of this charity was apt to come from the people living outside of the city limits, who were unwilling to go to their family physician when they were able to obtain good advice at the hospital from the best men.

He said that the work done in his especial department was an enormous one, and was more than the medical officer in charge had time to attend to, and it seemed an abuse that out-patient physicians should be saddled with the additional burden of a class of patients who were always very exacting, and were rendered still more so when, as at the Massachusetts General Hospital, they paid twenty-five cents a visit.

He thought that Dr. Whittemore's suggestion was a good one, and that if it were adopted the hospital outdoor relief would still be sufficiently abundant for teaching.

DR. HASTINGS spoke as follows: Reference has been made to the Boston Dispensary and what has been done there to lessen the number of patients.

The increase in attendance at this institution from 1870 till 1877 was about one hundred per cent. The total number of new patients treated in 1877 was over 48,000. This caused a great amount of work for the physicians, and a large deficit in the treasury. It became necessary to do something; and finally the plan of investigation, to which Dr. Whittemore has alluded, was adopted. This experiment has been very successful: the records of the institution for the past year showing a falling off in attendance of fully one third. To still further aid in this work, and to add to the finances, the system of charging for medicines was adopted in the early part of the present year. This second and last experiment has resulted better than was anticipated. The apothecary has dispensed, under the new plan, in the last six months 16,000 recipes, of which 15,000 have been paid for at the nominal sum of ten cents each, and the remainder free. This covers the ground of what has been done at the Boston Dispensary. I feel that a great deal has been accomplished in the way of checking the abuse of this charity, and I very much doubt if the institution was ever less abused than it is to-day.

DR. ELLIS approved of Dr. Whittemore's suggestion and said that a case of gross abuse had been made so clear that it merely remained for us to see that it was rectified. The educational side of the question was an important one; but there was no reason why this should interfere with the reform. There might be too many patients for educational purposes, and education would be taken care of even when the number of cases was cut down.

DR. G. B. SHATTUCK thought Dr. Whittemore's remarks concerning the working of the provident dispensaries in England rather too favorable. There had been, within a few months even, much complaint of abuses in connection with this form of medical charity also. It offered the same temptations to people of moderate means that the dispensaries offered to the more needy, and the well-to-do were no less ready to yield to them than the comparatively poor.

DR. WARREN remarked that, in reviewing the various plans which had been proposed in England regarding this abuse, none appeared to be so good as the plan which was somewhat similar to that adopted by the associated charities in this country; and he believed that the same work could be done better if the various agents should cooperate with each other.

DR. HODGES supposed that a large portion of the out-patient practice was unnecessary, just as it was in private practice, and asked what evidence there was that these patients would go to the profession if the dispensaries were closed to them.

DR. MINOT agreed with Dr. Hodges that probably only a smaller number of unworthy applicants who might be eliminated from dispensary relief would ever pay anything to regular physicians. The poor are often willing to give a large fee for a "first-class" consultation, and it is well known that patients are brought in carriages for free treatment to the out-patient department of the Massachusetts General Hospital; but such patients would probably, in most cases, pay nothing for regular medical attendance. Moreover, many of the applicants, who were previously in comparatively good circumstances, are utterly unable to afford anything for medical advice when their wages are stopped in consequence of their inability to work.

DR. AYER, in reply to Dr. Hodges' inquiry, "Have

any physicians suffered from the out-patient departments?" remarked that, from personal observation and repeated conversations with physicians, chiefly junior members of the profession, at the North and West Ends, I am confident that they regard themselves as robbed of much that legitimately belongs to them. With them it is a serious grievance. Before the existence of the out-patient department physicians accepted in hand a small fee, say fifty cents or one dollar, from the poor, according to their ability. I have known such families, owning their houses, their husbands having steady work, and yet seeking medical charity. My remarks apply especially to the Massachusetts General Hospital, as the surrounding field is more familiar to me.

Indiscriminate medical charity works an injury to the poor, lessens their self-respect, is a fraud on the part of many recipients, and serves to bring into disrepute the work of a noble profession.

DR. LYMAN thought that there was no doubt but that injury was done to physicians by this abuse, and said that probably one half of the patients were able to pay.

The trustees of the hospitals must be taught that there is a vast deal of imposition, and it would be well to have the patients bring certificates of worthiness.

DR. BIGLOW said that the trustees of the Massachusetts General Hospital were fully alive to this abuse, and that the discussion of its reform had originated with them.

Another very important consideration was pauperism, and how far this gratuitous aid encouraged it.

The study of thriftlessness was an interesting one, but sickness often deprived a family of its support, and withholding advice did not imply that the friends of the applicant would furnish aid. Dr. Whittemore's suggestion was a good one, for it provided for emergencies, but to obtain a good man for the place implied a large salary of perhaps twelve or fifteen hundred dollars a year.

DR. T. B. CURTIS instanced cases of the abuse which had come under his notice at the Massachusetts General Hospital.

DR. ROWE thought that unity of action was needed. He then spoke of the difficulties in the way of the reform at the City Hospital, and thought that the Massachusetts General Hospital was in the best position to experiment with Dr. Whittemore's suggestion.

DR. BIGLOW replied that it would be difficult for one institution to take up the reform alone, and that cooperation was needed, originating with the directors of public institutions at large.

DR. WING suggested that the abuse might be remedied by the adoption at the several free dispensaries and hospitals of the rule that a person not known to the authorities of the institution as deserving should not receive treatment unless bringing a certificate from some physician that he or she was a worthy subject for medical charity. Cases of emergency would of course be excepted, and until the rule became generally understood it might be well to except the *first visit*, the patient being then informed that such a certificate would be required in the future.

Any really deserving person could get such a medical certificate, if not from one doctor, then from another. If it was found that a physician was giving certificates in improper cases, it would be easy to call his attention to the fact. Such certificates might be

subject to the indorsement of some officer of the institution, if this was deemed advisable.

DR. WHITE stated that he held opinions with regard to the alleged abuse of out-patient departments different in many respects from those expressed by previous speakers. He believed that the position of a teacher gave a large degree of latitude to those holding dispensary appointments, which the profession should not overlook in the discussion of the subject. The question of the supply of the necessary clinical material for the proper education of future members of the profession far outweighed, in his mind, any possible injury to physicians by depriving them of fees or any remote danger of encouraging pauperism, as had been so generally urged against the present system in this discussion. No general repressive measure could be applied, as had been recommended, without injury in this regard. We might, perhaps, divide the number of general medical and surgical patients now seeking charitable relief in Boston dispensaries by three, and yet medical education would not directly suffer in consequence, but it was a very different matter in some of the special departments. In his own, for instance, at the Massachusetts General Hospital, from twelve to fifteen hundred new patients were seen during the year, and yet he held that it had not yet reached its full teaching capacity. By such opportunities alone, with those furnished by the other dispensaries, could students be properly educated in this department. He had no doubt that a large number of those who sought his advice there were well able to pay the specialist's fee, as they came from a wide area in New England, but their contribution in this way to the proper illustration before the class of a subject demanding a large and varied exhibition of patients was ample payment for the professional services they received, or any indirect benefit on the part of the hospital. With regard to the question of depriving the profession at large of prospective fees by such gratuitous treatment, he thought that if any one had cause to complain it was chiefly the specialist himself, whose individual advice was thus sought after and given for the benefit of medical education.

The remarks which have been made during the evening against the present system of dispensaries seemed to him too sweeping and one-sided. There could be no doubt about the occurrence of some measure of abuse, but it was inevitable. Out-patient departments were established all the world over, and were regarded as essential feeders of internal departments and indispensable aids to the education of the physician and student. They were to be encouraged for these purposes in every legitimate way, particularly in connection with their special departments, for which hospitals in this country did not supply the needed internal accommodation.

DR. WHITE did not have much confidence in the efficacy of the reader's plan to suppress the real abuse of medical charity. He believed that this, like all medical abuses, should be corrected by the profession itself; not by hospital or charity boards of non-professional persons. He doubted the power of inspectors to determine by the appearance of out-patients at the hospital, or even by house visitation, their real need of medical charity. If anything was to be accomplished, however, he believed, with Dr. Bigelow, that it would be by the cooperation of the staff of all the medical charities of the city.

STRAIN OF NERVES.

DR. J. J. PUTNAM reported two cases of injury to nerve trunks resulting from muscular strain.

INFLAMMATION OF MASTOID.

DR. J. O. GREEN showed a specimen of diseased mastoid, which was very unusual in that a suppurative process of the interior of the mastoid cells had perforated downwards by three openings through the fossa digastrica into the deep muscles of the neck, instead of, as is very common, perforating the external or internal table. The case occurred in the practice of Dr. Charles S. Rodman, of Waterbury, Conn., from whom it was received.

In answer to a question by Dr. Lyman, Dr. Green said that inflammation of the mastoid could go on until caries occurred, without sufficient pain being produced to make the patient think it worth while to call in a physician, and that such cases were quite common.

A CASE OF HEMORRHAGE INTO AND AROUND THE PANCREAS, WITH SUDDEN DEATH.

DR. F. W. DRAPER reported the following case: A man, thirty-one years old, a printer, of intemperate habits, was seized suddenly with pain, which he referred to the epigastrium. Up to the time of this attack he had been in good health, except a slight cold, from which he had suffered some inconvenience during the previous week, but which had not confined him at home. At noon, on the day of his death, he ate his usual hearty dinner. The pain of the attack, which began about six p. m., was soon followed by nausea and an ineffectual attempt to vomit. Presently collapse supervened; the patient was scarcely able to speak; he fell from his chair to the floor; he was evidently in extreme distress. In this condition Dr. J. P. Bush saw him, and having prescribed a stimulant (brandy), which seemed to produce a momentary reaction and relief, he directed that the man be taken to the hospital. The patient died very quietly in the carriage on his way thither. The whole duration of the attack was between thirty and forty-five minutes.

Autopsy, nineteen hours post mortem. The noteworthy appearances were as follows: The heart was moderately enlarged in volume and the left ventricle was dilated; the muscular tissue was of good color, but quite friable. The intima of the aorta showed the remains of a former endarteritis. The blood was liquid and of dark color. Both lungs were injected, and the upper portions were oedematous. The bronchial mucous membrane was thickened and injected and covered with mucopurulent secretion. The kidneys and spleen were engorged. The liver was normal. The pancreas was normal in size, shape, and position. The retro-peritoneal connective tissue adjacent to it was infiltrated with blood; not to a degree sufficient to form anywhere a free clot, but involving nearly two thirds of the length of the organ, and spreading at either side, above and below, to the distance of about an inch. The hemorrhage was most abundant at about the centre of the organ. Section of the substance of the organ found the interior deeply stained of a dark red by the blood infiltrated within the interlobular tissue, the change being greatest in the middle portion.

Concerning the relation of pancreatic hemorrhage to sudden death, see Kleis's Handbook of Pathologic Anatomy; also Friedreich's article on the pancreas in Ziemer's Cyclopaedia (vol. viii. page 621), where a full bibliography of the subject is given.

F. W. D.

The splenic artery was enlarged and tortuous. Its intima was rough, and had a velvety, or finely granular, appearance.

The muscular tissue outside the peritonæum and connective tissue was healthy in appearance and entirely free from blood staining.

The intestines and stomach were normal; the latter contained a quantity of half-digested food.

DR. W. F. WHITNEY, to whom the specimen had been submitted, reported that microscopic section showed the interlobular tissue infiltrated with blood, which had permeated among the cells in many places, and here the corpuscles were destroyed. The cells themselves were very granular, but osmic acid failed to show the presence of fat in them. Beyond this I have been able to find no assignable cause for the hæmorrhage.

THE PUBLIC HEALTH ASSOCIATION.

FIRST DAY'S PROCEEDINGS.

THE eighth annual meeting of the American Public Health Association was held in New Orleans, La., December 7th to 10th inclusive. The meeting was one of the most successful ever held, over three hundred members, from all parts of the country, being present. The character of the papers read was, with some exceptions, of a high order, and the discussions, with one exception, free from acrimony.

The arrangements of the local and executive committees for the dispatch of business were almost perfect, and the social features were most pleasant and agreeable. There was a delightful lack of those entertainments *en masse*, which generally characterize large assemblies, and which usually degenerate into absolute bores. Private hospitality, on the contrary, was unbounded, and it is safe to assert that probably nine tenths of the strangers had an opportunity of stretching their legs under the private mahogany of some one of the many hospitable citizens of the Crescent City.

The Association assembled at Grünwald Hall at ten A. M. of Tuesday, December 7th, the president, Dr. John S. Billings, U. S. A., calling the meeting to order; Dr. E. H. Jones, of New York, secretary.

The report of the treasurer, Dr. J. Berrien Lindsley, of Nashville, Tenn., showed a balance of \$705.40 in the treasury.

The scientific portion of the proceedings was opened by Dr. Gustavus Devron, of New Orleans, who read a paper on Abattoirs.

The paper contained a historical summary of the establishment of public institutions for the slaughter of animals for food, in the course of which due praise was awarded to the construction and management of the abattoir at Boston.

Abattoirs were established in New Orleans by an act passed in 1869, incorporating the Crescent City Stock Landing and Slaughter House Company. The whole establishment is under the direct surveillance of the Louisiana State Board of Health. The average daily slaughtering capacity of the abattoirs is 475 oxen, 200 calves, 300 sheep, and 300 hogs.

The paper of Dr. Devron was followed by one on How Abattoirs improve the Sanitary Condition of Cities, by Dr. Bushrod W. James, of Philadelphia. Dr. James considered in detail the evils of the private

slaughter-house system as compared with the concentrated or abattoir system.

A paper was read by Dr. Joseph R. Smith, surgeon United States Army, upon the Texas Cattle Fever. From extensive observation and correspondence with a large number of cattle-breeders, Dr. Smith concludes that the question of an epidemic among Texas cattle must be answered in the negative, but that among the cattle imported into Texas from other States the mortality is very large. No definite conclusions are yet available as to the pathological condition or ætiology of the so-called Texas or Spanish fever of cattle. The paper was followed by a brief discussion, which elicited very little additional information.

A letter from Dr. J. G. Pinkham, secretary of the Sanitary Association of Lynn, Mass., was read by Dr. E. M. Hunt. The letter was explanatory of the organization and objects of that association. Dr. Devron referred to the New Orleans Auxiliary Sanitary Association as having succeeded in placing the city in the best sanitary condition it had enjoyed during its existence, and that the good work would be continued until the sanitary condition of New Orleans would be second to no other city. The Report of the Committee on a Plan for the Prevention of the Spread of Venereal Diseases was read by the chairman, Dr. Albert L. Gihon, medical director United States Navy. The plan proposed by the committee implies the appointment of sanitary officers in every hamlet, village, town, and city of the country, subordinated to and controlled by county, municipal, or state boards of health, and empowered to investigate and discover every preventable cause of disease, syphilis included. They further recommend the establishment of special or lock hospitals for the gratuitous treatment of all venereal affections, and, in the absence of such hospitals, provision for their treatment without charge and without unnecessary exposure of their victims by health officials, under whose cognizance they have come. The committee hope to obtain the passage of enactments laying in view the regulation of persons engaged in the military and naval services of the government, and also those ordinarily subject to the control and supervision of the police and municipal authorities of cities and large towns, though convinced that, in the end, the extension of the control and supervision to the whole civil population will be the inevitable legislation of all countries. These conclusions were formulated in a resolution, which, after some discussion, was adopted by a large majority.

An excellent paper was read by Col. George E. Waring, Jr., of Newport, R. I., on The Storm-Water Question in Relation to Sewerage. The conclusion of Colonel Waring is that storm-water in cities should be carried off as much as possible by surface drainage, and only when the accumulation of water on the streets and gutters becomes so excessive as to interfere with travel, to injure pavements, or to flood cellars, etc., should provision be made for an underground flow.

Professor Brewer, of New Haven, read a brief paper on The Action of Muddy Water on Sewage.

From the results of his experiments Professor Brewer suspects that muddy water and sewage have a tendency to purify each other; that sewage discharged into a river of muddy water would be more rapidly purified of its putrescible material (albuminoids) than if it were discharged into a river of clearer water; that this would not necessarily extend to the removal

of the specific germs of certain diseases, which we know can exist in water of great transparency, but of the dissolved and very finely suspended matter which gives rise to foul smells, and which, in chemical analyses, are taken as the measure of sanitary impurity. Professor Brewer states that he has several times known the unpleasant odors which sometimes occur in city waters distributed from reservoirs to suddenly diminish or entirely disappear with the *rolling* of the water by a heavy rain. Others are reported to have made similar observations.

A paper on The Prevention of Certain Contagious Diseases by Local Boards of Health, prepared by Dr. James Crane, health officer of Brooklyn, N. Y., was read by Dr. Walcott, of Boston. The paper dealt in a concise manner with the regulations in force in the city of Brooklyn for the prevention of such diseases. The results obtained are apparently favorable to the system, but sufficient time has not elapsed since its enforcement to permit any conclusions to be drawn.

At the evening session addresses of welcome were made by Governor Louis A. Wiltz, of Louisiana, Mayor I. W. Patton, of New Orleans, and Dr. J. P. Davidson, vice-president of the Louisiana State Medical Society. Immediately afterward the presidential address was delivered by Dr. John S. Billings, surgeon United States Army, president of the Association.

Dr. Billings pointed out the difficulties which sanitarians and sanitary authorities had to contend against in proposing and carrying out measures for the prevention of diseases. He also referred to the apparent conflict between facts and theories as developed in sanitary surveys of cities and towns. While dealing with the question of sanitation in a general manner only, Dr. Billings made the following specific suggestions to local health boards:—

The first thing to be done is to provide for a registration of deaths, which can best be secured by a law or ordinance to the effect that in every case the head of the family, or the householder, shall make a return of the death, and obtain a permit for burial or removal of the body; and that failure to do this shall be taken as evidence of suspicious circumstances connected with it sufficient to warrant the action of the coroner.

The second thing to be done is to take account of stock by making a sanitary survey of the place, and putting on record the condition of each set of premises. The health officer of a place should have in his possession a brief description, from a sanitary point of view, of every premises in a city, and a person proposing to buy or rent a dwelling-house ought to be able, on payment of a proper fee, to obtain a certified copy of the sanitary history of the house he proposes to occupy, its connection with sewers, the number and causes of the deaths that have occurred in it or in the square in which it is situated, etc., just as much as he is enabled to obtain a record of title.

SECOND DAY'S PROCEEDINGS.

The executive committee recommended a large number of gentlemen and one lady for membership, who were all unanimously elected. The following recommendation from the executive committee was adopted:

That the standing rule adopted at the last meeting for the election of an advisory committee be continued; that it shall be hereafter known as the advisory council, to consist of one member from each State, one each from the army, navy, and

marine hospital service, the commissioners of education; and that in addition to the duties heretofore performed by the advisory committee, it shall act as a nominating committee for this Association.

The executive committee reported back the following resolution without recommendation:—

Resolved, That the executive committee be instructed to communicate with the state and municipal boards of health throughout the country, and supply them with a copy of the report of the committee on prevention of venereal diseases, and request their cooperation in the attainment of the object of the resolution submitted and adopted by the Association.

In the course of the discussion which ensued Rev. Dr. Wines, of Illinois, said the subject was one of jurisprudence and social reform. The report of the committee for prevention of venereal diseases contemplated the police surveillance of prostitution, the expenditure of large sums of money from the public treasury, and increased expenses by boards of health. The question was too broad to be taken hold of by an association organized for sanitary reform. He did not know that the society could prepare a law, which was the necessary requisite for a proper enforcement of the suggestions of the committee. He had no great and superstitious confidence in the power of legislation to right wrongs. If the resolution was passed some cities would adopt a modified system of licensed prostitution. He would ask the members of this Association if they thought the police in large cities were the proper persons to carry out such a plan as the one recommended. Just in proportion as marriage was increased prostitution was decreased, and *vice versa*. Whatever promotes prostitution strikes a blow at marriage.

Dr. Gihon replied that the very object of this resolution was to defend the marriage bed. The object of this resolution was to protect the young woman, and not have her prospects forever blighted by a syphilitic young man.

Dr. Bell said the committee who have had this in charge have considered every aspect in the case for four long years. We must now deal with results, not causes. This Association was organized for the prevention of disease. The committee do not ask that women alone be examined, but that men should be examined and prevented from spreading their diseases broadcast throughout the land.

Dr. Ames, of Massachusetts, was of much the same opinion. Dr. Hunt, of New Jersey, Dr. Chamberlain and Professor Brewer, of the Connecticut State Board of Health, objected to the resolution, and thought its passage would not promote sanitary reform in their States. The resolution was finally adopted by a vote of ninety-three yeas to twenty-eight nays.

Dr. McCormick, of Kentucky, introduced a resolution, which was referred, that a committee be appointed to consider the advisability of establishing a national museum of hygiene. Dr. Chancellor, of Maryland, introduced a resolve invoking the passage, by state legislatures, of measures imposing severe penalties against the spreading of contagious diseases by individual carelessness.

Dr. Billings, the president, read the Report of the Advisory Committee on National Sanitary Legislation, of which committee he was chairman. This report gave a brief summary of the action of the committee in regard to measures of sanitary legislation in Congress during the past year, and concluded as follows:—

On the 15th of October, 1880, a circular letter was sent to members of the executive and advisory com-

mittees, asking them what action, if any, they desired to recommend to the Association with regard to congressional legislation during the coming winter.

To this circular thirty-four replies have been received, which may be summarized as follows:—

Thirty-two recommend the passage of a resolution by the Association urging Congress to make the necessary appropriations to enable the National Board of Health to continue the work which it has begun, and to enlarge the scope of the special scientific investigations under its direction.

The other two approve this, but think that in addition the Association should declare itself in favor of giving more power to the board over quarantine matters.

So far as I can learn the National Board itself has no desire for any increase of power so far as quarantine matters are concerned, and indeed considers it best to await the recommendations of the International Conference on Quarantine, meeting in January, 1881, before advising any further legislation on this subject.

With the work of the board during the past year it is presumed that all are more or less familiar through its bulletin and supplements, and more especially from its last quarterly report.

The main features of this work in the absence of epidemics are:—

(1.) The collection of statistical and other information relating to the public health, and the publication of this in its bulletin.

(2.) Investigations made by specially skilled chemists, engineers, and physicians into the causes of disease.

(3.) The maintenance of ship hospitals at Ship Island and Sapelo Sound. To these it desires to add at least one similar station on the Texas coast and one near the mouth of Chesapeake Bay.

(4.) The maintenance of a system of steam and other boat inspections on the Mississippi River.

(5.) Aid to certain cities to maintain their quarantine establishments.

For all this the board has sufficient power if it is provided with the necessary funds.

In short, a great majority of the executive and advisory committees are of the opinion that it is not desirable that the Association should at this time recommend any change in existing legislation affecting the National Board of Health, but that the Association should use its influence to induce Congress to make suitable appropriations for its work, and to authorize the prompt publication of its reports.

The attention of the Association is invited to two measures of public health legislation, which are of special interest at the present time, and which merit careful consideration on the part of those interested in such legislation.

The first of these relates to laws for the prevention of the adulteration of food and drugs. The report of the committee of the National Board of Trade appointed to award prizes for the best draught of acts, state and national, for the prevention of such adulteration has been recently completed, and will be one of the topics of discussion at the meeting of the National Board of Trade at Washington on the 15th instant.

As this subject is one which the advisory committee has not had sufficient time to consider, to enable them to make any definite recommendation, it is advised that the matter be referred to a special committee, who

shall report to the Association at the present meeting as to what action is desirable in the premises.

The second subject is that of the international quarantine conference, which is to meet in Washington next month. Upon this subject the advisory committee has no recommendations to make at present, and it is not considered probable that the action of the conference will be sufficiently advanced before the close of the present session of Congress to permit of any legislation upon the matter in the form of a treaty or otherwise, being presented during the present winter.

Dr. G. B. Thornton, of Memphis, read a paper on *The Sanitation of Memphis*. He maintained that the problem of the sanitation of Memphis is now solved, and it is practically reclaimed from those factors which entered so largely into its unsanitary condition, and acquired for it such an objectionable reputation for salubrity.

That, so far from its being simply on a par with other cities in the Mississippi Valley, it is in the advance, not only in the accomplishment of its work, though that is not by any means perfected, but in a proper sense of what is essential to the maintenance of an effective sanitary system. While nature has done a great deal in the topography of the site on which the city is built, it required the intervention of art well directed to remove many existing defects. Its elevated position and natural water-sheds afford advantages for drainage not inferior to those possessed by many cities of its size more favored by a lower death-rate.

In regard to quarantine, he held that Memphis can better afford to give up the commerce of the whole country south of it for three or four months of the year for an indefinite period, than to be again subjected to an epidemic of yellow fever.

The commercial advantages arising to Memphis from an infected place bear no comparison to the disadvantages incident to the danger of infection from such place. The prevention of a recurrence of epidemic disease of any character and the maintenance of the best possible sanitary condition is with the authorities of Memphis their first duty. Not only further progress and development of the city depends upon it, but a preservation of its present advantages and the prevention of a rapid retrograde. No people have a stronger cause than those of Memphis to properly appreciate the inconveniences of inspection improvements and quarantine restrictions.

In conclusion, the reader said that until the question of the etiology of yellow fever is settled in New Orleans, which can only be done by an efficient quarantine, it is impossible to determine when a place which has commercial intercourse with New Orleans is safe from infection during a season of the year when the atmospheric conditions are such as to be favorable to the spread of the yellow-fever poison when introduced into that place. Therefore, with the present administration of Memphis, I think I can foreshadow the future policy to be pursued in dealing with this question. A quarantine of observation, with a strict inspection service, both by river and rail, over freights, passengers, and baggage, will be maintained; and, if it should be deemed best, which it not improbably would be under the circumstance of an existing epidemic, absolute non-intercourse as far as it is practicable to enforce it. This may seem to be very ultra ground, but I think I express the prevailing sentiment of the government and people I have the honor to represent.

In saying this I do not wish to be understood that the Memphis Board of Health does not propose to coöperate with the National and Tennessee State Boards, or that of any sister State, or that I am an advocate or apologist for the arbitrary and oppressive policy known as "shot-gun" quarantine.

Governor Porter, of Memphis, was introduced, and stated that the promise made to the Association a year ago, by Judge Clapp had been carried out. He hoped and promised to continue in the good work until his city should be one of the cleanest and healthiest in the world. He said he was much indebted to the National Board of Health for the good that had been done for the city of Memphis.

Colonel Waring then described to the Association the mode of sewerage adopted at Memphis.

Dr. Bell read a paper by Colonel Moore, sewer commissioner of the city of St. Louis, on Storm-Water and House-Drainage in Sewers.

Colonel Waring spoke on this paper, and said that Colonel Moore had arrived at the same conclusions as those reached by himself through a different channel. The question of cost was the smallest possible matter to be considered in connection with sewerage. The city of Croydon, England, was not a case in point. Memphis was the only city to be considered in regard to the subject. The system of Memphis, in its general features, is applicable to New Orleans. An artificial grade would have to be made in the absence of a natural one. Sewers from all parts of the city could be made to empty into a large one on Rampart Street. The flush tanks would have to be made considerably larger, but with some modification it was perfectly applicable.

In the afternoon, after a recess, Dr. Devron read a paper by Colonel J. M. Keating, of Memphis, on the Value of Sanitation from an Economic Stand-Point, the recapitulation of which we give in the author's own words:—

I have endeavored in the preceding pages to show:—

First, the money value of population.

Second, the effects of epidemics and other preventable diseases in robbing nations of population, and, therefore of productive capital.

Third, the beneficial results of sanitation in preventing or mitigating the effects of epidemic and other preventable diseases; in saving population, and the therefore a vast amount of productive capital, thus exemplifying the value of sanitation from an economic stand-point.

Fourth, I have endeavored to express the inestimable services of the National Board of Health in its vigilant watchfulness against the introduction or spread of yellow fever, exemplifying the value of the "ounce of prevention," and the economy exercised by the government in organizing and providing for that body. And in this connection I beg leave to suggest that this Association recommend to the national government the continuance of the National Board of Health with greatly increased powers.

(1.) Because, as an advisory organization sustained by national authority, it has already been of value beyond a thousand times its cost, and because it guarantees protection against the introduction of epidemic diseases for all communities under uniform rules, uniformly enforced.

(2.) Because it guarantees faithful and efficient service, free from local prejudice.

(3.) Because its agents, by their vigilance, unaffected by trade or other considerations, by prompt warning, save the coast cities and those of the interior from the introduction of epidemic diseases.

(4.) In addition to this clerical, sentinel, and advisory work it should have authority to enforce its edicts on all the navigable waters and everywhere within the marine jurisdiction of the United States, so as to control the movements of vessels. It should at certain stations abroad, as well as at home, be empowered to employ scientific experts to observe atmospheric and telluric phenomena, the influence of planetary movement and conjunction, and note the character, and if possible discover the origin, of epidemic diseases. And such agents should not be limited to time, but they should have all the aid in instruments, apparatus, and assistance necessary to thoroughness in research and comprehensiveness and exactness of statement. We have learned already a great deal in regard to the law of storms, and by it have been able to reduce the yearly average of destruction to our commerce on the seas, and so have saved hundreds of millions of dollars' worth of property and hundreds of thousands of valuable lives. By the vigilant enforcement of quarantine by the National Board of Health, by its continued watchfulness to prevent the spread of epidemic diseases to the interior, and by the rigid and exacting enforcement of sanitary laws by city, county, and state authorities—the absolute destruction of all matter injurious to life, so that the soil, air, and water may be rendered pure—the chances for increased length of life may be greatly enhanced. "Knowledge is power."

We must know to do. In this case science should inform us, and the law—state and national—ought to be invoked to compel performance of whatever may be essential to perfect safety. The endowment by Count Rumford of the royal institution of London secured to the world the incalculable benefits which followed upon the investigations and discoveries of Sir William Young, Sir Humphrey Davy, Michael Faraday, and John Tyndall. The proper endowment of the National Board of Health with powers and means may result in such an increase of the knowledge of the origin and means of preventing the spread of epidemic and other preventable diseases as will save to the republic hundreds of thousands of lives, and therefore wealth in proportion greater than the appalling losses by epidemics, in part set forth in the above paper.

Colonel Edward Fenner, vice-president of the New Orleans Auxiliary Sanitary Association, read a paper by Professor John Gamgee, of Washington, on The Sanitary Urgency of the Florida Ship Canal, which, in conclusion, expressed the following fantastic sentiment:—

Whilest the French are cutting the Panama canal, with the certainty of extending the yellow-fever area, it is hoped that the people of this country will contract that area, and favor their great inland and international commerce, by securing to this latitude all its natural advantages. Cut the Florida ship canal, and, with common care, New Orleans will enjoy the same immunity from yellow fever as ports on the Atlantic shores. Then the iniquity of flogging Cuba by a constant influx of Spanish soldiers and filthy ships will become more apparent, and lead to measures calculated to benefit the Antilles as much as the gulf ports and the great valley of the Mississippi. Let us rise from a paltry trilling with a gigantic evil, and in a states-

man-like manner insist on the broadest treatment of so great a question. The efforts of the Auxiliary Sanitary Association are worthy of all praise. Let them be seconded by essential coöperation beyond the narrow limits of this city and State.

(To be concluded.)

Recent Literature.

La Syphilis: Son Histoire et son Traitement (méthode anglaise). Par le DR. JAMES TARTENSON. Deuxième édition. Prix 3 francs. Paris: Librairie, J. B. Baillière et fils. 1880.

A small octavo volume of 238 pages, bound in paper, its leaves uncut, its paper coarse but good, its type large and clear and heavily leaded. It is devoted to the praises of the reconstructive treatment of syphilis, based upon the analogies between this disease and variola; it regards the disease as naturally self-limited and tending to spontaneous recovery, and recommends, as far as medicine is concerned, an exclusively symptomatic therapy. It is divided into three parts, which consider respectively the history, the nosography, and the treatment of the disease. The first and second parts are not new, but some of the statistics are of interest. Thus the 50,000 prostitutes of Great Britain, prior to 1864, infected annually about 1,500,000 individuals. In the English army three men out of every ten were infected venereally, and of every 1,000 such 463 had syphilis. Since the "contagious disease acts" of 1861 this proportion has greatly diminished. The Federal army in the recent rebellion gave an average annually of only 67 infected men in 1000; and in every 1000 so infected there were about 360 cases of syphilis. In California, San Francisco, and Texas, syphilis is a veritable scourge, "probably due to the continual relations with Mexicans and Indians." The third part explains the "reconstructive" plan of treatment. This consists of: (1.) Nourishing food,—rare roast meat and wine. (2.) Abstinence from nerve stimulants, alcohol, etc. (3.) Moderate exercise in the open air combined with mental rest and early hours. (4.) Frequent baths of an agreeable temperature. (5.) Very warm clothes. (6.) Continence. In fine, it is the common-sense, hygienic treatment which, with tonics and treatment of symptoms, is common to mercurialists and anti-mercurialists. Some good remarks upon legal and personal prophylaxis conclude the volume.

A Practical Treatise on Nasal Catarrh. By BEVERLY ROBINSON, A. M., M. D. (Paris), etc. New York: William Wood & Co. 1880.

This is one of the best monographs on the subject ever published. After a brief consideration of the anatomy, physiology, and pathology of the nasal region, the author gives a very complete description of the instruments and methods employed in the examination and treatment of it, as well as his own opinion of them.

The surgical treatment of hypertrophied turbinated bones and follicular disease of the naso-pharyngeal space receives proper attention.

The author condemns the universal employment of liquids (by douches and sprays) in the nasal passages, and thinks their use should be restricted to those cases

in which hardened secretion needs to be removed, and thinks vapors and powders preferable for local use.

Much more attention is bestowed upon diathetic conditions than is found in most text-books of the day, and the therapeutic recommendations, both internal and local, are so much the more valuable.

We recommend every practitioner who is called upon to treat this class of cases, and who is almost provoked with his patient for asking something for his "catarrh," to buy Dr. Robinson's book, and see how much there is new in diagnosis, and how much there is to try in the treatment of these cases, with the hope, at least, of relief and oftentimes of permanent cure.

A Treatise on the Diseases of the Eye. By J. SOELBERG WELLS, F. R. C. S., etc. Third American from the third English edition. With copious additions, by CHARLES STEEDMAN BULL, A. M., M. D., etc. Philadelphia: Henry C. Lea's Son & Co. 1880.

The present edition of this well-known book is, so far as Mr. Wells's authorship is concerned, the same as the second American edition, published in 1873. All credit, therefore, for any improvement on the latter properly belongs to the American editor, and it is only his work that it is necessary to consider now, since previous editions have already been noticed in these columns. Comparatively few alterations have been made in the original text; but some passages have been omitted, and the order of others changed. On the whole, the changes of this sort have not greatly affected the character of the book. The distinguishing feature of the new edition consists of the numerous additions intended to present recent contributions and discoveries. These refer in large part to points of pathology and treatment, and some of the most important of them relate to the various new growths which start from the different parts of the eye and its adnexa. There is a new section on syphilis of the conjunctiva, and another on lupus, lepra, and other rare diseases of the same membrane.

In connection with sympathetic ophthalmia the recent operation of optico-ciliary neurotomy is briefly discussed, and the just conclusion reached that the operation has not yet had a sufficiently extensive trial to enable us to judge of it fairly.

Under glaucoma an account of the investigations and conclusions of Kuiss, Weber, Schnabel, and Mauthner is given. This is well; but the researches of Brailley on the same subject would seem to have deserved more than the mere mention of his name, misspelled Brailley.

When much is to be altered or added in a book it must usually be impossible to do the work in a thoroughly satisfactory manner, unless considerable portions are rewritten. In spite of this, however, the new edition, as an exponent of the present state of ophthalmic science, is a decided advance.

—An amusing anecdote is going the rounds of the medical press. A Western man visiting the East was informed of the serious illness of his wife. In answer to his inquiries he received the following telegram: "Mrs. B. has had a child. If we can prevent her having another to-day she will do well." The telegraph operator had simply substituted a *d* for the final *t* in child.

Medical and Surgical Journal.

THURSDAY, DECEMBER 23, 1880.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly by HOUGHTON, MIFFLIN AND COMPANY, Boston. Price, 15 cents a number; \$5.00 a year, including postage.

All communications for the Editors, and all books for review, should be addressed to the Editors of the Boston Medical and Surgical Journal.

Remittances by mail should be sent by money-order, draft, or registered letter to HOUGHTON, MIFFLIN AND COMPANY, Boston, Mass.

THE BRAIN AND SPINAL CORD IN EXTINCT REPTILES.

At the late meeting of the National Academy of Sciences in New York, Professor O. C. Marsh, of Yale, who occupied the chair during this autumnal session, read a paper on the dimensions of the brain and spinal cord in some extinct reptiles, in the course of which he spoke of the special interest which attached to the stegosaurus, a mammoth reptile, the remains of which he had discovered in Colorado. Five years ago Professor Marsh presented some observations to the academy which indicated that the more remote the period to which any extinct mammal belonged the smaller would the brain be found, and that as time advanced there had been a gradual increase in the size of the brain; this growth being mainly noticeable in the cerebral or intellectual portion. At the spring session, in April last, he showed that in birds and reptiles also the same law held good. Since then he has examined skeletons of the stegosaurus, unearthed in the Rocky Mountains, which, with a body as large as that of an alligator (some of the skeletons measuring thirty feet in length), had a brain cavity no larger than that of a dog. The peculiar characteristic discovered about this reptile, however, is the existence in the sacral portion of the spinal column of an enormous vaulted chamber, like an ordinary brain-box, which is from eight to ten times larger than the brain cavity in the cranium. Professor Marsh examined a number of these skeletons, and found the same thing in all of them, and as, ordinarily, the young animal has a brain proportionately larger than that of the grown animal, so here in the skeleton of the young reptile this peculiar cavity is proportionately larger than in the full-sized skeletons. Professor Marsh has never seen anything analogous to this anomaly in any of the land vertebrates.

This is certainly a very curious discovery, the complete explanation of which it may be quite difficult, if not impossible, to arrive at in our present state of knowledge.

At the last meeting of the American Neurological Association, Dr. J. J. Mason, of Newport, reported a series of observations on animals, which seemed to establish the general law that in all vertebrates the diameters of the nuclei of the cells in the inferior horns in the two enlargements of the spinal cord are proportional to the muscular power of the corresponding extremities; the nucleus of each motor cell apparently increasing in size with the growth of the muscular structure which it serves to innervate. Thus

in the frog, with its powerful posterior extremities, the nuclei of the cells of the lumbar enlargement are found to be much larger than those of the cervical enlargement; while in the gopher turtle the reverse of this is true. Now if such a law held good in regard to the gross size of the enlargements of the spinal cord, it might possibly throw some light upon the subject, since this gigantic extinct reptile is described to be something like an elongated kangaroo in shape; but even then the enormous size of the sacral cavity as compared with that of the cranium would be by no means sufficiently explained, there being no other known extinct or living animal in which such a formation is found to exist.

Professor Marsh, without attempting to arrive at any definite conclusion in regard to the matter, suggested that this curious phenomenon of a "posterior brain-box" might perhaps afford some support to the idea which has been advocated in certain quarters of late, that the whole nervous system, and not the brain alone, may possibly be the seat of the mind. In this connection it may perhaps be remembered that some time ago Dr. Hammond read a paper before the Medical Society of the County of New York on the functions of the spinal cord as a seat of voluntary action, in the course of which he related a number of interesting and suggestive experiments and observations, which seemed, according to the inferences which he deduced from them, to lend a certain amount of weight to such a supposition.

ADULTERATION OF FOODS AND DRUGS.

The committee composed of Dr. J. S. Billings, of Washington, Prof. C. F. Chandler, of New York city, Ex-Chancellor B. Williamson, of Elizabeth, N. J., A. H. Hardy, Esq., of Boston, and J. A. Gano, Esq., of Cincinnati, appointed by the National Board of Trade for the purpose of awarding prizes to the amount of one thousand dollars for the best acts accompanied by essays, designed to prevent injurious adulteration, and to regulate the sale of food and drugs without imposing unnecessary burdens upon commerce, have now sent in their report, which is printed in full in the supplement to the December number of *The Sanitary Engineer*.

The three prizes, in the order of their merit, were given to G. W. Wigner, F. C. S., of London, V. N. Davis, of New York city, and to W. H. Newell, M. D., of Jersey City, N. J. In connection with their award the committee submit the following remarks among others:—

(1.) In view of the statements which for the last two or three years have, from time to time, been made with regard to the prevalence in this country of adulterations of food which are dangerous to health and life, and which have created so much agitation in the public mind, it is very gratifying to find that none of the essayists produce any definite or satisfactory evidence as to the widespread existence of such dangerous adulterations in this country. The absence of such evidence, in addition to the results recently ob-

tained by several expert chemists in extensive series of analyses of the usual articles of food in this country, which results have been made known to the committee, fully warrants us in declaring that none of our staple articles of food or drink are so commonly adulterated as to be dangerous to health or life. Such dangerous adulterations appear to be mainly in the form of poisonous colors or coloring matters, as, for instance, in confectionery, and even these are rare.

(2.) The question of the adulteration of food, with, perhaps, the exception of milk, should therefore be considered not so much from a sanitary stand-point as from that of commercial interests, as being of the nature of a fraud, in aiding the sale of articles which are not what they are represented to be.

(3.) We are of the opinion that there is much more danger to health and life in this country from adulterated drugs than there is from adulterated food, and that any legislation which is to deal with the one should also deal with the other.

(4.) We do not think that any law upon the adulteration of food and drugs can be made efficient without a properly constituted health authority to supervise its execution. The questions involved are in a high degree technical, and require special training in those charged with administering the law.

MEDICAL NOTES.

— At the last regular monthly meeting of the trustees of the University of Pennsylvania, Dr. William Pepper was placed in nomination for the provostship of that institution. Dr. Pepper now occupies the chair of clinical medicine in the medical department of the university, and is the son of the former professor of theory and practice of medicine in the same institution. He graduated from the academical department of the university in 1862, and from the medical department in 1864.

Since graduating he has been connected with the Philadelphia Infirmary, the Pennsylvania, Philadelphia, and Children's Hospitals, and lecturer on morbid anatomy at the University of Pennsylvania.

He was also at one time editor of the *Philadelphia Medical Times*, and was medical director of the Centennial Exposition.

The nomination lays over for a month till the next regular meeting of the board of trustees, but as there is no nominee opposed to Dr. Pepper, he will probably be elected.

— The Paris correspondent of the *Medical Press and Circular* writes that Dr. Rosolinos, of Athens, read a work before the *Académie de Médecine* on the causes of the first sound of the heart. According to the author, the only cause would be the vibration of the tendinous cords, provoked by the blood which rushes through these cords during the contraction of the ventricle. If the cause of the first sound be, according to M. Bouillaud, due to the flapping of the auriculo-ventricular valves, the same noise ought to be produced,

in part at least, in drawing on the valves by means of these cords. He (Dr. Rosolinos) had several times made this experiment on the hearts of man and the horse, and never had he been able to produce the sound alleged. On the other hand, to confirm his idea of the cause of the first sound, he established artificially a system of tendinous cords in attaching the ends to two sticks diametrically opposed. He then directed, by means of a syringe, a stream of water against the cords, and obtained a sound analogous to the first sound of the heart.

— At the Annual Medical Congress held this year at Rheims, M. Potain read an interesting paper on the efficacy of a milk *régime* in the different forms of heart disease. In secondary diseases of this organ, hypertrophy, or simple dilatation having a renal or gastric origin, he considered it to be peculiarly efficacious; it modifies the state of the kidneys and stomach, giving to these organs more complete rest. But, to derive full benefit from it, it should be absolute and prolonged. M. Leudet corroborated the remarks of M. Potain, and cited the remarkable effects of the milk *régime* on drunkards attacked with cardiac affections.

— Another instance of the extraordinary tolerance of injury which is sometimes observed in the brain is reported from Red Bank, N. J. The patient was a girl, not yet thirteen years of age, who received two gun-shot wounds of the head from a man to whom she had been married. The shooting occurred in the afternoon, and late the same night the physicians in attendance succeeded in extracting one of the bullets, which had entered the base of the skull, to the right of the occipital protuberance, passed through the brain, and came out through the left parietal bone near its upper border. The other ball had entered the right superior maxillary bone just under the right eye, and lodged in the bone, whence it could not be safely extracted. The next day the people of Red Bank, who supposed the child to be at the point of death, were astonished at seeing her ride into the town with her mother, after which they drove to a neighboring village to consult a lawyer. Of course, all this was in spite of medical orders, but although the shooting occurred on the 12th of November, the girl, at last accounts, was not only alive, but no serious symptoms had resulted.

— "Dr. Bezzi," says the *Medical Press and Circular*, "draws attention, in *Lo Spallanzani*, to a sign which is pathognomonic of fracture of the neck of the femur, but which is not generally known. In examining the space between the trochanter and the crista ilii, it will be found that while on the sound side the muscles occupying this region (the tensor vaginæ femoris and the gluteus medius) are tense, and offer to the hand a considerable feeling of resistance, they present on the affected side a deep, well-marked depression, a flaccidity and diminution of tension, from displacement upward of their points of insertion."

— At a late meeting of the French Academy of Medicine quite a scene took place between M. Jules Guérin and M. Pasteur. After a lively exchange of compliments the session was hastily adjourned. More

serious consequences were averted by the timely intervention of mutual friends.

—The *Medical Gazette* says that a temperature of 131° F. has been reported from Dublin, and "it is stated that every precaution was taken to prevent imposition." This degree of heat, we should surmise, refers rather to the political than to the pathological situation in Dublin.

NEW YORK.

—Small-pox, diphtheria, and scarlatina are now more prevalent than for some time past, and the Board of Health is using every means in its power to keep these contagious diseases under control. Circulars in regard to the symptoms and management of diphtheria and the precautions to be taken in infected houses have been sent throughout the city, and the vaccinating corps are very actively engaged in the effort to stamp out small-pox. The first cases of the latter are said to have come from Philadelphia, but it has lately appeared in several different sections of the city. The steamer *Italia*, which arrived from Naples on the 13th with a large number of immigrants, had several cases of the disease on board. The vessel was, of course, quarantined, and the health officer, Dr. Smith, after having had the crew and passengers vaccinated, ordered the entire ship's company to be quartered on Hoffman's Island until the result of the vaccination was apparent. All of them were to be thoroughly washed, and their clothing was to be fumigated for twelve hours.

—In Brooklyn, where diphtheria has been prevalent for so many weeks, the residents will not be satisfied, Superintendent Raymond, of the Board of Health, says, with the investigation regarding the disease at present being conducted by the health committee of the Board of Aldermen, and extraordinary measures will have to be taken in order to suppress the disease. Last week fifty deaths from it were reported to the authorities. A bill will be introduced at the next session of the legislature providing for an extra appropriation for the maintenance of the Brooklyn health department; the board of estimate having reduced the estimate for 1881 from fifty-one thousand dollars, which was asked for, to twenty-two thousand dollars. Unless this is passed one half of the entire number of sanitary inspectors will have to be discharged next month, on account of the lack of funds to pay their salaries.

—Two veterinary surgeons, acting under authority from Health Commissioner Crane, have been making an examination of the cow-stables of Brooklyn, and the other day discovered that ten out of fourteen cows in one stable were suffering from pleuro-pneumonia. The owner was summoned before the Board of Health.

—A very aggravated case of trichinosis was admitted to Bellevue Hospital on the 22d of November, and terminated fatally on the 4th of December. The patient was a young German butcher, and it was discovered that the disease had been caused by eating raw pork. On one occasion Professor Janeway, in whose wards the case occurred, removed a small piece of muscular tissue from the shoulder of the patient,

which a microscopic examination showed to contain no less than thirteen living trichinae. At the autopsy, which attracted a great deal of interest, it was found that all the muscles had become infested with the parasites, their number probably amounting to many millions.

—An infant, about two months old, recently died in this city from tetanus, resulting from the bite of a rat.

—A conference under the auspices of the State Charities Aid Association was held last week, and among the topics for discussion were The Care of Adult Able-Bodied Paupers, The Elevation of the Poor in their Homes, and Hospitals and the Care of the Insane.

—The third of the course of free lectures for the people at the Cooper Institute was given on the 11th of December by Prof. Charles F. Chandler, who selected for his subject The Sanitary Condition of our Summer Resorts. He devoted a considerable portion of it, however, to the need of sanitary reform in the city also, and in the course of his remarks said that most of the better classes of dwellings were absolutely worse, as regards imperfect ventilation, sewage, and drainage, than the tenement houses. Having spoken of the almost universal prevalence of bad plumbing, he said that all pipes should be placed where they could be seen and examined at any time, and not incased in walls, where their imperfections could be successfully hidden. There was a bill now in preparation, he said, which was intended to provide by legislation for the plumbing of the future by requiring that no public or private building should be erected unless plans for the plumbing should be submitted to and approved by the board of health, and that there should be a registration of all plumbers, any one of whom detected in putting in imperfect work should have his name stricken from the list. Another needed reform was in the direction of street cleaning, for which he thought there should be organized a separate department of the city government, on the same basis as the fire and police departments.

—Dr. Antonio de Tejada, a promising physician of this city, died on the 12th of December from the results of a fall the night previous. For some years he had had organic disease of the heart, and a few minutes after retiring he was seized with a suffocating sensation, which caused him to rush to the window and throw up the sash. While leaning out the window, he unfortunately lost his balance, and was precipitated to the basement area, three stories below. He was born in Cartagena, United States of Colombia, in 1845, and was a graduate of Bellevue Hospital Medical College.

CHICAGO.

—Prof. J. D. Fitch, of the Woman's Medical College, has been confined to his house for several weeks with sickness, from which he is improving very slowly.

—An epidemic of diphtheria is now in progress in Chicago. For six weeks past, or more, cases have been very numerous. The death-rate is low for an epidemic of this disease; yet the number of deaths

from it each week has increased so much that the daily newspapers have taken notice of the fact, and quite a feeling of terror among the people in certain quarters has arisen. The commissioner of health has been asked how it is that the reports at his office have shown so few cases, while every physician is talking about the great prevalence of the disease. He has explained the omission on the part of physicians to report cases to his office on the ground of the uncertainty in the minds of many conscientious practitioners as to the diagnosis between true diphtheria and ordinary severe pharyngitis and true croup. Doubtless this is not the true explanation as to the majority of the omissions. The fact is, the law requiring cases of infectious diseases to be reported to the city health department is quite generally ignored, except in the case of small-pox. Scarlet fever cases in vast numbers are treated by all classes of physicians without the department knowing anything about them, notwithstanding the law requires all such cases to be reported and red warning-cards to be posted on the houses. When a case that has not been reported happens to die, it is returned as a death from inflammation of the throat, of Bright's disease, or something else. The neglect to report cases of diphtheria is much greater than is the case with scarlet fever. This is for two reasons: one, that when they are reported the law does not oblige the department to take any public cognizance of the fact, as in the posting warning-cards, or transportation of patients to the pest-house; the other, that, as public and official attention has not emphasized the necessity of reporting this particular disease, this is a good legal duty for physicians to neglect. The law requires a case of diphtheria to be as promptly made known as a case of variola. The very general failure to report them makes the statistics in the city office utterly valueless, and some means of inducing physicians to generally report cases ought to be devised, or the rule should be abolished. It is with this duty very much as it is with that to report births merely for vital statistics; physicians, many of them, think, for one reason or another, that the State has no right to ask this service of them without some compensation. Something needs to be done to make each particular man desire to do and have this service performed.

—The present epidemic has been very fruitful of cases of tracheotomy. One surgeon informs the writer that since October 1st he has operated in eleven cases, most of which were undoubted cases of diphtheria; as evidenced by the presence of large patches of false membrane on the pharynx.

—The question of a training school for nurses in connection with the Cook County Hospital has been much agitated of late, and the commissioners have voted to allow the local organization gotten up to conduct the school, to take charge of a part, or the whole, of the nursing at the hospital. The scheme meets with some opposition on the part of the management, and so far it has not been inaugurated. The medical staff of the institution have not been consulted in the matter.

Miscellany.

PHARYNGITIS RESULTING FROM THE INHALATION OF COAL-OIL GAS.

MR. EDITOR,—Several cases of simple acute pharyngitis have occurred in my practice, caused, apparently, by the inhalation of coal-oil gas escaping from lamp-burners of inferior scientific construction. My attention was first invited to this possibly new annex to the aetiology of throat inflammation during a service as post surgeon in one of the United States Army hospitals on the Western frontier. While making a usual morning visit to the ward I discovered three cases (there being at the time only four patients in the room) of acute pharyngitis, and was promptly informed by one of the sufferers that the fumes from an old coal-oil lamp, kept burning in disobedience to rule by a superstitious nurse, had caused the trouble in his throat, at least.

Shortly after the outbreak of the above-mentioned cases, I had occasion to rest through the night in a small room adjoining that of a very sick patient in the family of one of the officers, where a lamp was left burning, with the wick turned low down. In the morning my throat felt quite sore, and I could distinctly taste coal-oil gas. I have since seen other cases of the same character, and have been informed by a medical friend of two or three cases in his experience resulting from the cause to which I have referred. I should like to hear if other practitioners have met with similar cases from like cause.

Coal oil gas, I believe, been tried as a remedy, both external and internal, for pharyngitis (I have never attempted its use, and have no desire to), but its fumes will certainly produce inflammation of the throat.

SOLON B. STONE, M. D.

MALDEN, December 8, 1880.

LONDON LETTER.

WE copy entire the following interesting letter of the London correspondent of the *Louisville Medical News*:—

Among the most lively discussions on hand just now here, as, I suppose, in most other centres of medical activity, is that among the obstetricians and gynaecologists of the opposing vital and mechanical camps. The war broke out in the obstetric section at Cambridge, and a short engagement was fought with much vivacity; but the subsequent skirmishing in the outer fields, where the combatants bivouacked, was still more lively. The fire was opened by Dr. Henry Bennett, the veteran of many a well-fought field. Henry Bennett, as most people know, but as many are apt to forget, has rendered imperishable services to British gynaecology,—to the gynaecological sections and practice, I may say, of all English-speaking people. Fresh from the hospitals of Paris, where he had achieved distinguished success as student, externe and interne, he brought to England the speculum,—that mighty adjuvant to the alleviation of the sufferings of women in inland hospitals. With it he also brought the preliminary knowledge and experience and the varied and well-grounded pathological and clinical knowledge necessary to enable him to gather the large crop which always lies ready for the sickle of those who are the first to use any new

instrument of precision. The results of his labors are embodied in his classical plates, and in *The Inflammation of the Uterus, its Cervix and Appendages, and the Connection of the Inflammatory Condition with other Diseases*. Only the veterans of medicine remember the reception with which he met, and it was hysterically exciting to see him now fighting the battle of the inflammations against the young sempsters of the "mechanical school," as he had formerly to fight it against the discreet family physician who considered the speculum an indecent invention, borrowed from the clinics abounding in French prostitutes and an obscure area, against which the mind of the Anglo-Saxon matron would revolt, choosing death rather than disgrace. Bennett thence was the denunciator of the neglect of chronic inflammatory conditions of the uterus, cervix, or body, as the source of various morbid conditions of the periods of pregnancy, of childbirth, and its results. "How often a practitioner," said he, "is summoned to a patient who is passing through her third or fourth pregnancy, perhaps, with more or less suffering! She has what is technically called a 'laborious pregnancy.' She is suffering from severe sickness, from more or less hæmorrhage, from pseudo-menstruation." After gravely hearing her woes he gravely decides that she is sick, because she is — out of health. The fact is that she has started on her nine months' journey with a coach which is out of order. The wheels creak, the springs break, the machine discharges its passenger, not because of any constitutional defect in the road over which it travels, or in any other diathetic conditions, but because of a local injury or defect which was unnoticed at the first, which has become exaggerated as this little organ, of the size of a hen's egg, has dilated and grown to the size of a pudding bag, containing a baby, a placenta, a pint of water, membranes, *et alia*. The source of mischief has not been discovered, according to Bennett, because it has not been looked for.

As stated in the earliest edition of his work on uterine inflammation, published in 1845, and in subsequent editions published in 1848, 1852, and 1861, he drew attention to an important pathological fact, namely, that chronic inflammation of the cervix or body of the uterus had a powerful and frequent influence in the production of various morbid conditions of the pregnant, parturient, and puerperal periods. During pregnancy it often gave rise to laborious gestation, to obstinate sickness, to hæmorrhage simulating menstruation or otherwise, to abortion, and to the formation of placental tumors or moles. At the time of parturition it often gave rise to rigidity of the cervix, erroneously interpreted by most writers, to lingering, painful labor, to hæmorrhage during labor and after it, and to adherent placenta. During the puerperal period it often gave rise to metritis, to ovaritis, and abscess of the lateral ligaments, to prolonged sanguineous and purulent lochial discharge, to arrested involution, to subsequent displacement in various directions, to retarded menstruation, to a host of morbid local symptoms of various forms, affecting the bladder, the rectum, the anus, and the pelvic viscera in general, and to numerous constitutional sympathetic symptoms more or less marked and severe. These clinical facts had been ascertained (1) by the surgical examination of pregnant women up to the sixth or seventh month of pregnancy, whenever they presented the uterine symptoms referred to; (2) by the surgical examination of women six weeks or two months after delivery, as a rule, when-

ever they had presented any of these morbid conditions during pregnancy, during parturition, or during the puerperal condition.

Hercupon rose up Grailey Hewitt, who has what he calls convictions, and what his friends call "a craze," — that the beginning and end of uterine disease, diagnosis, and treatment lies in malpositions of the uterus and their rectification by mechanical treatment. Bennett had made the very simple statement that if medical men had not a most groundless fear of examining pregnant women, to see what was the matter, they would, nine times out of ten, find local inflammations, fungoid granulations, and the like, which being treated their patients would cease to vomit, to bleed, and to abort.

Grailey Hewitt has a horror of the word inflammation, and ulceration is to him a non-existent condition which to mention excites him to great wrath. He indulged in comically plain speaking. To talk of inflammation of the cervix as a cause of uterine disturbance or disorder was, he said, to resort to a by-gone and obsolete pathology. Inflammation was a word that ought to be expelled from uterine pathology, and (referring to his recent practices in the "mechanical treatment of uterine affections") he added that in the most recent and advanced treatises on the subject it would be found that it had been carefully eschewed, and no mention could be made of anything so obsolete. Ulceration had been annihilated by searching criticism. "Pressure of a distorted uterus," complete with other mechanical conditions, was the main cause of vomiting in pregnancy.

These opinions, uttered with all the gushing earnestness which is, in Dr. Hewitt's delivery, characteristic of the combination of fanaticism and asthma, for which he is remarkable, caused much amusement and when Dr. Grailey Hewitt went on to speak of "fractional" treatment of the vomiting of pregnancy as the great panacea there was a general titter. Bennett retorted rather hotly, observing that those who purchased uterine hand-books from which the words inflammation and ulceration were so rigidly excluded would perhaps need to supplement them by others in which the existence of a mucous membrane was not denied to the uterus, or the pathology of such a membrane ignored.

Subsequently, Dr. Montrose Pallen, of New York, read a paper on the *Ætiology and Treatment of Lacerations of the Cervix Uteri*, from which it seemed to follow that about twenty-five patients out of every hundred (two hundred out of nine hundred gynecological patients seen in six years in a New York clinic) suffered from laceration of the cervix uteri, which either interfered with the generative functions or produced more or less disease. These lacerations required to be sewn up, sometimes to be pared; but the right thing was to look for them after labor, and within a few days after labor to take the poor woman and sew up these unhappy lacerations. Dr. Marion Sims quite approved of this, but seemed rather doubtful whether it might not be possible to have too much of a good thing, and whether some "unnecessary" sewing up were not practiced at this moment in New York. He intimated, indeed, that he thought it was. This episode has created some alarm in the minds of the uninitiated who are not gynecologists. When Dr. Sims was first here he demonstrated, to the satisfaction of a great many people, and indeed seemed almost to have established it as a canon in practice, that a great number of women are suffering from complaints which require that the cervix uteri shall be lacerated to the extent of complete

division; and we were under the impression that, according to the well-established experience of Marion Sims and his school, about twenty to twenty-five per cent. of the gynaecological patients are required to have the cervix uteri divided in order to be restored to health. But if now we find that at least as many are suffering from complaints which require that cracks, cuts, and fissures of the cervix shall be shut up, it seems as if the greater part of the energies of that most fearfully numerous, highly intelligent, and active class of practitioners who, either as specialists or as family doctors, have a claim to the title of gynecologists, will in future be divided between splitting up the cervixes of those women who yet possess them entire, or uniting with horsehair or silver wire those which are by nature cracked or fissured. The general moral would then be open to deduction that in respect to the uterus whatever is wrong, and whatever is not ought to be brought about. Between the mechanists, the vitalists, the incisors, and the sutors of the womb, that long-suffering organ is likely to have anything but a quiet time; and it is perhaps hardly surprising that men like Henry Bennett, who are largely responsible for the introduction of this alarming instrument of precision, should, at the close of a long and honorable career, adopt a conservative attitude, having some of his enthusiastic young friends to display less zeal and try a little more cool observation.

THE LAW OF SLANDER AS APPLICABLE TO PHYSICIANS.

WE clip this interesting article from the *Canada Lancet*:—

The following extracts are from a paper which appeared in the August number of the *American Law Register* of Philadelphia, from the pen of Mr. W. H. Whittaker, attorney at law: There is, perhaps, no class of professional men more subject to abuse, and it is believed, more powerless to obtain redress, than physicians. About clergymen the law has thrown its protecting arm, and public opinion has been wont to overlook, if not to pardon, their shortcomings. The clergyman is a sort of privileged person, whose character is tried before and whose conduct is regulated by ecclesiastical tribunals, to which the courts of law have relegated it. Lawyers can take care of themselves.

For alleged professional misconduct, incapacity, or ignorance, for rumored unskillful treatment of diseases, physicians who choose may have recourse to legal proceedings. But to cowhide the editor or sue the newspaper for the circulation of a libel may be said, in either case, to be social suicide. The physician must grin and bear it. But if he braves public opinion and asserts his rights, if he endeavors to obtain satisfaction at law, the chances are, to say the least, uncertain. It is doubtful, as the law now stands, what charges of misconduct in a physician in a single instance are actionable. One court (*Camp v. Martin*, 23 Conn. 86) has held that words spoken of a physician, charging him merely with ignorance or misconduct in the treatment of a particular case, were not actionable *per se*. The words were, "If Dr. C. had continued to treat her, she would have been in her grave before this time. His treatment of her was rascally." Another court (*Secor v. Harris*, 18 Barb. 425) has adopted a contrary view in a similar case, where the words were, "Dr. S. killed my children. He gave

them teaspoon doses of calomel; it killed them; they died right off, the same day." This last is no doubt a more aggravated case, but it is difficult to understand the grounds upon which the principle was distinguished in the two cases. . . . The question still remains, When do the misrepresentations of a physician's practice in a particular case warrant the presumptions of damage? It is allowed that slanderous words, alleging gross ignorance generally, or such ignorance or thorough incapacity as unfits him for the proper exercise of his profession, are actionable *per se*. To say of a physician, "He is a quack" (*Pukford v. Guteh, Dorchester Assizes, 1787*); or, "He is an empiric and a mountebank" (*Vin. Abr., Act. for Words, S. a. 12*); or, "He is a quack; if he shows you a diploma it is a forgery" (*Moises v. Thornton, 8 Term Rep. 303*); or, "He is no doctor; he bought his diploma for \$50" (*Burgold v. Puchta, 2 Thomp. & C. N. Y. 522*); or, "He is a drunken fool and an ass, and never was a scholar" (*Cawdrey v. Tetley, Godb. 441*); or, "He has killed six children in one year" (*Carroll v. White, 33 Barb. 615*); or, "It is a world of blood that he has to answer for in this town through his ignorance. He was the death of J. P. He killed his patient with physic" (*Tully v. Alewin, 11 Mod. 221*); or, "I wonder you had him to attend him. Do you know him? He is not an apothecary; he has not passed any examination. He is a bad character; none of the medical men here will meet him. Several have died that he has attended to, and there have been inquests held upon them" (*Southee v. Denny, 1 Ex. 196*). In all these cases it has been held that damages are inferable without proof; but to say of a physician, "He is so steady drunk that he cannot get business any more" (*1 Ohio 83 n.*); or, "He is a two-penny bleeder" (*Foster v. Small, 3 Whart. 138*); or to charge an allopathic physician with having met homœopaths in consultation, and that in the opinion of the profession it was improper to do so and against etiquette, and further that in the opinion of the profession it was disgraceful to meet a homœopathist in consultation (*Chy v. Roberts, 8 L. T. N. S. 397*); or to charge him with adultery not necessarily touching him in his profession without showing that it was connected with his profession (*Ayre v. Craven, 2 Ad. & E. 2*), have been held not actionable *per se*.

While the authorities are generally agreed as to charges of gross ignorance or incapacity in the exercise of the duties of the physician, it is not easy to determine what words are actionable in themselves in special instances. In analogous and even in precisely similar cases, the courts are divided. Where the words were, "He killed my child; it was the saline injection that did it" (*Edsall v. Russell, 4 M. & G. 1090*); or, "He has killed my child by giving it too much calomel" (*Johnson v. Robertson, 3 Porter, 486*), they have been held actionable *per se*. And, on the contrary, the words, "He has killed his patient with physic" (*Poe v. Mondford, supra*); or, "In my opinion, the bitters A fixed for B were the cause of his death" (*Jones v. Diver, 22 Ind. 184*); or, "He gave my child too much mercury, or made the medicines wrong through jealousy, because I would not allow him to use his own judgment" (*Edsall v. Russell, supra*), have been held not actionable in themselves.

In the examination of these cases, it will be found that where the physician is charged with killing his patient the words have been held actionable on account

of the imputation of crime which they import, and the only case in which such language has been held not actionable is that of *Poe v. Mondford*, of an early origin. The case was rejected by the court in *Secor v. Harris*, on the ground that it was decided at a time when the doctrine of *malitia sensus* prevailed. And as for the case of *Jones v. Diver* the court held that the words were not actionable, because they did not import a charge of murder; that if the defendant had said that "the bitters Dr. D. gave John Smith caused his death; there was enough poison in them to kill ten men," he would have been held guilty of the charge, and the words have then been actionable.

How such words necessarily import the crime of murder or manslaughter, in the absence of any expression of intention, is not quite clear. This was not the ground of the decision in a case of a non-professional, charged with having destroyed the life of a patient by mistake, but well-meant efforts to save his life (*March v. Davison*, 9 Paige (N. Y.) 580). But even if the words do not import the charge of crime or of gross incapacity generally, there seems to be reason for holding that they should be actionable. It is true, as was said in a former case, that a physician might make a mistake in his treatment of a disease, because it was rather a proof of human imperfection than of culpable ignorance, but the consequences are often as fatal to

him as though the charge was a general one. His mistake might be of "that pardonable kind" which would do him no injury in his profession, but the public might not pardon it. And what if he is not guilty of the charge? What if he has done his duty towards his patient, and has adopted every means in his power, and such as were recognized in the profession as suitable for the case, to restore him to health? The consequences, so far as the public are concerned, are the same, with the additional mental suffering which every man must undergo whose conduct and whose actions are grossly misrepresented before the community at large. True, the law does not deny him remedy if he chooses to take it. Perhaps it would be more fatal to resort to legal proceedings in any case. If he does, he is compelled to show special damages, for none will be inferred. This alone would cause many to hesitate before bringing an action. The difficulty attendant upon proving damages, the length of time intervening between the publication and consequences of a slander, would deter many from the prosecution of the slander.

As the cases now stand, one may bring almost any charge of misconduct against a physician in a particular case, without subjecting himself to an action for damages *per se*, provided it does not come within the category of a statutory crime, or impute to him general incapacity.

REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 11, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zy-motic Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.
New York.....	1,209,561	631	256	25.39	21.08	13.00	6.02	1.11
Philadelphia.....	846,980	314	101	25.16	6.37	5.10	4.14	4.78
Brooklyn.....	566,689	273	106	32.97	16.85	26.01	3.30	7.33
Chicago.....	503,298	194	82	21.13	13.40	12.90	1.55	2.06
St. Louis.....	—	—	—	—	—	—	—	—
Baltimore.....	393,796	159	54	24.53	11.32	9.43	6.92	2.56
Boston.....	363,938	142	55	27.46	13.38	21.83	1.41	2.11
Cincinnati.....	280,000	103	32	12.62	12.62	1.94	1.94	3.88
New Orleans.....	210,000	85	24	15.30	8.24	3.53	1.18	—
District of Columbia.....	180,000	74	25	13.51	13.51	9.46	—	1.35
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,649	65	30	33.84	12.31	12.31	15.38	3.08
Buffalo.....	155,159	43	14	20.93	6.98	11.63	6.98	2.33
Milwaukee.....	127,000	51	32	25.49	5.88	9.80	13.72	—
Providence.....	104,862	38	10	7.90	21.05	5.26	—	2.63
New Haven.....	63,000	27	11	14.81	3.70	11.11	—	—
Charleston.....	57,000	15	4	—	20.00	—	—	—
Nashville.....	43,543	20	4	15.00	15.00	—	—	5.00
Lowell.....	59,340	27	12	22.22	7.41	11.11	3.70	—
Worcester.....	58,040	31	11	32.26	6.45	3.23	19.35	6.45
Cambridge.....	52,860	13	4	15.38	7.69	15.38	—	—
Fall River.....	48,626	—	—	—	—	—	—	—
Lawrence.....	39,068	15	4	6.67	20.00	6.67	—	—
Lynn.....	38,376	13	3	15.38	30.76	7.69	—	7.69
Springfield.....	33,536	7	2	14.29	14.29	—	—	—
Salem.....	27,347	11	3	18.18	18.18	9.09	—	9.09
New Bedford.....	27,268	10	—	20.00	20.00	10.00	—	—
Somerville.....	24,964	8	1	12.50	25.00	12.50	—	—
Holyoke.....	21,961	9	5	11.11	44.44	—	—	—
Chelsea.....	21,780	7	3	28.57	14.29	—	14.29	—
Taunton.....	21,145	9	2	22.22	11.11	22.22	—	—
Gloucester.....	19,288	13	3	23.08	7.69	23.08	—	—
Haverhill.....	18,478	0	4	25.00	—	—	—	25.00
Newton.....	16,394	11	3	18.18	27.27	18.18	—	—
Newburyport.....	13,470	1	0	—	—	—	—	—
Fitchburg.....	12,270	5	3	20.00	20.00	20.00	—	—
Seventeen Massachusetts towns.....	138,228	58	18	24.14	13.79	15.52	—	5.17

Deaths reported 2486; 917 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fever) 595, consumption 384, lung diseases 353, diphtheria and croup 303, scarlet fever 107, typhoid fever 53, small-pox 34, diarrheal diseases 30, malarial fevers 28, whooping-cough 12, cerebro-spinal meningitis 11, erysipelas 11, measles five, Chagres fever one. From *small-pox*, Philadelphia 27, New York seven, Chicago one. From *diarrheal diseases*, New York nine, Chicago and Cincinnati four, Baltimore and New Orleans three, Nashville two, Boston, District of Columbia, Pittsburgh, Lowell, and New Bedford one. From *malarial fevers*, New York 13, Brooklyn six, New Orleans five, Chicago, Baltimore, Cincinnati, and New Haven one. From *whooping-cough*, New York six, Baltimore two, Philadelphia, Chicago, Boston, and Holyoke one. From *cerebro-spinal meningitis*, Philadelphia five, New York, Baltimore, New Orleans, Milwaukee, Chelsea, and Brooklyn one. From *erysipelas*, Brooklyn and Chicago two, Philadelphia, Baltimore, District of Columbia, Lowell, Worcester, Springfield, and Quincy one. From *measles*, Philadelphia two, New York, Boston, and Pittsburgh one. From *Chagres fever*, Baltimore one. Baltimore reports one death from *sunstroke*, and District of Columbia one from *hydrophobia*.

One hundred and sixty-eight cases of diphtheria, 67 of scarlet fever, six of measles, two of typhoid fever, and one of whooping-cough were reported in Brooklyn; small-pox two in Chicago; diphtheria 64, scarlet fever 20, in Boston; scarlet fever 34, diphtheria 15, in Milwaukee; diphtheria six, scarlet fever six, typhoid fever four, whooping-cough two, erysipelas one, croup one, in Providence; diphtheria seven, scarlet fever five, in Cambridge; diphtheria 10, scarlet fever four, in New Bedford; diphtheria three, typhoid fever one, in Somerville.

In 53 cities and towns of Massachusetts, with a population of

1,008,351 (population of the State 1,783,086), the total death-rate for the week was 20.43, against 24.18 and 19.42 for the previous two weeks.

For the week ending November 20th, in — German cities and towns, with an estimated population of 7,770,175, the death-rate was 22.2. Deaths reported 3319; 1550 under five: pulmonary consumption 448, acute diseases of the respiratory organs 281, diphtheria and croup 168, scarlet fever 119, typhoid fever 59, whooping-cough 39, measles and röteln 45, puerperal fever 23, typhus fever (Posen) two, small-pox (Königsbute) one. The death-rates ranged from 9.2 in Metz to 32 in Breslau; Königsberg 20.3; Breslau 32; Munich 29.6; Dresden 23.3; Berlin 21.7; Leipzig 22.8; Hanburg 23; Hanover 17; Bremen 15.3; Cologne 23.9; Frankfurt 16.4; Strasburg 23.6.

For the week ending November 27th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 22.1. Deaths reported 3175: acute diseases of the respiratory organs 367, scarlet fever 162, measles 62, fever 55, whooping-cough 45, diarrhoea 45, small-pox (London) 19, diphtheria 17. The death-rates ranged from 17 in Bradford and Portsmouth to 30 in Wolverhampton; Leeds 35; Birmingham and Sheffield 19; London 22; Bristol 24; Manchester 25; Liverpool 29. In Edinburgh 22; Glasgow 25; Dublin 38.

In the 20 chief towns in Switzerland for the weeks ending November 20th and November 27th, population 522,856, there were respectively 26 and 29 deaths from acute diseases of the respiratory organs, diarrheal diseases 14 and seven, diphtheria and croup 11 and seven, whooping-cough three and three, small-pox five and two, typhoid fever three and one, scarlet fever two and one, measles one and one.

The meteorological record for the week in Boston was as follows: —

Date.		Barom-eter.	Thermom-eter.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
		Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in Inches.	
1880.																					
Dec.	5	29.795	36	43	23	77	100	100	92	W	SE	W	2	18	7	O	R	O	F	9.50	.39
"	6	29.723	39	46	34	100	52	53	68	W	SW	NW	11	7	1	O	R	O	O	1.50	.01
"	7	29.824	25	35	18	78	56	57	64	W	W	W	8	18	15	O	O	F	C	—	.2
"	8	30.003	20	31	13	64	43	54	54	W	SW	W	11	13	10	F	O	F	C	—	—
"	9	30.342	20	28	11	81	36	37	58	W	NW	SW	9	6	3	C	C	C	C	—	—
"	10	30.399	19	23	14	82	72	85	80	NW	NW	NW	10	15	20	O	O	R	O	7.15	.21
"	11	30.167	21	32	8	79	43	52	58	NW	NW	SW	13	7	6	C	F	O	O	—	—
Week.		30.023	26	46	8					W	NW	W								18.55	.61

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., snow; T., threatening.

² Too small to measure.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM DECEMBER 11, 1880, TO DECEMBER 17, 1880.

DE LOFFER, A. A., captain and assistant surgeon. Relieved from duty at camp on White River, Col., and assigned to duty at Fort Wallace, Kansas. S. O. 269, Department of the Missouri, December 8, 1880.

HALL, WILLIAM R., captain and assistant surgeon. Assigned to duty at camp on White River, Col. S. O. 269, C. S., Department of the Missouri.

BENHAM, R. B., first lieutenant and assistant surgeon. Relieved from duty at Fort Snelling, Minn., and assigned to duty at Fort A. Lincoln, D. T. S. O. 165, Department of Dakota, December 8, 1880.

At a meeting of the council of the American Social Science Association, held in New York on the 10th inst., the health department was reorganized with the following list of members: Walter Channing, M. D., Boston, Chairman; E. W. Cushing, M. D., Boston, Secretary; E. M. Hunt, M. D., Metuchen, N. J., W. G. Wyllie, M. D., New York, Prof. W. H. Brewer, New Haven, Conn., J. C. Hamilton, M. D., Mobile, Ala., George E.

Waring, Jr., Newport, R. I., Emily Pope, M. D., Boston, J. S. Billings, M. D., Washington, D. C., S. B. St. John, M. D., Hartford, Conn., David Hunt, M. D., Boston, Charles B. White, M. D., New Orleans, La., D. P. Lincoln, M. D., Geneva, N. Y., Mary Putnam Jacobi, M. D., New York, Henry E. Baker, Lansing, Mich., John Rauch, M. D., Springfield, Ill., Elliot C. Clarke, Boston, E. C. Seguin, M. D., New York, Dr. Plummer, San Francisco, Cal., A. N. Blodgett, M. D., Boston, C. F. Wingate, New York, Elisha Harris, M. D., New York.

GYNECOLOGICAL SOCIETY OF BOSTON. — The fourteenth annual meeting will be held on the first Tuesday of January at four o'clock, p. m. Election of officers and other important business will be in order.

HENRY M. FIELD, M. D., Secretary.

BOOKS AND PAMPHLETS RECEIVED. — Stricture of the Male Urethra: Its Radical Cure. By Fescenden N. Otis, M. D. New York: G. P. Putnam's Sons, 1880.

Proceedings of the Association of Medical Officers of American Institutions for Idiotic and Feeble-Minded Persons. Session, Barre, Mass., June, 1880. Philadelphia: J. B. Lippincott & Co. 1880.

Lectures.

THE CARTWRIGHT LECTURES ON THE PHYSIOLOGICAL ANTAGONISM BETWEEN MEDICINES, AND BETWEEN REMEDIES AND DISEASES.

BY PROFESSOR ROBERTS BARTHOLOW, M. D.

SIXTH AND LAST LECTURE. THE ANTAGONISM BETWEEN REMEDIES AND DISEASES (CONTINUED); ANTAGONISTS TO INFLAMMATION, TO FEVER, TO THE ANIMAL POISONS, HYDROPHOBIA, SYPHILIS, THE DIATHESES AND THE CACHEXIAS.

IN commencing, Dr. Bartholow said that it must seem evident to those who had followed his last lecture, or who had given any independent thought and investigation to the subject, that the treatment of local maladies was governed largely by the principle of antagonism. He next inquired if this principle was equally applicable to the treatment of constitutional states, and if there were any proper antagonists to inflammation, to fever, and to the diatheses and the cachexias. He then expressed the opinion that it could be shown that such antagonists did exist, and that our most successful therapeutical agents were applied in these maladies in accordance with the principle of antagonism.

He first spoke of the treatment of inflammation. After giving an outline of the successive changes and phenomena observed in the process of inflammation, as understood at the present day, he stated that no single remedy could antagonize the complexus of symptoms belonging to inflammation; but the successive steps in its development might be counteracted by agents having effects opposed to those of the existing phase of the process. The initial change—the preliminary congestion—was often compared to the phenomena which ensued when the cervical sympathetic was divided. Such a comparison was of limited applicability, since in inflammation not only did the vessels dilate, but coincident changes occurred in the blood and in the tissues. It followed, therefore, that the remedies which proved effective at the outset of an inflammation must not only act on the contractility of the vessels, but also on the corpuscular elements of the blood; for, immediately on the occurrence of stasis, the migration of the white corpuscles and the diapedesis of the red began. There were two remedies of special value at this juncture, and three others of secondary importance. Quinia and morphia, if administered together in sufficient quantity, at the right moment, would often suppress a beginning inflammation. Such a statement could not be supported by any positive facts, for it was impossible to decide whether the morbid process would have proceeded beyond the point it had attained. The negative facts had a high degree of importance, for if these remedies failed to accomplish the arrest of the inflammation when applied at the right moment, they were not true antagonists; the antagonism, if exerted, was without influence over the development of the process. There was need of facts on this point, and the profession should on every suitable opportunity try the truth of this supposed antagonism. His own conviction was that it existed, and that failure was due to the inopportune application of the remedies.

A statement of the physiological actions of these agents would indicate the nature of the opposition. Quinia and morphia, if administered together in quantity sufficient to produce their full physiological effects,

would raise the tonus of the arterioles, check the migration of the white corpuscles and the outward diffusion of the albumen, fibrin, and salts, and arrest the amaliform movements and the subsequent multiplication of the white corpuscles outside of the vessels. He had already pointed out that morphia possessed the power to raise the vascular tension and to check all vital processes, and in these actions we had an explanation of its powers in inflammations.

Quinia had a greater range of action. The modern researches had already cleared up all that was uncertain in regard to its physiological effects, and had explained its therapeutical uses, formerly known only through empirical observation. We were chiefly indebted to Professor Binz, of Bonn, he said, for the demonstration of the activity of quinia as a poison to protoplasm and to the minute forms of life. It was to this property that its power to arrest the movements and other vital acts of the white corpuscles was due. The possession of this property might also serve to explain the curative power of quinia in malarial fevers, if the recent discovery of the *bacillus malarie* by Klebs and Tomassi-Crudeli was confirmed by further investigations. In order that quinia might act efficiently as a protoplasmic poison, it was necessary, as might be expected, that it should be given in large doses. Beside this property, quinia lessened the oxidizing function of the blood, as Binz and others had shown. Ranke, and afterwards Kerner and Strassburg, had shown that it also reduced to a remarkable extent—one half—the excretion of urea and uric acid. As urea represented the oxidation of the nitrogenous tissues, it was obvious that quinia checked this oxidation. It follows from these considerations that quinia antagonized the increased heat production, the migration and subsequent multiplication of the white cells, and the proliferation of the protoplasm of the tissues; while morphia, by raising the vascular tonus and lowering the work of the heart, tended to remove the congestion.

The other agents having less important relations to the antagonism of the inflammatory process were digitalis, aconite, and veratrum viride. While these agreed in the power to lower the circulation, they differed in the mode of accomplishing this object. After a consideration of the physiological actions of digitalis, the lecturer arrived at the conclusion that this agent could not be used effectively against the first stage of inflammation. Aconite, he continued, behaved differently from digitalis. It reduced the power of the heart, and although it also lowered arterial tension the amount of blood reaching the inflamed part was reduced by it. Furthermore, it lessened oxidation by diminishing the work of the lungs, and reduced temperature, partly because less blood was distributed when the heart was working under its influence and partly because the supply of oxygen reaching the tissues was less. Aconite was especially indicated when the arterial tension in general was high and hæmatisis was active. Veratrum viride possessed powers and properties very similar to those of aconite; but it more distinctly affected the heart, and less, proportionally, the lungs. Its agency in checking inflammation, like that of aconite, consisted in the lessened amount of blood going to the inflamed part and in the diminution of oxidation which it occasioned. The good effects of digitalis, aconite, and veratrum viride ceased with the occurrence of exudation, for then new conditions arose which they could in no way oppose or remove.

It was necessary that the antagonists to the second stage of inflammation should have the power of preventing or removing the products of inflammation. The remedies antagonizing these new conditions were quinia, chloral, and the alkalies. The utility of quinia, however, ceased when the exudate had actually formed, and chloral was especially adapted to this stage of the inflammation, since it diminished the fever-heat, dissolved exudations, and quieted restlessness and delirium. The possession of these qualities, with the exception of its solvent action on exudations, was nowhere disputed. The experimental evidence on which this power to dissolve exudates rested was conclusive, and the clinical experience, although limited and difficult to define, seemed to favor the belief in its existence. It was obvious, however, that the points of contact between chloral in the blood and the exudation in an inflamed area were small. It must therefore be more efficient when it was administered before the final stasis occurred. The influence of an agent which substituted quiet for delirium was in general favorable to improvement in the local state, and the reduction of abnormal heat was not less useful. Chloral, therefore, unquestionably exerted a favorable influence, if it did not dissolve an exudation. An important contra-indication was not to be overlooked, namely, the paralyzing effect of chloral on a weak heart. When exhibited for the proposed treatment the dose should be small, and not repeated more frequently than once in two hours. The tendency to cardiac depression could, however, be overcome by the joint administration of atropia, which did not lessen the utility of the remedy in the direction for which it was used.

Having spoken of the action of the alkalies in this connection, Dr. Bartholow said that when the exudation was undergoing solution, preparatory to absorption and extension, digitalis and quinia again came into use. The particular objects attained by their employment at this time was to give tone to vessels long in a parietic state, and to favor the transformation and elimination of the inflammatory products. Digitalis was more probably a more serviceable remedy to secure these purposes than quinia. Beside, as a result of the more or less long-continued strain on the heart, its action was irritable, quick, and wanting in energy, and these conditions were removed by digitalis.

Taking up the subject of the treatment of fever in accordance with the doctrine of antagonisms, Dr. Bartholow stated that the means for reducing fever heat which we now possessed operated both on the source of heat production and by means of facilitating its dispersion. In the first group were the medicines which stopped or hindered those processes on which the formation of heat depended, and they were known as antipyretics. Besides the antipyretic medicines proper, there were numerous remedies, the paralyzers especially, which diminished heat production amongst the other toxic phenomena produced by them.

The first of the agents affecting heat production was repose, the cessation of all activity; and the lecturer said that he was the first, or among the first, to show that if rabbits, pigeons, and other small animals were so fettered as to be kept immovable for some time the temperature of their bodies declined. The period of greatest depression in the temperature of man was in the early morning, after the repose of the night. Medicaments that suspended muscular activity caused a reduction of temperature which was quite independ-

ent of any influence which they might exert on heat production. It was obvious, therefore, that conclusions drawn from observations in which this cause of lowered temperature was not accounted for must be defective and misleading.

There were numerous agents which affected heat production; the most important being quinia, salicylic acid, resorcin, chloral, digitalis, acouite, and veratrum viride. Besides these, all the remedies which depressed the functions of respiration and circulation diminished heat production more or less. Having discussed the heat-reducing qualities of quinia, which he said unquestionably held the first position as an antipyretic, the lecturer passed on to salicylic acid, which, he stated, had many analogies with quinia. Like quinia, it did not affect the normal temperature to any considerable extent, but had a powerful effect on the temperature of fever. The first demonstration of this fact by Butt had been since confirmed by numerous observers. The quantity required to produce a decided antipyretic effect was not less than sixty grains, and eighty and even one hundred and twenty grains were sometimes necessary.

Profuse diaphoresis usually occurred, and then the decline of temperature began, about half an hour after the proper quantity had been taken. The duration of the decline was about six hours; and this furnished the measure for its repetition. Although the first reports of the curative power of salicylic acid in malarial diseases, by which it was ranked next to quinia, had not been confirmed, it still maintained its original position as an antipyretic. For the reduction of the temperature in fevers it was not as valuable as quinia; but in acute rheumatism its antipyretic power, which appeared to be the secret of its curative effect in that disease, rendered it highly useful.

A new remedy — *resorcin* — was likely to become of service as an antipyretic and as an antiseptic. Originally obtained from a resin, and because it had some similarity to orein, its name had been compounded of the two. According to its chemical composition, it was *meta-dihydroxyl-benzol*, and was a phenol. It had no irritant properties, and might be injected subcutaneously without danger of inflammation and abscess. The dose as an antipyretic was about sixty grains, and it produced at first quickened action of the heart, flushing of the face, and a sense of warmth and precordial oppression. The perspiration began; and with the appearance of the perspiration, which was very profuse, the temperature declined. The antipyretic effect on febrile temperature was very decided, and hence resorcin might come into general use as an antipyretic; the more especially as it did not produce irritation of the parts to which it was applied.

The effect of digitalis on febrile temperature, although decided, was not equal to that exerted by quinia. It was also much slower in action. The systemic effects of digitalis required several hours for their development, and, unfortunately for its use in the treatment of fevers, it caused, if given in any considerable quantity, very great gastro-intestinal disturbance. Furthermore, its administration was to be regarded as ill advised in cases where there was weakness of the heart from granular degeneration of its muscular fibre. The quantity required to effect any considerable reduction of temperature was so great as to excite much gastric irritability, besides being hazardous. When employed as an antipyretic, it should be

used to aid the action of quinia rather than alone. Nevertheless, there were symptoms of the febrile state against which digitalis might be used with signal advantage. In the exanthematous fevers—scarlatina, especially—digitalis antagonized the symptoms most active in bringing about a fatal result, namely, a weak heart, low arterial tension, quick circulation, high temperature, and deficient urinary secretion. Digitalis slowed while it strengthened the heart, raised the tension of the arterial system, and stimulated the kidneys to renewed action. If there were difficulty in retaining it by the stomach, the effects of digitalis might be procured by external application of the moistened leaves.

The antipyretic effects of aconite were less certain and decided than those of digitalis, and it differed from the latter in the character of its action. Aconite lessened the activity of the motor apparatus of the heart, and lowered the arterial tension, and hence it opposed the febrile state associated with rapid, strong, and turbulent action of the heart, and elevated arterial tension. It was against certain symptoms of the febrile condition that aconite was useful, and not as an antipyretic. If, however, high fever were due to sthenic inflammation, it might lower the fever by acting against its source. The same observations were true of veratrum viride. By slowing the heart and diminishing the amount of blood passing into the inflamed area, and by limiting the work done by the lungs (and thus lessening oxidation in general), veratrum viride had an unquestionable influence on the inflammatory process and on the accompanying fever, but it did not have much value purely as an antipyretic.

The most efficient remedy against fevers of the essential group was cold, which acted on heat after its production. Nothing could be more exact than the antagonism of cold and heat. By the application of cold to the body the heat was removed. When the blood was heated above the normal by the fever process, the action of the heart increased correspondingly; when the surface-blood was cooled, presently the whole amount of blood in the body had its temperature lowered, and the heart soon slowed its beat. With the decline of the body heat all those changes due to the elevated temperature ceased. How quickly high heat might kill was seen in heat fever, or sun-stroke, and in hyperpyrexia of some cases of acute rheumatism. How life might be saved under circumstances of imminent danger was witnessed when in the condition of hyperpyrexia the abnormal heat was removed by the application of cold. In the two conditions, often confounded under the term sun-stroke, of heat fever and heat exhaustion, we had an excellent illustration of the principles of antagonism. In heat fever the abnormal temperature was removed by the cold douche, the cold bath, the cold wet-pack, etc.,—agents which would prove fatal if applied to the case of heat exhaustion, in which the temperature was rather below than above normal, the heart feeble, and the respiration slow and shallow. The remedies suited to heat exhaustion,—brandy and tincture of opium,—on the other hand, would soon overcome the subject of heat fever. The principle of antagonism, therefore, was the sure guide which was to be followed in these dangerous circumstances.

The third and last division of maladies against which our antagonists might be directed were the animal poisons, hydrophobia, syphilis, the diatheses, and the

cachexias. After alluding again to the treatment of hydrophobia by woorara, Dr. Bartholow spoke of a singular case recently treated by pilocarpin, in which the tragic death in a wild delirium might be explained by accidental moral causes, the spasms having subsided under the action of the remedy. Very striking were the results obtained by Dr. Guttman in the treatment of diphtheria with pilocarpin. Of eighty-one cases of this disease so treated not one died. He assumed that the free salivary discharge caused softening and detachment of the false membrane; but there must have been some other antagonistic influence at work to produce such uniformly good results. It was very desirable to have further experience with the effects of pilocarpin; but it was not to be forgotten that this remedy had a depressing effect on the heart, and might therefore coincide with the poison of diphtheria, which also paralyzed the heart.

Probably no fact was better established in therapeutics than the curative effect of mercury in constitutional syphilis. Some resemblance might be admitted to exist in the constitutional effects of both agents. They manifested a tendency to attack the same tissues and to produce lesions of a parallel, though not of the same, kind. They must therefore exert an antagonism at the point of contact; for no one could pretend, the lecturer thought, that the poison of syphilis and the poison mercury were the same or similar. They were antagonists, and of such decided antipathy that they could not exist together in the same organ or tissue—one must displace the other.

Reviewing, then, the great subjects of the inflammations, fevers, and specific and diathetic maladies, it was perfectly obvious that the only certain method of management was the use of the antagonist remedies. Although he had not applied the principles to individual examples of inflammation, they were equally applicable to all forms. Taking, finally, a comprehensive view of the subject, what were the lessons to be learned? It was obvious, he thought, that the only rule which we applied in therapeutics, as far as any rule was applicable, was the rule or principle of antagonism. As respects the treatment of the state induced by poisons, the antagonism was direct. The effects of the two opposing agents counterbalanced each other, until the natural powers secured the elimination of the poison. When a toxic substance entered the blood, a series of disturbances followed, which was due to its presence, to its action on the tissues for which it had a special affinity, and to the efforts made for its elimination. The antagonist pursued a similar course, but affected the particular tissues for which it had an affinity in an opposite manner, and thus prevented the impairment of function (which would otherwise result in death), until elimination occurred. The effort of the organism was always against the retention of organic poisons, and their elimination was always effected if there were sufficient time and the organs concerned were in a healthy state.

As regards diseases of particular organs, it was found that antagonism was exerted in two ways,—by similarity and by direct antagonism,—and that the opposition took place in respect to the latter mode, at least in the symptoms. The antagonism by similarity was the action of the remedy on the same tissue and with similar objective signs; but the effect on the tissue was opposed, the disturbance produced by the remedy must necessarily be different in kind from that produced

by the disease. Two actions of an opposed kind on a diseased tissue must necessarily result in two ways,—either the disease was arrested and an equilibrium restored, or one or the other action predominated. If a proper balance of actions was obtained, and the disease was a functional one, a cure must be the result. This was, in fact, an exemplification of the old doctrine of substitution, and a scientific expression of its truth. In the process by direct antagonism the symptoms produced by the disease were opposed by the functional disturbance caused by the remedy. If rightly timed, and the disease were functional in character, the opposition of actions resulted in an equilibrium, which was health.

It was obvious that treatment must be symptomatic; but not in the ordinary sense. To apply physiological antagonists with accuracy a careful analysis of symptoms had to be made, and it was necessary to proceed from the merely objective to the underlying state. It required also an accurate knowledge of physiological therapeutics. To this study, as a distinguished French therapist had lately said, the medical profession should give its unremitting attention. The lecturer proved, however, that there was not that interest in the study of modern therapeutics which was found exhibited in other departments of medical science and art, and said that there was still present the notion that observation and experience should be the sole foundations for the construction of a therapeutical science. The old principle that a remedy which had cured a disease must cure all analogous cases was still the guiding principle with many of the practitioners of our day. Besides the numberless fallacies, the product of individual experience, the observation of analogies was in every way misleading. Whilst decriing the results obtained by experimental study by the physiological method, those who pursued the empirical method were hourly indebted to it for the accurate application of remedial agents. Until Magendie studied strychnia it was merely the mysterious opus poison; until Bernard examined woorara, muscular irritability was the dream of Haller; chloral continued a mere chemical curiosity until the genius of Liebreich demonstrated by one effort its wonderful hypnotic qualities. The results achieved in that way had a remarkable permanence; while the notions of the actions and uses of drugs, engendered by experience and observation, were constantly changing. The deductions of experiment had the same value as the same methods in other experimental sciences. To this end we should direct our best efforts, and rest satisfied with no less certainty than that which belonged to the exact sciences, until we had attained to the degree of perfection that, the disease being given, the remedy followed.

Original Articles.

HABITUAL DRUNKENNESS.¹

BY THEODORE W. FISHER, M. D. HARY.

In a paper read before the Massachusetts Medical Society last year (Transactions, 1879) on Insane Drunkards, I gave some authorities for the existence of a disease usually called dipsomania. I will now give a few examples of habitual drunkenness as it is presented to me, as examining physician to the board of directors of public institutions. I prefer to use here the term habitual drunkenness, because it does not raise the question of insanity, and leaves each case to stand alone in its practical bearings to the public. I will give, however, Sir Robert Christison's rules for distinguishing inebriety from insanity, quoted with commendation by J. H. Balfour Browne, Esq.² He says, "When in any particular case the avidity for strong liquors has reached such a height as to cease to be controlled by every plain and powerful moral and religious consideration, to overwhelm the mind in frequent or continued intoxication, and to occasion danger or actual damage to one's affairs or family, or both, it ought to be regarded as disease and treated as insanity."

The stream of simple or common drunkards which passes through our municipal court does not come under my observation. Under the present law, a person may, on a third commitment for drunkenness within twelve months, be sent to Deer Island for one year. The law being recent, but few cases have been sentenced for that term, and it is doubtful if many long commitments can be obtained. It is only when delirium is actually present that the cases are referred to the board of directors, and it then becomes my duty to examine them and determine their destination. The courts show no disposition to otherwise distinguish the morbid from the vicious drunkards. In some cases of persons in fair social standing, having interested relatives or friends, the question of diagnosis is brought up. There may be peculiar circumstances which convince them that the drunkenness is of the morbid variety. Good social position and prospects increase the surprise which this habit creates, and the more intelligent the observers the more clearly do they see this morbid element. Drunkards of this class often have some sense of shame remaining, and are skillful in concealing their habit from public observation. It is usually impossible to convict them of the offense known as common drunkenness without the evidence of some near and dear relative who fully believes in the irresponsible nature of the habit. This is the secret of many a wife's devotion to a drunken husband. A lady recently expressed a common feeling in saying, "He may kill me before I will complain of him as a common drunkard." The dread of family disgrace and the fear of revenge on the part of the inebriate also stand in the way of such commitments. The hope of cure makes the asylum preferred, and I am satisfied from personal experience that this hope is not without reason. I have known quite a number of patients of this class to recover under prolonged detention, remaining permanently cured and extremely grateful for their treatment.

Careful inquiry into the responsibility of drunkards is neglected or avoided by the legislature, by our

—The following case is reported from Berlin: A woman of twenty-three had been a sufferer from severe pain in the ovary, accompanied with various distressing symptoms, for which she was advised to submit to Battey's operation. She was operated on under chloroform with antiseptic precautions. The operation was followed by extreme tenderness in the lower portion of the abdomen, and by retention of urine. The patient finally recovered, and the cure was complete. It only remains to be told that the operation was a pretended one, a superficial incision alone being made.

¹ Read before the Boston Society for Medical Observation, December 6, 1880.

² Medical Jurisprudence of Insanity, 1876, page 327.

courts, committing magistrates, and prosecuting officers. Too wide a field is opened, and it is feared that the lamp of science is too dim for its exploration. The legal maxim that drunkenness does not exonerate from criminal responsibility is endangered. The law does not discriminate between the vice of drunkenness and the disease into which it develops, and the hands of those who would help the inebriate are paralyzed. When, in exceptional cases, insanity has been established to the satisfaction of a magistrate, some lawyer interferes with threats of an habeas corpus or other legal proceeding. Asylum authorities, in view of the trouble dipsomaniacs give, in their efforts for release and otherwise, fail to perform what would be their duty in other cases of insanity, namely, to hold the patient against every kind of pressure for a reasonable length of time, and to defend the ease against writs when possible, thus forcing our courts to test the question of responsibility. A patient committed as a dipsomaniac should not be expected to show his insanity under restraint in hospital. His disease is a mania which cannot manifest itself under the circumstances, except in schemes for his release, any more than a kleptomaniac can steal when under constant supervision. He may show only a degree of intellectual or moral impairment and degeneracy, too common to be conclusive evidence of insanity.

The following are a few cases, out of many, which have come under my observation, given without any attempt at complete description. The difficulties in the way of obtaining full family and personal histories are great. The patient may be too delirious or drunk to give reliable information, his parents may never have been in this country, or the members of his family may have been widely separated. At middle life antenatal influences may have been lost sight of, and the importance of hereditary and constitutional defects are often not appreciated. The relation of sickness or of accidents and injuries to subsequent inebriety is better understood by ignorant people.

CASE I. Male, forty-six years old. His father was an habitual drunkard, and was drunk, as he believes, at the time of his conception. His mother's father was also a drunkard. As the youngest son he was most exposed to the influence of his father's increasing inebriety. An older brother was insane for many years, and died demented in an asylum. Of himself he says he had scarlet fever with aurial abscess, and was a queer boy at school, and different from his mates. Memory was always poor. Thinks he made a false step in his marriage, and his family is now broken up. Has drunk by long sprees, with intervals of complete sobriety, for twenty years. Is an artist, and cannot work without stimulation. Thinks his mental powers are never up to a fair standard except when drinking moderately, but he cannot stop at moderate drinking. Continues until sick and exhausted, when occurs a period of depression and sobriety, followed by the necessity for stimulants again. Is often on the verge of suicide when depressed; says he has "thought his hair gray," and has now lost the power of natural thinking. Has had no "solid bar of sleep" between night and day for years. His head feels empty. Can get business when sober, but his judgment is good for nothing without drink, and he cannot work without it. Has had a cough for years, and is no doubt in consumption. When examined was at the City Hospital, and had been drinking for two months previous to admission. Said he wanted to die sober, and on his own urgent request

was committed to the Boston Lunatic Hospital, where he died in about six months, having shown no other signs of insanity than as above stated. His brain showed very marked signs of atrophy.

CASE II. Male, fifty years old, clergyman of the Church of England. Was sentenced to Deer Island for vagrancy, and petitioned the board of directors for leave to lecture in Music Hall on Inebriety as a Disease. He says in his letter, "Is not inebriety or alcoholism considered by the leading English and American physicians the most terrible disease under the sun? Is that law just and right which constitutes the most terrible disease a crime? God knows I speak seriously when I say that the time will soon arrive when the legislature of Massachusetts will be ashamed that it has at this time of the world's day passed such a law."

On examination I found him to be a fine-looking, apparently robust man, with sufficient intelligence to bear out his claim that he was college bred, and had been curate and rector in Wales, England, and Newfoundland, acting chaplain in the American navy, and assistant of the late Rev. E. M. P. Wells. He denied any family tendency to insanity, nervous disease, consumption, or inebriety. Began to drink in college at the age of seventeen, and when rector at Rhyll, a fashionable watering-place, drank wine for dinner daily with clergymen and others, and was a drunkard for a year and a half without knowing it; then remained sober for two years, but relapsed, and has drunk by sprees ever since. Thinks he has acquired the disease, dipsomania. Knows it is a disease, because he has spells of being irritable, restless, and depressed, when he cannot apply himself to work, and after a struggle, generally yields to the strong desire for drink. In his peculiar, flighty, and figurative letter of nine pages to the board, he speaks of voices which advise him to this or that course. He explained this to me by saying that impressions came to him in the way of passing thoughts rather than voices. Some of these thoughts he attributed to Mr. Wells, and some to the devil. Said he had been impressed that if he abstained from drink five years he could then drink moderately, and control the habit. He thought this was a suggestion of the devil, as it was contrary to his belief and experience. He thought inebriates should have a separate place of restraint from criminals and vicious drunkards; believed a physician could distinguish between the latter class and dipsomaniacs. Said he had no desire to lecture except for the purpose of raising money for a suit of clothes and a ticket for the West, where he could begin his struggle against the disease under favorable conditions. I advised in his case putting him on board some vessel bound for a British port.

CASE III. Male, twenty-two years old. No insanity, nervous disease, or phthisis in father's or mother's family. Father drinks occasionally to excess, but his mother has been an habitual drunkard from two years before his birth. Two older children have always been sober. The patient says he began to drink whisky at the age of eight years, at the invitation of a schoolmate, and has drunk to excess since the age of twelve. Has been sent several times to a reform school to control the habit. His last period of detention was ten months, after which he remained sober for several months. Has also been committed to Deer Island for drinking. Now drinks every fortnight for three days only. Is industrious and well behaved

when sober, and is not ugly nor violent when drunk but merely exalted; telling things which have not happened as if true, with considerable detail of circumstance. Forgets all he has said or done afterwards. Pawns his own or the family property for drink when money is withheld. He says his memory and judgment are somewhat impaired, and his self-control very much weakened. He applies for admission to an insane asylum, and is committed to Danvers.

CASE IV. Male, forty-three years old. Father's and mother's grandmother were both said to have been insane. Mother's sister was insane, and the family was consumptive. When about sixteen years old was brought home unconscious from a severe blow on the head, and was delirious for a fortnight. Soon after he began to drink in company with other boys, and took money from his father to supply his wants in this direction. His health also failed, and he was sent to the West on that account, and to get him out of temptation. On his return resumed his drinking habits, and obtained money of his father's customers on various false pretenses. He was in the habit of calling the store his, and represented his father as a man of wealth. Was restless, irritable, and once or twice violent. He is said to have had a fit some time after the accident. At the age of twenty he was sent to the McLean asylum on my certificate and by his own request. He attributed his habit of drinking to the nervous condition succeeding the fall. He was at the asylum three months, and Dr. Jelly became convinced of his unsound mental condition. A few weeks after his discharge he was sent to the Taunton hospital on the certificate of Drs. Fisher and Youngman. He remained nine months, and at his discharge Dr. Godding was satisfied of his mental weakness, and expected his speedy return. After two months was recommitted on the certificates of Drs. Jelly and Taylor, the latter being physician to the East Cambridge jail, where he was detained. Remained seven months in Taunton this time, when he escaped. Was sent, by my advice, on a whaling voyage. Deserted the ship at San Domingo after six months' service, where he had a severe attack of fever, followed by hæmoptysis. Says he had less desire for stimulants there than in Boston. On his return to the latter city had a spree lasting several weeks, in which he raised money, as he had often done before, on checks with false signatures, but without any attempt to imitate the handwriting of persons whose names were used. Neither did he try to avoid arrest, but paid his bills for liquor and clothing with small checks. Was arrested, and on examination at the jail said he was not visibly drunk when the checks were made, or he could not have passed them. Said he could drink day and night without showing it, but was able to go about, acting more or less automatically, and could not recollect his acts afterwards. When out of money, in this condition, is in the habit of writing checks, and he believes he will continue to drink and forge checks as often as he is at large in the city of Boston. Feels perfectly helpless in regard to his conduct, and wants to be restrained. Thinks, as he has broken the law, he should be punished, and prefers a definite sentence to an indefinite term of residence in an asylum. Was committed to the house of correction for one year. His health improved under restraint, and since his discharge he has expressed some hope of keeping sober.

CASE V. Male, thirty-five years old. His father

died of general paralysis, and his father's mother is insane. Has been intemperate and licentious for ten years or more. For three or four years has drank almost continuously, but is seldom intoxicated, and is able to work more or less of the time at his trade as locksmith with his brothers. Has had much of the time for several years delusions of plots to injure his business or to kill him on the part of his brothers, the neighboring tradesmen, and the police. Mentions half a dozen respectable people who are in collusion to harm him, including the present superintendent of police. Says they insult him constantly, and often threaten to kill him. Thinks people passing him in the street insult him who have not spoken to him. When seen was under arrest for a violent assault on his brother, and under the excitement of this occurrence expressed delusions which he afterwards modified or concealed. He abused his imaginary enemies in the vilest terms, giving the names of officers who had threatened to shoot him, and said they "put up jobs" on him by getting boys to ring his door-bell and run away. When irritated, his brother says, he insults customers, and has often given way to acts of violence. Twice threw a heavy grindstone down-stairs after his brother, and once chased his brother's wife with a knife. A certificate was signed in his case, but on the statement of a comrade that he was all right when sober commitment was refused. He was then sent to Deer Island for thirty days for simple drunkenness. He there expressed the same delusions, but in a more general and guarded manner. This was not a case of delirium tremens.

CASE VI. Female, forty-two years old. Her mother was insane before her birth, and is now in the Augusta hospital for recurrent insanity. An aunt on her father's side died in the same hospital, and this aunt's son has been insane. One of her brothers was insane for three years, the rest of seven brothers and sisters being neither insane nor intemperate. Began herself to drink at the age of twenty-three, wine being kept in the house. Then had sprees for several years, with intervals of sobriety, but now drinks continuously whenever she can get money. Says she has lost all self-control in reference to drink, and does not care whether she stops or not. Has lost her moral sense in great measure. Has had delirium tremens and been arrested by the police. Is abusive, violent, and destructive when drunk, and is always worse at the menstrual period. Her husband and sisters want her committed to an asylum, but I decline to certify.

CASE VII. Male, forty years old. No insanity or phthisis in family, but his father was intemperate, and died of asthma, he says. Has never had any severe sickness or injury, except inflammation of the bowels. Has drank by sprees for seven or eight years, and lost money and been out of work on account of his habit much of the time. Has been depressed in consequence, and was three weeks in Taunton Hospital four years ago. Had not been drinking just at that time. Has never had false hearing, but suicidal impulses formerly troubled him. Never had delirium tremens. Sprees now occur about once in three months. For six years has frequently had an impulse to kill his little daughter, of whom he is very fond. This idea does not come from drinking, he thinks, as drink stops it for the time. Applies for admission to Danvers Hospital, for fear he shall yield to this impulse, and is committed.

CASE VIII. Male, thirty-two years of age. His father was very intemperate for many years, and his father's sister was a periodical drinker. No insanity in the family known, and the rest of five children are temperate. At the age of eight years had a blow on the head, causing coma and delirium for a day or two. Was a good scholar, but had a fit at the age of fifteen, with spasms and unconsciousness. Subsequently began to drink to excess. Often had dizziness and fear of falling, not attributable, as he thinks, to drink. Now drinks by sips, and says his head feels so badly that he is impelled to drink for relief. Can only be prevented from drinking by being locked up at home. Has had delirium tremens once. Applies for commitment to Danvers Hospital, and is allowed to go.

CASE IX. Male, forty-three years of age. No insanity, consumption, or inebriety in his near ancestry. His father died of paralysis in old age. Of eight brothers and two sisters, one brother died of acute mania in an asylum, one of paralysis, one of chronic diarrhœa, one of some unknown disease. Four of the brothers have been intemperate. Has himself been a successful business man, and did not drink to great excess until after business losses, five years ago. Had previously drank after business hours in company, but since has drank almost continuously without getting visibly drunk. Tells the most extravagant stories about business when drinking, imposing on those unacquainted with him by his sober manner. A year ago was sent to the Boston Lunatic Hospital at his own request, as he feared paralysis. Said he alternated between depression and excitement, and occasionally had thoughts of suicide when depressed. Remained at the asylum two months, and after his discharge kept from excessive drinking nearly six months, and was able to do some business on commission. At the Narragansett disaster was in the water two and a half hours, and was sick for several weeks afterwards with acute rheumatism, to which he is subject. Has been unable to resist drinking since, and wants to go to an asylum. Is told he can be sent to the almshouse at Rainsford Island, but declines to go.

CASE X. Male, twenty-three years old. No insanity or consumption in his near ancestry. His father was a periodical drunkard before he was born, but left off drinking for ten years at one time. Of three brothers and one sister, the oldest brother and sister are temperate, while a younger brother is a periodical drunkard, and has been sent to Deer Island recently with delirium tremens. The patient had been nervous and troubled with emissions, palpitation, night terrors, and sleeplessness. He is of an extremely neurotic temperament, and was first referred to me by Dr. C. E. Stedman as a candidate for asylum treatment. I put the patient off at first, but on a second application signed a certificate, and he was sent to Danvers Asylum. Here, I was informed, he once had symptoms resembling delirium tremens after drinking freely of sweet cider. He remained at Danvers thirteen months, and having relapsed after three months applied for readmission. I refused to certify, when he stole a horse and wagon and drove out to the asylum from Boston, and was taken in and subsequently re-committed. Remained this time seven months, and had worked well for six months with his brother, who had charge of a green-house. Meanwhile this brother had delirium tremens, and went to Deer Island. On his discharge he came with my patient, who had re-

lapsed, and wanted to go to Danvers again. His request was refused, and he was given a permit for Deer Island. Having missed the boat, he went to the City Hospital, and was admitted, as he seemed to be on the verge of delirium tremens. He was rational the next morning.

CASE XI. Male, forty-two years old. His father was an habitual drunkard before his birth and all his life afterwards. No insanity in family known. Of four brothers, two were temperate; one was reported as a "natural" or "constitutional thief," and served many years in state's-prison for larceny. Has also been a temperance lecturer, and is presumed to have been his own "terrible example." The patient himself has drank by sips since the age of puberty, and is now a chronic dipsomaniac. From a flourishing baker he has become a hanger-on of bar-rooms, doing menial service for drink. Drinks tinctures and even strong soupsuds when he cannot get liquor. At the time of examination was incoherent and good-naturedly garrulous, and was supposed to be drunk. He said his bed was made of "clubs, whisky, *boutonnère*, rum, etc.," and his blanket of "rye whisky, sherry wine, jockey-club," etc.; said "black cats were throwing charcoal at him all night." Was sent to Deer Island, with his own consent, for observation. His condition remaining unchanged for a week or more, he was committed to the Danvers Asylum.

CASE XII. Male, forty years old. Insanity had occurred in his mother's family. Was himself insane, and in an asylum four months, fifteen years ago, after a sunstroke. Is believed to have been perfectly temperate at that time. Recovered entirely, and established a large book-publishing business, by which he made a small fortune. Was an upright, intelligent, active business man, with good social connections and a pleasant family of wife and children. He had a cultivated taste for good books and pictures, with a city house and a cottage in the country. Seven or eight years ago, began to lose money by failure of business connections after the great fire in Boston, and gradually lost his whole property. Was led by mental strain and discouragement to drink, and very soon found he had no control over the habit, and became in a short time a periodical drunkard. Never drank in public, and was not known by his neighbors to be intemperate; took liquor home with him in large quantities, and drank himself crazy drunk as fast as possible. In this condition was violent, dangerous, and destructive, threatening his wife's life and his own repeatedly, and often dangerously assaulting her. In the intervals he was perfectly sober, attended faithfully to business, was gentlemanly in his deportment, and as his wife expressed it, "a model husband and father."

In his last attack he was visited by Drs. Nichols, Foley, Clarke, Blake, and Fisher, each of whom thought he should be sent to an insane asylum without delay, but no one feels willing, in view of the legal status of such patients, to certify. When I saw him he was in a state of maniacal excitement without any definite delusion at the time of the visit, and was in a dangerous and explosive condition; but as it was the result, apparently, of a quart or two of brandy taken daily, for some time, I could only state the difficulties in the way of commitment to an asylum. As he had never been convicted of a first and second offense of drunkenness he could not have been sentenced for a year to Deer Island. No one but his

wife could have given sufficient evidence to convict him of simple drunkenness even, and she would have preferred to take her chances of violence at his hands. In a few days he became weaker, and, a distant male relative having been summoned, his liquor was taken away. He also grew more delirious, and in this state I advised his removal by force to the Washington Home, where he remained seven days without becoming rational. At the end of that time he was entirely oblivious to his surroundings, and, though at times unmanageable, was quite exhausted. He refused food when offered him, because his family was dead and he was dead, and it was no use giving food to a dead man. He having been without liquor for a week, it was possible to certify that his condition was not the immediate result of drink, and he was sent to Danvers on the certificates of Dr. Day and myself.

(To be concluded.)

OPTIC NEURITIS AFTER MEASLES.¹

BY O. F. WADSWORTH, M. D.

THE occurrence of neuritis optici as a sequela of measles appears to have been so rarely observed, at least so rarely reported, that it may be worth while to put on record the three following cases. The neuritis can, indeed, hardly be regarded as a direct consequence of the disease of measles itself; it is rather to be looked upon as the result of a complicating meningitis. In two of the cases the evidence of the latter disease is patent enough; in the third, however, almost the only sign of cerebral affection is given by the ocular symptoms, and on this account especially is it of interest.

J. H. R., aged four, was brought to me at the Massachusetts General Hospital, July 18, 1878, on account of loss of sight, first noticed the day before. He was the second of four healthy children, of healthy parents. The previous winter and spring he had had, occasionally, flushed face and headache, with sometimes vomiting. Aside from this he was well and strong. About the 1st of June his brother, and soon after his sister, had measles. Some two weeks after the brother was attacked this boy began to ail. For several days he was heavy, complained of headache, vomited, had epistaxis and cough; then a scanty eruption appeared. He was lightly sick some four days longer.

The next fortnight he was about, and apparently as well as ever, but during the third week was in bed, face flushed, complaining constantly of headache, twitching in his sleep and starting awake suddenly, saying it hurt him when touched, and vomiting food.

Once more he was up and about, seeming well. On the fourth day, however, when he came in to dinner, after running about playing with a kite, his mother observed that he groped for his plate on the table. The plate was moved to another part of the table, and the boy had great difficulty to find it. During the following night he was very restless, in the morning eat nothing, and was brought to the hospital.

He was in very good flesh, had fair color, and, except his evident blindness, showed no sign of sickness. The pupils were large, and reacted but little to light. Only the movement of the hand at a short distance could be distinguished with either eye. In each eye the disc was prominent, with striated, grayish surface,

the swelling hiding the outline of the disc, but not extending far beyond its border. The central vessels were visible on the surface of the swollen disc, and curved sharply down its sides; the veins a little enlarged. No hemorrhages. Remainder of fundus normal. No urine could then be obtained.

Two nights afterwards there was great restlessness and unwillingness to be touched; in the morning headache and vomiting, and soon he became semi-comatose. Throughout the next day there was slight twitching of hands, feet, and mouth, and for several hours in the following night violent screaming. From this time he improved slowly, and after a fortnight seemed strong, had good appetite, gained flesh rapidly, and was bright and talkative.

On August 17th he was ruddy, stout, and apparently in excellent condition. Vision was entirely wanting; pupils insensitively to light. Swelling of the discs had much diminished, and the grayish striation was giving place to paleness. The outline of the discs was readily seen, though veiled. The arteries were somewhat small. Otherwise fundus normal. Urine normal.

During the next month his general health was very good, and he still gained in weight; but he had, both waking and sleeping, occasional attacks of sudden fright, shrieking, with gestures of terror, and saying he saw pigs, dogs, and horses, becoming quiet as soon as touched by his parents. September 21st the discs had become sharply defined, white; the main vessels were rather small. Blindness continued. For six weeks longer there were a few attacks of fright, then they ceased. Only once during this time did he complain of headache. After the weather became cool, and he was confined to the house, he lost his ruddy color, but not his flesh, and had sometimes nausea and vomiting in the morning. Urine examined again in November was normal; examination of chest and abdomen negative. Toward the end of January, 1879, when he was last seen, the discs were a little more gray. There was no other change.

H. G., twelve years old, was seen in consultation with Dr. H. E. Marion (to whom I am indebted for notes of the case) June 21, 1879. He was one of two children, a sister, younger, having partial paralysis of lower extremities since early infancy. Parents healthy, and in comfortable circumstances. The patient had had no serious illness till the present one. About Christmas, 1878, he had measles, from which he was supposed to have made a good recovery; but a month later, the last of January, 1879, he began to complain of occipital headaches, which were followed by vomiting and sleep. In March the headaches became more frequent, and he had often pain in different parts of the body; he began to lose flesh, was disturbed by noise, and would start out of his sleep as if frightened. This condition continued, and early in June it was noticed that he did not see objects readily. Dr. Marion saw him first on June 19th, and found vision much impaired and field narrowed; poor appetite, some constipation, urine normal; physical examination of lungs and heart negative.

Two days later I saw him. The pupils were rather large, reacted to light and accommodation. $V:R=1\frac{1}{2}:1$, $L=1\frac{1}{2}:1$. The outer half of each field of vision was wanting; the inner half was contracted, particularly in the upper part; in the R a defect of nearly the whole upper and inner quadrant. In both eyes the discs were swollen, opaque, the sides of the swelling rather

¹ Read before the American Ophthalmological Society.

steep, the opacity extending some little distance into the retina and shading off gradually. Numerous fine vessels on the discs; veins moderately enlarged and winding; both veins and arteries hidden here and there. Opacity a little more marked in L. Near to the outer side of the swelling were several small, whitish spots in R; a few similar spots in L. Abnormal reflex in the macular region. No hemorrhages. The boy's walk was a little unsteady, as he said, because he could not see. No staggering with eyes shut and feet together. Dr. Marion and I agreed in the diagnosis of meningitis.

For a few weeks headaches were less frequent; his appetite became good, and he began to gain flesh. Then he had severe intermittent pain in the temples and darting pains about the head, with frequent vomiting. Towards the end of July he had a slight epileptic attack, followed by severe pain in the distribution of the left facial nerve. Noise disturbed him much. The first part of August, Dr. Williams and Dr. Minot saw him, and agreed with the diagnosis already made. Sight failed, till he could not distinguish light from darkness. August 19th there was a circumscribed swelling over the anterior inferior angle of the right parietal bone, which yielded to pressure, and resumed its shape when pressure was removed. A week later a similar swelling on the left side. He had some hallucinations of sight. Hearing became defective. At times there was severe pain in the left mastoid region; later in cartilage of left ear.

By September 9th, his head had increased in size by measurement. He had occasional convulsive movements; the scalp was tender. By the first of October he could scarcely walk alone; at times much fever; almost complete paralysis of rectum; much difficulty in passing urine; appetite good, and he slept well.

From the last part of October till December 24th, when he died, he was under the care of a Spiritualist in another city. Dr. Marion first learned of his death shortly before the funeral, — too late to obtain an autopsy.

M. J. A., a girl, three and one half years of age, was sent to me by Dr. Howe, of Lawrence, April 29, 1880. Family history good; she fairly healthy. The last days of March she began to ill; the eruption of measles appeared on the seventh day. For two or three days before the eruption appeared there was high pulse and temperature, and some delirium at night. During the eruption she complained of headache for two or three days, not afterward. While the eruption was fading, marked convergent strabismus appeared, said by the parents to have been at first of both eyes, but more of the right. Shortly after the strabismus was noticed the mother observed that the child, when trying to pick up an object from the floor, would estimate its position wrongly. For a week or two longer there was anorexia, constipation, and cough; afterward she seemed as well as usual.

During the last few days before I saw her the strabismus had decidedly decreased. I found a moderate convergence of the right eye, and at least no marked deficiency of excursion. Vision could not be determined with any accuracy. The discs were blurred, striated, little swollen; the opacity was enough to hide the outline of the choroidal opening, even with the inverted image, but did not hide the central vessels. It extended over a space of some 2-2½ diameters of the disc. Central vessels of normal size. No hemorrhages.

The child continued well; slept well; gained in weight. When I saw her again, July 10th, her eyes were straight, and, the father said, had been so for six weeks. Every sign of neuritis had vanished; the discs were defined, bright, and of normal appearance. So far as could be determined in so young a child *vision* was not affected.

The complication of measles by meningitis does not appear to be a frequent one; much more infrequent is it to have meningitis come on after a period of apparently normal convalescence from measles. Given the meningitis, and the fact of neuritis has in it, of course, nothing peculiar.

In the first case the symptoms immediately preceding the outbreak of the eruption were hardly enough to have excited suspicion of serious cerebral disturbance; yet it may be that a meningitis existed from the first, becoming latent for a time, then bursting into activity, and again, after a second period of quiet, starting up with more violence than ever.

In the second case there is no history of cerebral symptoms with the attack of measles; only after a period of uninterrupted convalescence did such symptoms show themselves. The question might indeed be raised whether the meningitis was, properly speaking, a sequela of measles, and not rather an independent affection.

If the case stood alone, one might scarcely feel justified in asserting any intimate relation between the two diseases. Taken in connection with other cases, however, remembering that in the first case reported there was a fortnight of apparent good health after not very marked head symptoms, that this patient had been sick for several months before his history was obtained, and that very possibly some data may have been omitted by the parents, the assumption of direct connection between the measles and the meningitis does not seem unjustified.

The third case is chiefly remarkable for the almost total absence of symptoms of meningitis, except those to be observed in the eyes. But the occurrence of paralysis of the abducens, together with double optic neuritis, can hardly admit of a doubt as to this diagnosis.

Hospital Practice and Clinical Memoranda.

MASSACHUSETTS GENERAL HOSPITAL.

CASES OF TRACHEOTOMY PERFORMED BY DR. J. C. WARREN.

[REPORTED BY C. F. STRONG.]

CASE I. M. G., three years old, had been ill with diphtheria three weeks before entering the hospital, but for some time had been convalescent. Severe dyspnea followed an imprudent exposure, for which tracheotomy was performed. Complete relief was obtained by the operation. A coarse, moist sponge was loosely tied over the tube by a gauze cravat. The inner tube was removed hourly and the outer tube daily. A disk of oil silk was kept between the tube and skin as a protection to the wound. The external tube was out a longer interval each day; but it was two weeks before it could be entirely dispensed with. A tin trumpet facilitated the return of air through the glottis.

CASE II. J. F., eighteen months old, as in other case, was convalescent from an attack of diphtheria of a week's duration, when he was thoughtlessly taken out-of-doors by his parents. During twenty-four hours previous to his entrance, the dyspnea had been steadily increasing. Although statistics show that the recovery from this operation in children under two years of age hardly ever occurs, tracheotomy was performed to prevent death from suffocation, which was then imminent. Great relief followed, and he took nourishment greedily the next morning. Paroxysms of coughing set in and became more and more severe. A cast of the trachea one and one fourth inches in length was at one time coughed up. The disease continued to extend downwards. The neck became greatly swollen and oedematous, and the child died fifty hours after the operation.

CASE III. G. P., six years old, while eating some dry chestnuts, sucked one into the trachea. There were occasional paroxysms of cough, with dyspnea, followed by intervals of complete relief. The only noticeable symptom at the time of her entrance to the hospital was a slight hoarseness and roughness of breathing. On examination with mirror by Dr. Langmaid a foreign body was seen lying beneath vocal cords. Ether having been administered, the first incisions were but completed when respiration ceased; the trachea was immediately opened, and at the most dependent portion of the wound a foreign body was observed, which, on an attempt being made to seize it, disappeared from view. On its becoming dislodged the breathing returned. It was finally coughed back to the opening, where it became wedged again, and was this time grasped by a pair of tracheal forceps and removed. Its average diameter was about one centimeter. A tube was left in, as it was thought possible that other fragments might appear subsequently, and was removed on the third day. A slight bronchitis complicated the convalescence, which was otherwise uninterrupted. The voice, however, continued to remain a hoarse whisper.

On examination since by Dr. Langmaid with the laryngoscope, a grayish-white glistening tumor, extending from the region of the cricoid, was seen occupying one third of the diameter of the trachea. This tumor had grown steadily smaller, and the last report, made some two months since patient left the hospital, states that the voice and the respiration have greatly improved, although the lumen of the trachea is somewhat narrowed by the growth. It is probably a granulation mass springing from the internal surface of the wound.

CASE IV. A. D., four years old, had been in the hospital five weeks with fractured femur, which had become stiff. On September 24th she caught a slight cold, the symptoms of which grew worse, until those of diphtheria became developed. There was not much membrane on the pharynx; but the dyspnea showed a considerable formation in the larynx. The patient was isolated; a powerful spray of glycerine and chlorate potash was thrown on to the pharynx with a Lister steamer; supporting and stimulating diet ordered. Tracheotomy was performed the next day, with relief to breathing, which continued good until death, twenty-four hours later.

There was no diphtheria at the time in the hospital. The patient's bed was near an anteroom containing sink, water-closet, etc., the condition of which is such that a renovation has been for some time contemplated.

A child in the room overhead, in a bed bearing similar relations to a similar anteroom, broke out the same day with scarlet fever. Ether was given in this case, as in all the others, before opening the trachea. In those cases of diphtheria in which Dr. Warren has performed the operation with subsequent recovery of the patient, including two outside the hospital, the invasion of the larynx had developed slowly, the disease being much less acute than in the cases which have proved fatal in his experience.

Reports of Societies.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

J. B. SWIFT, M. D., SECRETARY PRO TEM.

NOVEMBER 27th, 1880. The meeting was called to order by Dr. HODGES at 7.40, sixty-four members present.

DR. B. JOY JEFFRIES reported a case of removal of a piece of iron from the eye by the electro-magnet. He briefly spoke of two cases, previously reported, where the simple magnet had been used, and four where the electro-magnet was employed. These were where the foreign body was in the aqueous or vitreous chamber, but not bedded in any tough tissue of the eye. Without such a powerful magnet as he was enabled to use with Dr. Bradford's apparatus the piece of iron could not have been drawn out from the cornea. Hence the value of this form of the electro-magnet. No case of removal from the cornea has been hitherto reported.

September 29th, 1880, a man came to the Massachusetts Charitable Eye and Ear Infirmary with a piece of iron deep in the cornea at the outer angle, projecting into the anterior chamber just behind the sclero-corneal juncture. There was a cut towards the middle of the cornea through which the metal might have passed. There also was no distinct tract through the cornea over the foreign body. As the metal could not be approached on the outer side in the blood-bearing tissue, it was decided to cut down upon it on the corneal side, and attempt to keep it in place or from falling into the anterior chamber by the constant near presence of the strong electro-magnet. On the approach of the magnet the foreign body was seen to move, and by applying it against the cornea the metal was drawn to it and removed. As it seems quite impossible that the piece, although thin, could have been pulled through the cornea by the magnet (capable of lifting sixteen ounces), there must have been a track of original incision by the foreign body through which it was extracted.

DR. H. W. BRADFORD exhibited and explained the method of construction and the testing of electro-magnets, and showed those that had been used in the three cases spoken of by Dr. Jeffries, as occurring during the past year at the infirmary. He showed that with the improved electro-magnet, weighing but four ounces, a weight of more than twenty ounces was easily sustained at a distance of one inch from the end of the core of the magnet, by use of a single bichromate-of-potash cell.

DR. C. H. WILLIAMS said that Dr. Jeffries' case was the first one where a foreign body imbedded in the cornea had been successfully withdrawn by means of a

magnet. In the reported cases the metal had usually been either in the vitreous or aqueous. McKeon had suggested that instead of having a flat or rounded end there should be two projecting guards, to prevent the foreign body from being detached from the magnet by having the wound close on it as it was being drawn through the sclera. This suggestion might be carried out by having two fine strips of brass or other non-magnetic substance attached to the sides of the magnet, so as to project slightly beyond the end.

Dr. Williams spoke of a case he had had at the infirmary last summer. The patient presented himself with a small wound near the centre of the cornea, and said the eye had been hit by a chip of iron. A spindle-shaped piece of iron was found stretching across the anterior chamber, one end being held in the corneal wound and the other being planted in the iris. A wound was made at the periphery of the cornea, in the hopes of being able to seize the foreign body with an iridectomy forceps near its bearing on the iris, and thus extract it; however, when the forceps were inserted and the aqueous escaped, the iris moved sufficiently to displace the foreign body, which fell across the pupil, and as attempts were made to grasp it, it began to slide behind the iris, out of sight and reach. As the patient was under ether no further attempt was made to reach the iron; but Dr. Bradford, in a few minutes, arranged his electro-magnet, by means of which the iron was drawn forward through the pupil against the under surface of the cornea, where it was seized and extracted.

In a number of the reported cases a magnet has been of use in removing chips of iron or steel from the interior of the eye, with but very slight damage to the eye, which retained a very good amount of sight afterward.

Magnetized forceps have been tried, but are not sufficiently powerful; with any electro-magnet it is well to have points of several different shapes and sizes.

Dr. BRADFORD said that a cylinder would give the greatest power, and that a straight point would produce less damage when inserted into the eye than other forms.

Dr. F. I. KNIGHT presented a specimen of papilloma removed from the larynx, with a colored drawing of the growth *in situ* made by Dr. Quincy.

Dr. Knight remarked that the rarity of benign growths in the larynx in this country must have struck all those gentlemen who had visited the European hospitals. This rarity had not been satisfactorily accounted for. Two cases had come into his clinic, recently, at the Massachusetts General Hospital in the same week: the one of which he showed the specimen had been operated on by himself; the other, by his assistant, Dr. Hooper, who would show the specimen.

Dr. Knight said that various instruments for the removal of these neoplasms had been devised, but that forceps of some kind was the best for removing a soft, sessile growth. Forceps of various size and curve were shown. Some preferred a catheter-shaped instrument, which kept back the epiglottis, others a more rectangular shape, to avoid touching the epiglottis as much as possible. In his case the growth, which was soft and friable, occupied the anterior half of the glottis, being attached to both vocal cords. The patient, a young woman, had not spoken aloud for three years. After proper training of the larynx the growth was removed mostly with the small steel forceps of Macken-

zie, one remaining bit with the Türk-Schrötter tube-forceps, which Dr. Knight had modified, so that it was closed by pushing the tube over it, instead of drawing the forceps within the tube, and at the same time away from the object sought. The voice was restored, some hoarseness remaining on account of the extensive attachment of the growth and consequent swelling under one of the cords. This would probably disappear without treatment.

Dr. Knight said it did not make much difference what kind of forceps one used, provided he knew how to use them; that the larynx should be sufficiently trained beforehand, so that one could see what he was taking hold of, and that rash jumps in the dark, in the hope of catching something, should be indulged in very cautiously. Improper manipulation had been thought by good authorities to irritate a benign growth into malignancy; if a case did not go easily the sittings should not be too prolonged.

Dr. F. H. HOOPER then showed the specimen and drawing of the second case. The patient was also a young woman, twenty-eight years of age. Her voice had been altered in quality since last March, and for the last three weeks there had been complete aphonia. The papillomatous growth, which was situated in the anterior angle of the vocal cords and occupied about one third of the glottis, was removed partly with the forceps of Mackenzie, but two large portions were coughed up, which had been dislodged, probably by the manipulation. The patient now speaks in a clear, distinct voice. A small nodule of the growth still remains under the anterior portion of the right vocal cord, but its presence does not interfere with the approximation of the cords or the formation of sound.

Dr. CORNELL made some remarks in regard to his eyes, saying that he suffered from glaucoma in both eyes. He has had no pain, but there is an irritated feeling in the lids.

Dr. H. W. WILLIAMS said that it was rather an exceptional case. It was one of chronic glaucoma, and therefore not so favorable for operation. The lateral vision was comparatively good, but the central vision was interfered with by a spot on the centre of the macula lutea. He also spoke of the value of the electro-magnet as shown by the cases which had been reported.

THE PUBLIC HEALTH ASSOCIATION.¹

SECOND DAY'S PROCEEDINGS, CONTINUED.

AN excellent paper on The Sanitation of Emigrant Ships, by Surgeon T. J. Turner, United States Navy, was read by Dr. A. L. Gibson. The following is as concise an abstract as can be made of the very full and complete paper:—

It is shown that the only scientific sanitary method for gauging the passenger-carrying capacity of a vessel is the cubic air space, and that upon chemical and physiological grounds four hundred cubic feet is the minimum allowance, and that is to be associated with full and free ventilation. The avoidance of overcrowding and the prevention of ophthalmic diseases are thus secured.

The ordinary means of ventilation prescribed by the statutes are shown to be inefficient, and the writer gives his assent on physical data to any mechanical system which acts upon the principle of aspiration in the ventilation of ships.

Dryness of all parts of the vessel is also insisted upon, and data are given exhibiting the fact that in dampness of the ves-

¹ Concluded from page 620.

sel the deep has fewer perils than this peril of the ship. Cleanliness is insisted upon,—not a superficial cleanliness, but cleanliness of each and every part, even of those which in the progress of the construction of the vessel become inaccessible after her completion.

The arrest of rot in ships is cursorily commented upon and reserved for future observation and experiment, and suggestions are made as to the prevention of rot and the preservation of wood, thus avoiding other avenues to disease.

The writer considers cleanliness, dryness, and ventilation the tripod of the life of a ship, and essential to her being a healthy habitation for human beings.

The filthy and bestial condition of emigrant vessels at the present time and the sanitary police necessary to arrest these conditions are also considered.

The fallacy of counting two children between one and eight years of age as one passenger, and not counting children under one year in the enumeration of passengers, it is trusted, is made evident on physiological grounds to any sanitarian or physician. The cleanliness of the passengers, of clothing and bedding, regular systematic inspection of passengers, cargo, crew, and vessel at the port of departure, the total amount, character, daily allowance, and distribution of food, its cooking, the amount and character of water supply, the latrines, the separation of the sexes, locality and appliances for hospital purposes, a daily report of the sick, the meal hours, employment, appearance of any contagious or infectious diseases, causes of death, if any, a report of such diseases and deaths, and that the public be given at the port of arrival as to the existence during the voyage of any disease, movement, the advantages of iron steamers over wooden sailing vessels as transports for emigrants, daily inspection of the quarters, etc., have all been considered.

The necessity for a well-qualified medical officer on board of every vessel, empowered to enforce such sanitary measures as conducive to the health and comfort of the passengers and crew, is insisted upon.

The arrogance, impudence, and despotism that have for centuries been accepted as the only law in action on blue water must give way to the modern advancement, and it needs only the brightness of scientific light to disperse these last dark remnants of the reign of barbarism. The writer also suggests a code of sanitary police regulations, and demands that as all curative medicine is in the hands of the medical officer, so all that most important part of his profession, preventive medicine, which is his professional right, privilege, and immunity, be given him by law.

The nuisances of the daily deluge of the decks with water and its fatal effects are demonstrated. In that traditional peck of dirt said to be allotted to each individual the writer desires for the emigrant, the sailor, and himself permission to take his share "dry."

The occurrence of disease on shipboard, the prevention by such means as are at hand, the arrest of the progress of contagious and infectious disease, the methods to arrest, purify, and disinfect, the absolute necessity of a thorough sanitary inspection of every vessel, the value of a bill of health as a guide to the quarantine officer, are well considered. It is suggested that the fines for the infraction of the laws be turned over to the commissioners of emigration or like constituted legal authorities, and the writer considered it the duty of the government to look after the sanitary interests of the future citizen. He also suggests that, as most of the emigrants are brought to our shores under foreign flags, an international congress be had, in order to secure all the benefits that the sanitary science of the day presents, and he considers the proposed bill before Congress as an advance, but a very small one, over the existing statute.

A brief, practical paper on Dengue was read by Dr. D. C. Holliday, of New Orleans. During the recent epidemic of dengue Dr. Holliday had treated over two hundred cases, and in order to complete his observations corresponded with over sixty physicians in various parts of the State. The conclusions from his experience and answers to questions sent are formulated as follows:—

- (1.) Dengue is not malarial; monoxysmal type continued; remittent; duration from three to five days; not fatal.
- (2.) Extremely sweeping; no age, sex, or color exempt; no respect for previous attacks of yellow fever or dengue.
- (3.) The eruption or efflorescence recurring in forty per cent. of the cases, showing no uniformity in character or appearance.

(4.) Temperature often very high; suffering excessive; prostration often great.

(5.) Abundant, reported in a sufficient number of cases to dispute the assertion that it is never found.

(6.) The tendency to hemorrhages positively proven; generally slight, sometimes serious, rarely or never fatal.

The treatment was expectant in most cases. The value of quinine in large and often-repeated doses is not proven.

Dr. J. G. Thomas, of Savannah, read a paper on the treatment of Dengue. It was presented in an uncompleted form, and no conclusions were reached by the author, except that at times it seemed to be infectious and propagated by human intercourse.

A paper on the same subject was read by Dr. F. Peyre Porcher, of Charleston. Dr. Porcher thinks the disease is infectious, and is diffused by gradual tainting or contamination of the atmosphere itself, the multiplication of cases intensifying the poison more and more, and that this aerial contamination advances along the main line of travel and human intercourse. Thus, while dengue is in its nature different from yellow fever, yet its manner of propagation is very similar. Dengue has no relations to or affinity with paludal fevers. It is not malarial in origin, and quinine has no specific effect on its course.

At the evening session of Wednesday a long paper was read by Dr. E. M. Hunt, of Metuchen, N. J., on Our Present and our Needed Knowledge of Epidemics, to which the following propositions are appended:—

(1.) Communicable diseases are owing to a contagium which is particulate. The contagium is not the same as to its modes of facility of conveyance in all cases or in all diseases.

(2.) Therefore some communicable diseases are only required by contact, some by the suspension of the infective particle in air or water, some by changes in the secretions or excretions after they have been some time in contact with the air, the surface, or after avoidance from the body. Whether a contagium has any one or any two or more of these modes of ingress is a matter to be determined only by the classification of closely observed facts.

(3.) Some contagiums have an origin external to the body only, while others have an origin only within the body. In either case they seem to be connected with decompositions attended with extraordinary processes of a fermentive or putrefactive character. It is also possible that some diseases have an origin both within and without the human body.

(4.) The development of most of the zymotic diseases is coincident with the presence of specific microzymes. Whether they are the causes of the changes recurrent or mere incidentals, and whether by changes they cause, or the food or air they appropriate, or the mechanical clogging they produce in vital parts, they make the crisis, if a disease is to be gravely suspected, but is not yet investigated so as to be accepted as proven.

(5.) If, as appears, the presence of special forms is diagnostic of certain diseases, they are to be studied specifically as a means of diagnosis, as well as in their special relations to the disease in hand.

(6.) Whether any disease which is known to be derived from authenticated cases is in some instances also developed by extraordinary processes within the body or in its surroundings can only be made certain by series of definite and classified facts accurately observed and recorded.

(7.) Whether new epidemics arise from new combinations of matter incident to modern civilization, or whether there are hybrids in disease as well as in plant life, can be determined only in the same way.

(8.) There is a very hopeful study in preventive art in the direction of finding out whether we may not, by preliminary treatment and the presence in the system of medicaments resistful of such fermentation and inimical to the development of these microzymes or destructive of them in their changing state, suspend the morbid processes attempted to be instituted, and so prevent developments of disease.

(9.) As there is so much difference in the way in which the same contagions affect different persons, or in their choice of persons, we have reason closely to study the bearing of individ-

ual conditions on the acquirement and development of contagions, so as to know why some escape attack and others are susceptible.

Hon. John Eaton, United States commissioner of education, delivered an address on Sanitation and Education, which referred to the necessity of making sanitary science a subject of study in schools and colleges, and of the advantages that would result from a more thorough and wide-spread knowledge of the problems of health and disease.

Dr. Elisha Harris, of New York, gave a summary of a paper on A Medical View of the Domestic Pestilences, with Reference to the Sanitary Warfare against them, considering particularly diphtheria, scarlet fever, and small-pox. The conditions under which diphtheria has proved excessively malignant and contagious were dwelt upon at some length.

THIRD DAY'S PROCEEDINGS.

The Association was called to order at ten A. M. Thursday, and after the transaction of routine business Savannah, Ga., was selected as the place of meeting of the Association in 1881.

The advisory council, with Hon. John Eaton as chairman and Dr. John H. Rauch as secretary, reported the following list of officers for the ensuing year, which were unanimously elected:—

- For President, Dr. Charles B. White, of New Orleans, La.
- For First Vice-President, Professor R. C. Kedzie, of Lansing, Mich.
- For Second Vice-President, Professor Henry F. Campbell, of Augusta, Ga.
- For Secretary, Dr. Azel Ames, Jr., of Wakefield, Mass.
- For Treasurer, Dr. J. Berrien Lindsay, of Nashville, Tenn.
- For Members of the Executive Committee, Dr. D. C. Holliday, of New Orleans, La.; Dr. E. M. Hunt, of Metuchen, N. J.; Dr. George M. Sternberg, of the United States Army; Dr. E. L. Griffin, of Fond du Lac, Wis.; Dr. J. G. Thomas, of Savannah, Ga.; Dr. Thomas F. Wood, of Wilmington, N. C.

Dr. Henry B. Baker, secretary of the State Board of Health of Michigan, read a paper on The Relations of Schools to Diphtheria and Similar Diseases. From an examination of the report on the epidemic of diphtheria in the city of Lynn, Mass., in 1876, as given by Dr. J. G. Pinkham, in the eighth annual report of the Massachusetts State Board of Health, Dr. Baker reached conclusions somewhat different from those arrived at by Dr. Pinkham. In the opinion of Dr. Baker, the collection of large numbers of children, some of whom may have about them the poison of diphtheria, is the most prolific source of the spread of this disease.

Dr. O. W. Wright, health officer of Milwaukee, gave a clear account of the Management of Contagious and Infectious Diseases in Milwaukee. Every physician is obliged to report to the board of health all cases of contagious or infectious disease occurring in his practice immediately on discovering the nature of the disease. Every house in which small-pox, diphtheria, or scarlet fever occurs is immediately on discovery placarded by the board. A notice is straightway sent to the schools in the neighborhood, the teachers of which are under orders not to admit pupils from infected houses under penalty of prompt prosecution by the criminal court. The same notice is sent to the public library. Public funerals are strictly prohibited in cases of death by contagious disease.

The entire system is very complete, and comprehends the prompt isolation of every case of contagious disease

occurring in the city, and prevention of the introduction, as far as possible, of any case.

A paper descriptive of Municipal Sanitation as practiced in Mobile for preventing the Spread of Yellow Fever was read by Dr. T. S. Scales, of that city.

A paper, prepared by Dr. O. C. DeWolf, of Chicago, on The Results of attempting to check the Spread of Small-Pox in Chicago, was read by Dr. J. M. Hall, of that city. The author of the paper is of the opinion that twice in the past four years Chicago escaped an epidemic of small-pox by the faithful execution of a programme comprising the prompt report of every case, with removal to a hospital, or isolation at home; disinfection of the dead body and of the house in which the disease occurred; and when general infection is feared compulsory vaccination.

Dr. D. C. Holliday, of New Orleans, read the report of the New Orleans Medical and Surgical Association on the following Questions relating to the Spread of Diphtheria, Scarlet Fever, Yellow Fever, Measles, Small-Pox, etc., submitted by the executive committee. The report is brief and to the point. The questions and answers are as follows:—

Q. (1.) What are the best means of securing prompt and reliable information as to the presence and location of cases of such diseases?

A. It should be made obligatory by law, under a penalty, for physicians and heads of families to report promptly all cases, even suspicious cases, to the health authorities, whose duty it should be to investigate such cases, and report them without delay to all other interested communities.

Q. (2.) What are the best means of securing isolation of the first or single cases of such diseases, and what are the chief difficulties in securing such isolation?

A. The chief difficulty is to secure the cordial co-operation of the medical attendant and of the family. With such co-operation the sick person can be visited only by the physician and those in immediate attendance. Without such co-operation, cases of small-pox should be removed to a small-pox hospital, unless removal endangers life. The presence of dangerous infectious diseases should be indicated by a flag or placard fixed conspicuously on the house, and guarded by a sanitary policeman. The term isolation implies the placing of the patient in a separate building, not in another room in the same building; in case of small-pox, typhus and scarlet fever, partial isolation cannot be depended on. If a room must be chosen in the same house a room in the top story should be chosen.

Q. (3.) Under what circumstances is it proper to declare such diseases epidemic in a place?

A. If the number of patients in a city or place afflicted with one of the above diseases, in a given day, amounts to, for a population of

100	.....	5	per cent.	5
200	.....	5	per cent.	10
300	.....	5	per cent.	15
400	.....	5	per cent.	20
500	.....	4	per cent.	20
600	.....	4	per cent.	24
700	.....	4	per cent.	28
800	.....	4	per cent.	32
900	.....	4	per cent.	36
1000	.....	4	per cent.	40
2000-5000	.....	22½	per mill.	
6000-10,000	.....	16	per mill.	
20,000-50,000	.....	8	per mill.	
50,000-100,000	.....	4	per mill.	
200,000	.....	1	per mill.	

Q. (4.) Under what circumstances is it proper to recommend the closure of schools on account of the prevalence of such diseases?

A. When the disease has been declared epidemic. It might be advisable for parents to withdraw their children even earlier.

Q. (5.) What precaution should be taken at the termination of each case as to

- (a.) Care and disposal of the dead?
- (b.) Disinfection and cleansing of the room of the house?
- (c.) Period of time at which it is safe to allow the convalescent to return to school and society?

A. (a.) Immediate private burial. The corpse should be closely confined and surrounded with pulverized charcoal as soon as possible after death.

(b.) Isolate as far as practicable the locality where such cases have occurred, and delegate to the authorities sufficient power for a thorough and repeated disinfection and cleansing. All bedding and clothing of patients should be thoroughly disinfected by dry heat not less than 250° F., or destroyed.

(c.) Desquamation in the eruptive fevers should be completed before the patient should mingle with others; in regard to the others, after complete convalescence.

Dr. A. N. Bell, of New York, read a paper on *The Relations of Certain Filth Diseases to Cold Weather*, in which the following propositions were stated:—

First. Pneumonia is a systemic disease, with a chief local manifestation in the lungs.

Second. Pneumonia and its congenic acute lung diseases have filth for their chief factor and primary cause, and they should therefore be classed under the head of zymotic diseases.

Third. The influence of a cold, dry air is secondary in promoting acute diseases of the lungs, of which pneumonia is the chief, in so far as these conditions of the atmosphere promote emanations by percolation into the warmer and more rarified atmosphere of the domicile, and are mischievous in proportion to the extent of underlying and surrounding impurities, and the porosity of basement and cellar walls and floors.

The remedy is apparent.

At the afternoon session, Dr. J. H. Pope read a paper, by title, on *The Sanitary Condition of the Mexican Population of Western Texas in its Relation to Public Health*, and Dr. Atchinson, of Nashville, Tenn., a paper, by title, on *The Disposal of the Dead*. During the evening session of Thursday an interesting and instructive paper, prepared by Mr. James Gallatin, president of the Sanitary Reform Society of New York, on *Tenement-House Reform in the City of New York*, was read by Dr. E. W. James, in the absence of the author. This paper has been previously referred to in the JOURNAL.

Prof. Stanford E. Chaille, in a lengthy address, considered *The Objections urged by Some Evolutionists against Sanitary Laws, Boards of Health, and the Stamping Out of Certain Epidemic Diseases*; and Hon. Erastus Brooks, of New York, read a paper discussing *What the State owes the People: Public Health is Public Wealth*. The conclusions of Mr. Brooks are sound and practical. He contends that there should be:—

(1.) Supervision over the health of the entire people; peacefully if it can be done, forcibly if necessary. Where the federal government has authority, as upon the sea, lakes, rivers, over forts and arsenals, over the army and navy, in the legislation for commerce, international and internal, especially in regard to infected vessels, over animals exported and imported, this authority belongs to Congress. It has been proved, I think, after the most laborious investigations for nearly two centuries past in this country, that the epidemics appearing among us have been traced to importations. If epidemics in this and other Gulf cities seem to disprove this fact, the seeming exception is due to the bad sanitary condition of the localities named, or to the fact, as stated by Dr. Vanderpoel, of the germs of disease lying concealed and dormant in some cellar or room not reached by the purifying air of heaven in the place where the disease exists. The port of New York, for four months of the year, has been as much exposed as New Orleans to yellow fever, and it has been kept away from New York, not by any system of non-intercourse, but simply by the practice of correct principles of quarantine by vigilant and capable officers of the State.

(2.) State governments are clothed with power over the health of the people within the commonwealth, and over all the territory where the federal government is without jurisdiction. The col-

leges and schools of the State, its institutions of charity and learning, its prisons and reformatories, its codes and laws, all that belongs to roads, avenues, parks, canals, docks, piers, and even to public and private dwellings, when legislation is needed for health, belongs to the parental care of the State. To prevent adulterations in food and drugs—not practised, I hope and believe, to the extent reported or suspected—is another of the state duties. To clothe boards of supervisors and trustees in towns and villages, and mayors, common councils, and health boards in cities, with ample power in regard to health, and also to require them to pass and enforce ordinances, is a positive duty of the State. A state department of health is essential to secure these results, and in its action it must be impartial, effective, vigorous, determined, and take no step backward.

Finally, a word as to quarantine. Commerce cannot be forbidden; but it may be regulated when hurtful to health. At best, however, state law is only a relative guarantee of the public safety. Quarantine and commerce are naturally enemies, and the State must regulate the relation between the two; the State always insisting that as far as possible the public health within its borders shall be permanent. Every nation and every State has the right to use intelligent ways and means to preserve health over all its borders, and the federal government also has rights which must be respected and laws which must be obeyed. There are natural, legal, wise, and conservative lines between nations, States, municipalities, and towns. Where the death-rate in England is 19.9 in the 1000, in Austria 31.3, and close on to the latter number in all parts of Italy, official action is demanded in the name of public safety.

FOURTH DAY'S PROCEEDINGS.

The Association was called to order at ten A. M. by the president. The committee of the advisory council, to whom was referred the presidential address, reported certain resolutions referring to the accurate registration of vital statistics, commending the efforts of the National Board of Health to secure a practical basis for the notation and nomenclature of diseases and causes of mortality, and stating that systematic sanitary surveys and inspections are essential aids to public-health works and to the progress and application of sanitary science. The report of the committee was adopted. Several amendments to the constitution, proposed by Dr. Azel Ames, Jr., of Massachusetts, were laid over for action until the next annual meeting.

A resolution was adopted requesting the National Board of Health to continue its investigation into the causes and nature of diphtheria.

The committee on the prevention of venereal diseases, was, on motion of Dr. McCormick, of Kentucky, reconstituted for the following year, and instructed to prepare draughts of a state law and of municipal ordinances calculated to secure the desired results, and to report at the next annual meeting of the Association. The committee is as follows: Albert L. Gihon, M. D., medical director United States Navy, chairman; J. M. Keller, M. D., Hot Springs, Ark.; George M. Sternberg, M. D., surgeon United States Army; D. C. Holaday, M. D., New Orleans, La.; Preston H. Balthache, M. D., surgeon United States Marine Hospital Service; John Morris, M. D., Baltimore, Md.

A resolution of Major Walthall, of Mobile, "that a committee of five members be appointed to prepare and recommend measures for the more efficient management and control of future epidemics, especially for the training, selection, and employment of skillful and trustworthy nurses," was adopted, and the following appointed to serve on the committee: W. J. Walthall, of Mobile, Hon. John Johnson, of Memphis, Dr. F. Peyre Porcher, of Charleston, Dr. G. A. Ketchum, of Mobile, and Hon. John Eaton, of Washington. On motion of Major Walthall, Dr. Billings, U. S. A., was added to the committee.

The advisory council for the ensuing year was announced as follows:—

Alabama, R. D. Webb, M. D., Livingston.
California, Henry Gibbons, M. D., San Francisco.
Florida, Hon. S. C. Cobb, Pensacola.
Georgia, W. H. Elliott, Augusta.
Illinois, J. H. Rauch, M. D., Chicago.
Indiana, J. F. Hubbard, M. D., Richmond.
Mississippi, Wirt Johnson, M. D., Jackson.
Louisiana, Edward Fenner, Esq., New Orleans.
Maryland, James A. Stewart, M. D., Baltimore.
Massachusetts, R. F. Davis, Wakefield.
Pennsylvania, Henry Hartshorn, M. D., Philadelphia.
Ohio, T. C. Minor, M. D., Cincinnati.
Missouri, George Homan, M. D.
Rhode Island, E. M. Snow, M. D., Providence.
Tennessee, John Johnson.
Virginia, J. G. Cabell, Richmond.
Michigan, Henry B. Baker, M. D., Lansing.
Iowa, W. S. Roberts, Davenport.
West Virginia, James E. Reese, M. D., Wheeling.
District of Columbia, Smith Townsend, Washington.
New York, Eliza Harris, M. D., Albany.
North Carolina, Thomas F. Wood, M. D., Wilmington.
South Carolina, H. D. Frazier, Charleston.
Connecticut, C. W. Chamberlain, M. D., Hartford.
New Hampshire, S. P. Conn, M. D., Concord.
Vermont, Henry D. Holten, M. D., Brattleborough.
Texas, J. H. Pope, Columbia.
Wisconsin, J. T. Reeve, M. D., Fond du Lac.
Minnesota, C. N. Hewitt, M. D., Red Wing.
New Jersey, D. C. English, M. D., New Brunswick.
Arkansas, A. L. Breyssacker, M. D., Little Rock.
Kentucky, Pinckney Thompson, M. D., Henderson.
Delaware, L. P. Bush, M. D., Wilmington.
United States Army, Joseph R. Smith, surgeon U. S. A., New York.
United States Navy, A. L. Gilou, medical director U. S. N., Washington.
Commissioner of Education, Hon. John Eaton, Washington.
Marine Hospital Service, P. H. Baidache, M. D., Washington.
National Board of Health, Stephen Smith, M. D., Washington.

On motion of Honorable Erastus Brooks, the advisory council was instructed to appoint a delegate to the International Quarantine Convention, which meets in Washington in January.

Professor S. E. Chailé read the Summary of Conclusions of the Havana Yellow Fever Commission.

A lengthy and somewhat acrimonious discussion between Dr. J. Dickson Bruns and others, of New Orleans, Dr. Jerome Cochran, of Mobile, Dr. G. M. Sternberg, United States Army, and others followed, upon The Nature of the Fever which Prevailed on the Lower Coast (of the Mississippi River) during the Summer of 1880.

Dr. R. B. S. Hargis, of Pensacola, read a paper on Yellow Fever Recognition and Isolation, and Dr. B. F. Gibbs, medical inspector United States Navy, one on A New Method of Experimental Investigation into the Cause of Yellow Fever upon the Basis of Similar Densities.

The questions concerning the origin and spread of yellow fever, notwithstanding these elaborate contributions, remain *in statu quo*.

A resolution expressive of the loss sustained by the Association in the death of Dr. Samuel Choppin, first vice-president, was adopted on motion of Dr. Holliday, of New Orleans.

Dr. Billings then returned thanks for the dignified manner in which the Association had conducted its deliberations, and declared the meeting adjourned.

The next meeting will take place in November, 1881, at Savannah, Ga.

Recent Literature.

A Practical Treatise on Nervous Exhaustion (Neurasthenia). By GEORGE M. BEARD, A. M., M. D. New York: William Wood & Co. 1880. Pp. 198.

Any work which adds somewhat to our knowledge, clinical or scientific, of the class of diseases called to mind by the above title is sure of a ready welcome from the profession, so unpleasantly is the thought of them associated with the remembrance of tedious hours spent in struggling against the protean symptoms which these cases are apt to present.

Such a welcome this book by Dr. Beard deserves, in spite of certain well-marked faults. Leaving apart for the moment the question of systematization of the facts brought forward, the author has certainly described and illustrated a large and significant array of symptoms, not hitherto brought together, and he has given us a good deal of suggestive reasoning about them.

The very strength of the book in this respect, however, really constitutes its weakness as a systematic treatise. Thus, in the introductory chapter, Dr. Beard devotes much space to a denunciation of the habit among students and practitioners of medicine of spending so much time and energy in studying the diseases of the poor in hospitals and dispensaries, when they should be watching the symptoms of their Fifth Avenue patients, and speaks of our "blind deference to Europe" as causing us to be "fearful of making our own independent observations of the diseases peculiar to this land," etc.

We sympathize with him in believing that from the point of view of charity much of this dispensary work is misplaced and injurious, tending to pauperize the already poor; but that is a question totally apart from the scientific problem. Men do not seek hospital or dispensary practice for charity's sake: it is idle for them to maintain that they do. They seek it because they can there study pathology to the best advantage both to themselves and to science, and if they do not get a chance to study *neurasthenia* also, it is so much the worse for neurasthenology, — if we may allow ourselves a little of the author's license in word-coining.

It is not from any grudge against *neurasthenia*, as being a disease of the rich, that students have failed to study it, but because its phenomena are difficult of comprehension, and not readily accessible to exact methods, or more properly, the usual methods of research.

Let Dr. Beard, or any one else, give a clew to correct lines of investigation with sufficient clearness, as Rokitsansky, Virchow, Louis, and the rest have done in other departments, and there will be no more cause for complaint. The remedy for the evil is as apparent as its existence.

Meantime it must be admitted that Dr. Beard's house is of glass; for the evidence of sympathy or familiarity with the great store of pathological knowledge which has made medicine what it is, is conspicuous throughout the book by its absence; and this defect will seriously detract from the good influence which the work might otherwise exert. Thus, to take a single example, on page 131, where the relation of neurasthenia to nephritis is treated of in the most fragmentary manner, he says, amongst other state-

ments, that though a certain amount of evidence of real disease of the kidneys may be present he has discarded the usual "internal routine treatment."

What does he mean? Is it that these symptoms do not point to nephritis, or that he has made such a study of nephritis that he feels confidence in expressing new and decided opinions about its treatment; or, lastly, that he feels some uncertainty about the true significance of the indications referred to? In either case we might fairly look for a more elaborate treatment of these points of vital interest, whereas now we are, as it were, presented smilingly with a broken fragment of marble, and told that it is a portion of a Greek statue.

So also with the classification of symptoms. With a frantic mania for name-making, Dr. Beard has taken these unfamiliar symptoms, which are the farthest removed from having been assigned to their true place by the verdict of the experience of the profession, and tries to bottle them up out of reach of discussion by giving them such names as *cerebrasthenia*, *myelasthenia*, *mysophobia*, *siderodromophobia*, with dozens of other "phobias," of which the list is only to be closed when a name has been given in tortured Greek to all the causes which can possibly excite the emotion of fear or anxiety in the human breast. The term *neurasthenia* itself, though it did not originate with Dr. Beard, is bad enough, as encouraging this tendency to block investigation by falsely implying a crystallization of our knowledge with regard to the point at issue.

If used for convenience' sake, such names may do no harm, but their cloven foot appears the moment an attempt is made to give them an exact meaning; as, for instance, in the case of *neurasthenia*, by speaking of it as meaning "a deficiency of nerve force,"—a definition which is only saved from being too daring or too premature by being evidently too vague.

We should be sorry to have conveyed the idea through these statements that we regard the book before us as of little worth. On the contrary, we think that its faults, which are glaring and on the surface, are deeply to be regretted, as impairing the value of an excellent and creditable piece of work.

Dr. Beard seems to us to have made it clear beyond question that there is a large family of symptoms, indicating primary disturbances of the nervous system, which may exist independently of serious or proportionate disease in the other organs, having most to do with the nutrition of the tissues. He has done great service by enriching our knowledge and coordinating the signs of this condition, and we heartily recommend the book to our readers as full of suggestiveness. But the complete history of the subject is, nevertheless, yet to be written. J. J. P.

Spermatorrhœa: Its Causes, Symptoms, Results, and Treatment. By ROBERTS BARTHOLOW, M. D. New York: William Wood & Co. Fourth Edition, revised. Pp. 128.

Persons afflicted with this disease are not among the most attractive class of patients, and together with them the study of the disease itself is apt to be taken up with a sort of disgust, or to be relegated to the irregulars.

This is not right, as Dr. Bartholow says, and as we all know, and indeed the profession proves its willing-

ness to at least learn about the matter at second hand by welcoming a fourth edition of this little book.

The substance of the work was delivered some years ago in the form of a lecture, and for that purpose it was well adapted. Coming to us, as it does now for the fourth time, in the shape of a systematic treatise, we cannot afford it the same unqualified praise, though it certainly does something towards filling a very wide gap.

Spermatorrhœa is regarded by the author as being—when not due to organic disease of the nervous system—a *neurosis*, in contradistinction to the opinion of Lallemand, who lays, Dr. Bartholow thinks, far too much stress on the local disease in the prostatic portion of the urethra and the seminal ducts, the probability being that such changes can at most only increase an existing difficulty.

In the sense in which the author means it this criticism of Lallemand may well be correct. As a pathological fact, however, it is doubtful if the symptom spermatorrhœa can be said never to be due to local inflammation of these parts. At any rate, there is evidence to the contrary which deserves mention. Thus, Uitzmann¹ says that such a result may follow gonorrhœa of long standing, and that in cases of chronic inflammation of the prostate spermatozoa are very commonly found in the urine.

Dr. Bartholow also castigates Lallemand, and no doubt with reason, for confounding the diurnal leaking of prostatic and urethral mucus with true spermatorrhœa, thereby frightening his patients out of their lives without reason.

It is not to be forgotten, however, that the patients who have brought about even this non-seminal discharge to any marked extent have usually done so by exposing themselves to the same influences that habitually cause true spermatorrhœa, and as it is admitted that the seminal loss is of no great consequence in itself, but only as an index of the harm done to the nervous system, it may well be that this anxiety is not totally groundless. The patients have not diurnal spermatorrhœa, it is true, but they may have many others of the train of symptoms due to sexual abuse.

Similarly, not enough is said, we think, of the spermatorrhœa dependent on impaired health as in *neurasthenia*.

The chapter on treatment is quite full and interesting. As might be expected from the author's pathological views, the indiscriminate use of cauterization of the prostatic urethra is condemned, and its employment advised only where there are signs of (secondary) local inflammation, or where a moral effect is sought. An equally good and safer application is that of tanno-glycerine. The value of circumcision is dwelt upon as promoting cleanliness of the glans, and thus eliminating a source of peripheral irritation.

Good hints are given for general treatment, and the proper use of "aphrodisiacs" and "anaphrodisiacs" (an accepted but unfortunate terminology) is pointed out.

Taken as a whole, we should characterize the book as interesting and useful, but as failing to treat the subject in a sufficiently broad and thorough manner to deserve the name of standard monograph.

By some accident the name of Mr. Hutchinson, the distinguished surgeon of the London Hospital, is misspelt throughout.

¹ *Neuropathien des männlichen Harn und Geschlecht's app.* Wien. 1879. Page 39.

Medical and Surgical Journal.

THURSDAY, DECEMBER 30, 1880.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly by Houghton, Mifflin and Company, Boston. Price, 15 cents a number; \$5.00 a year, including postage.

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HOUGHTON, MIFFLIN AND COMPANY, BOSTON, MASS.

THE PUBLIC HEALTH ASSOCIATION AT NEW ORLEANS.

THE meeting of the Public Health Association at New Orleans, of which the JOURNAL has given a very full report by its correspondent on the spot, must strike our readers as having sufficiently well fulfilled the functions of that organization, which we suppose to be the bringing together in a pleasant place from all parts of the country of those interested in sanitary science, for its own and their own sakes, without too much profit to the railway companies. Such individuals are thus given an opportunity to become acquainted with each other, and are secured time in which to discuss pet questions and an audience before which to read papers. Though all the discussions may not be wise,—and where they lead to personal altercations they certainly are not,—nor all the papers fresh, interesting, concise, and judicious, doubtless good influences result from these reunions, and the sacrifice of the railways is not without its profit to the country. In these respects, moreover, many active members of the association are quite well aware that there are higher standards of excellence than those attained, to which it may legitimately aspire in its work. From a local point of view we are glad that Massachusetts was fortunate enough to be represented by two such competent sanitary officials as Dr. Walcott, the health officer of the State Board, and Dr. Durgin, the secretary of the Boston Board of Health. Dr. Snow, of Providence, and Dr. Chamberlain, of New Haven, were also on hand to speak for New England. From a general point of view we are glad to observe that a general disposition was manifested to support the National Board of Health, and award it due credit for its honest efforts as well as for its actual beneficial achievements. We are pleased to learn from private sources that Colonel Waring's system of sewerage at Memphis bids fair to be practically successful, and that he has good reason to consider the same applicable, with some modifications, to New Orleans. On the other hand, we hear, to our regret, that the pestilential Bayou Gayoso at Memphis has been untouched, and that there is no present probability of its being reformed.

The Association was treated to some rival sanitary oratory by sanitary patriots from New Orleans and Memphis, respectively, which reminds us a little of the talk about population exchanged between Chicago and St. Louis, or of some of the shrewd Turkish pronouncements touching the reformation of civil administration, and must be taken with the same kind of

allowance with which one learnt, in former times, to temper the fervid utterances of the congressman when, in picturing his own part of the country, he said, as Caleb Cushing did of New England, for example, Nowhere are the mountains higher, the rivers broader and deeper, the valleys greener, etc., etc.

The Association will evidently require a long life and more frequent meetings if it is to take under its protection such proposals as the regulation of prostitution throughout the country, advocated by Dr. Gilson, and the restoration to the Gulf States of an immunity from yellow fever by the cutting of Professor Gamage's ship canal through Florida.

LONG SCHOOL SESSIONS.

ON another page of the JOURNAL the attention of its readers is recalled to the subject of the division of school sessions by a correspondent, whose opinions deserve consideration, and we have only to complain of his communications that they are too rare. The remarks in question are *apropos* of the late discussion over single or double sessions at the Prince School in this city, and the writer takes exception to a short editorial on that subject, which appeared in the JOURNAL of November 11th, and was copied into the *Daily Advertiser*. Our reference to Chadwick's estimates of a safe limitation of mental work for children is thought to be especially infelicitous, and we are told that in confining our remarks to the school attendance of children between twelve and sixteen years of age we failed to touch upon the real points of controversy. We still see no reason to modify the expressions of the article, and believe that instead of missing the real point of the subject we seized it.

Our remarks were limited to children between the ages of twelve and sixteen because we believe the majority of the children concerned to be between those ages, and should be sorry to think that this was not the case; moreover, in our estimation it is only for children between these ages that the question of a single or double session should come up at all. In regard to another point, which our correspondent seems to consider the real one at issue, we go even farther than he does, and think it a monstrous pity that "babies five years old" should appear at a public school even for one hour. The *crèche*,—and for suggesting the comparison, though unavoidable, we are almost tempted to apologize,—even when well conducted, is merely a substitute for something better, and is only made commendable by necessity. The argument of necessity scarcely applies to the Prince School district. For children between the ages of seven or eight and twelve we certainly should not advocate a double session in a very exposed part of the city, and in a climate where so much of the weather is inclement. What the length of the single session should be for such children, at what hour it should begin and at what hour end, seems to us an entirely distinct question, which has nothing to do with single or double sessions, which can be decided

on its own merits, and in the decision of which we should probably be in hearty accord with our critic, Chadwick, in his estimates, as cited by us, touches on two distinct points, namely, first, the length of time which a child of a given age can attend to one and the same subject; second, the total daily mental work suitable to a child of a given age. We fail to see exactly how our valued correspondent found these estimates "odd reading" in the connection in which we used them, although, we take it, the explanation is to be sought in his making the single session synonymous with "crowding the whole day's work of the child into one unbroken lump." This is certainly not a correct description of the single session, and if adopted would readily make much that has been said on this subject look "odd."

It is obvious from Chadwick's estimates, if they are to be accepted, that a change of mental occupation is favorable to more prolonged mental occupation, and with this change continuous mental occupation may be more safely permitted. A session of five hours with two recesses and a variety of studies is a very different thing from one unbroken lump, and actually a safer and more profitable thing than a somewhat shorter session with less recess and less change of subject. This point seems to us well taken and important in connection with the Prince School controversy.

It is still our opinion, and we do speak from a medical stand-point, that the decision in regard to the *Prince School* was a wise one. The manner of reaching the decision we consider rather outside of our field of criticism, although having much sympathy with many objections which can be urged in the abstract against universal suffrage and the rule of the majority. We cannot avoid, however, giving weight to the opinions of parents in this matter, guided as they must be by a daily experience, and, we hope, by the counsel of the family physicians.

DAVID PAIGE SMITH, M. D.

THE announcement of the death of Dr. David Paige Smith, at Springfield, Mass., at the age of only fifty years, is a surprise to many who within a brief period had seen him full of energetic life, which seemed to promise a long career of active usefulness.

Dr. Smith belonged to a family highly distinguished in the annals of surgery, and the names of Dr. Nathan, and Dr. Nathan R. Smith, especially, will long be remembered in the profession, as representing high skill and great originality.

At the breaking out of the civil war he was commissioned as surgeon in the eighteenth regiment, Massachusetts Volunteers, July 31, 1861, and was made brigade surgeon December 24th of the same year.

While in charge of the United States Army General Hospital at Fairfax Seminary, Va., he did one of the few successful excisions of the head of the femur for gun-shot wound. Skillful and indefatigable in his work as an army surgeon, he could and did look back

with pride on the period of his life thus devoted to the national service.

After fulfilling these duties he retired to Springfield, where he became post surgeon of the United States Armory, and examining surgeon of the Pension Bureau; and, while obtaining a conspicuous place among the many able practitioners of the Connecticut Valley, he added to the manifold cares of such a position as his labors and responsibilities of the Professorship of the Theory and Practice of Medicine, in Yale College, lecturing there with great acceptance during a portion of the year. His directness and conciseness of speech rendered his teachings impressive and valuable, while his qualities of accurate observation and sound judgment made him esteemed by his colleagues in the profession, and by the community, where his loss must be extensively felt.

Besides his labors as a practitioner, Dr. Smith found time to publish some of the results of his experience, and to serve as consulting physician of various charitable institutions.

Dr. Smith graduated as A. B. at Yale College in 1851, and as M. D. at Jefferson Medical College, Philadelphia, in 1853. He was for twenty-six years a Fellow of the Massachusetts Medical Society, for several years one of its councillors, and for the two years preceding his death was its vice-president.

MEDICAL NOTES.

—The Medical Record Visiting List and Physician's Diary, containing, in addition to many useful tables, a gauge for urethral sounds, is of a very convenient form. It is published by William Wood and Company.

—The death of Dr. Sanford B. Hunt, of Greenpoint, N. Y., of diphtheria, contracted during the performance of tracheotomy, is recorded by the *New York Medical Record*. A tracheotomy tube which he had been using upon his patient became choked up, when he cleared it by placing it to his mouth and blowing through it.

—The *British Medical Journal* considers the fact that Guy's Hospital has one hundred and eighty beds closed to the public, and further is £10,000 deficient financially on the results of the year's operations, a curious comment on recent expenditure on the treasurer's house and chapels.

—Drs. Bergeron and Pidoux, both well-known members of the French Academy of Medicine, have been nominated Commanders of the Legion of Honor.

—It is reported that Professor Rose, of Zürich, will succeed the late Dr. Wilms at Berlin.

—It is said that the eels of Mystic Pond, having been driven from their peaceful resting places on its bottom by the accumulating sewerage of Woburn and Winchester, and finding an exodus to the river brought no relief, have been captured in large numbers at the out-flow of the pond in a despairing condition. Preferring the honorable death of a food-fish and embalming in a pie to asphyxiation and a final grave in

sewerage they yielded themselves willing victims, and the price of eels in the market has not been so low for many years. We mention this for what it is worth to those of our readers whom it may concern.

—We have received the fifth edition of the Physician's Memorandum Book, by Joel A. Miner. It is a very convenient form for the pocket, a page being devoted to each week, with additional page opposite for memoranda. Prominent among the directions for the use of the various blanks is the statement that certain figures are intended for the record of homœopathic medicines, which, greeting the physician's eye every time he opened the book, would, we fear, grow somewhat wearisome before the close of the year.

—The London *Lancet* says that the present supply of subjects for dissection is far from satisfactory. Notwithstanding that most of the London schools received some subjects during the summer months, a large number of students are still without parts. As a consequence of the inadequate supply applications have been made to some of the East End boards of guardians, who have hitherto refused the privilege of allowing the schools to have the bodies of their unclaimed paupers for purposes of anatomical study. In most metropolitan unions this permission is readily given; and as, by act of Parliament, only unclaimed bodies can be given up it is difficult for us to appreciate the arguments which can have induced the visiting committee of the Shoreditch Workhouse to refuse their assent to the request. It is so obvious that, for obtaining any exact knowledge of the human body, a sufficient supply of subjects must be forthcoming that we hope boards of guardians will not put forward any unnecessary difficulties, but will readily grant the authorities of the various medical schools every facility for carrying on such an all-important branch of medical education. The various safeguards laid down in the anatomy act are so stringent that the occurrence of any disrespect to the dead, or of outrage to the feelings of the relatives, is almost an impossibility: so that the lay authorities should carry out the spirit as well as the letter of a law which has been of so great service, not only to students of medical science, but to the community at large. We are glad to see that the guardians of Bethnalgreen have taken a fairer and more liberal view of this important question than their brethren at Shoreditch; and we hope that the other boards, to whom application have been made, will follow their wise example.

—We find the following remarkable history in the London *Lancet* for November 13th: "M. Colin related to the Académie de Médecine, at its last meeting, a remarkable instance of prolonged incubation of hydrophobia. The case was that of a man who died a few minutes after being admitted (on August 31st) into the hospital, presenting maniacal excitation, expectoration, fear of drinking, and apprehensions, during more lucid moments, lest he should injure those about him. The autopsy showed no lesions, but some small cicatrices were noted on the left wrist and in the front of the thorax. Further inquiries showed that the man had been ill two days only. On the first he com-

plained of a severe pain in the hepatic region and extreme thirst, although he could not drink; as soon as he raised a cup to his lips he was seized with shivering and spasm. The next day he complained of severe sense of constriction in the pharynx and a feeling of a wish to bite. The symptoms thus seemed clearly those of hydrophobia. No history could be ascertained of a bite from a dog during the previous five years. On November 2, 1874, however, in Algeria, he had been bitten by a dog, which was attacking a comrade, to whose assistance he went, and who was also bitten. The latter had his wounds cauterized the next day, and died in eight days of hydrophobia. The patient of M. Colin was cauterized half an hour after the receipt of the bite. Some authorities, as Devergie, have maintained that the cases of prolonged incubation are really cases of 'nervous hydrophobia;' but the symptomatology of such a case as this seems too precise for the theory that an attack so virulent could result from 'nervousness.' Hydrophobia is relatively common among the soldiers in Algeria, especially in the interior of the country, at the farms, where there are Arab dogs; and it is still more common among the civil population.

"In regard to these prolonged periods of incubation in hydrophobia, of which this case presents an instance most remarkable, if not altogether beyond the reach of criticism, it is worth while to refer to one of the results obtained by M. Pasteur, of which we gave an account last week. It has long been a favorite explanation of these cases to suppose that the virus remained localized in the wound, developed there, and only caused the symptoms when, in consequence of some adventitious circumstance, it passed into the blood. M. Pasteur has shown that this explanation is, as regards some diseases, not a matter of theory but of fact. He has found that in the chronic cases of cholera of fowls the poison does develop in certain organs, and not, as in other cases, in the blood, and that when, after a variable period, the organized poison passes into the blood, severe symptoms come on rapidly, and the creature soon dies."

—A royal medal of the Royal Society has been conferred on Professor Lister, on recommendation of the council, in recognition of his important physiological services and the advances in surgery due to his studies and application of antiseptic principles.

—The London correspondent of the *Louisville Medical News* writes as follows:—

"Dr. Robert Barnes has, it is said, resigned his appointment at St. George's Hospital as obstetric physician. Dr. Barnes has had so extended and laborious a hospital experience that no one will deny him the right of taking now some well-earned rest from these public duties. Barnes is not a man, however, to remain idle, and I understand he is occupied in preparing a manual of midwifery jointly with his son, Dr. Faneourt Barnes, one of the most rising and scientific of our gynecælogists. This manual—which is announced by Smith, Elder & Co.—will be much anticipated, as we have had no really good manual of midwifery since that of Dr. Tyler Smith. His man-

nal has long been out of print, and various attempts have been made to supply its place; but any one who reads it now will find that, though obsolete in respect to operative details and all the matters in which obstetric practice has progressed since his time, it still remains a masterpiece of clear thought and sound philosophical doctrine; and certainly none who have followed in Dr. Tyler Smith's footsteps have yet been able to produce a work equally valuable to the student and the practitioner. Probably Dr. Robert Barnes is the only man in this country from whom we can expect a manual of a like character. For many years an editorial writer in the *Lancet*, he has always been distinguished for the singular beauty and clearness of his style. He is at the same time a man of extensive reading and enormous practical experience; he is philosophical in his views and thoroughly practical in his conclusions, an accomplished draughtsman and a thorough linguist. Dr. Faneourt Barnes possesses many of these accomplishments, although of course he is far from rivaling his father in the great qualities possessed by a naturally vigorous mind and much ripened by a vast experience. Barnes's Manual of Midwifery will, I think, probably become a classic."

—The *Ohio Medical Recorder*, quoting Dr. Alfred C. Post, says:—

"When Mr. Callender was in this country he gave a lecture in Bellevue Hospital on the treatment of abscess by the method known under his name, described by himself as hyperdistention; that is, opening it by a moderate-sized opening, and then injecting a solution of carbolic acid—about one to thirty or forty—in such quantity as to distend the walls of the abscess to an extreme degree, in order to make the antiseptic fluid penetrate to the utmost recesses of the abscess. He represented that after such an injection of a chronic abscess the walls of the abscess will contract, and none of the usual symptoms of septicaemia will occur; that the abscess will contract to a mere sinus, and then, if there be no permanent cause to keep it open, it will heal up entirely."

Dr. Post has proved the beneficial effects of this procedure, and warmly advocates it.

—The following is a clipping from the *North Carolina Medical Journal*:—

Dr. Boyd B. Joll writes to the *British Medical Journal* of September 25th, referring to a condition of complete flaccidity of the iris as a sign of real death. He says that it can easily be shown by synchronous compression of the globe of the eye in two opposite directions, when the pupil will readily assume an oval or irregular shape, whereas in apparent death no ordinary amount of compression in this manner will have the least effect in altering the circular of the pupil. [A communication in a later number of the *Journal* goes to show that this sign cannot invariably be depended upon.

—"The general feeling of the medical profession," says the *Medical Press and Circular*:—"in relation to the decisive step taken by Dr. Habershon and Mr. Cooper Foster in resigning the posts of senior physi-

cian and surgeon, respectively, to Gny's Hospital, will be one of relief that at last some have been found to vindicate the dignity of medicine and the honor of its outraged professors."

—Thirty-eight out of ninety-five extraordinary students (foreigners) of the University of Vienna during the recent summer session were American.

—Mr. Matthew Duncan is mentioned as the next president of the Obstetrical Society of London; Mr. Lister and Dr. Wilks as the coming presidents of the Clinical and Pathological Societies respectively.

Miscellany.

LONG SCHOOL SESSIONS.

MR. EDITOR, — Some weeks ago, the *JOURNAL*, in an article which reappeared in the *Daily Advertiser*, heartily approved the plan of long sessions in the Prince School. But the real points of controversy are so little set forth in that article that we ask leave to bring the subject once more before the *JOURNAL* and its readers. The question is believed to be of the highest importance to great numbers of children.

The *JOURNAL* understands that the school attendance of children "from twelve to sixteen" is the matter under discussion. That "Chadwick's" limitation of safe mental work for a child to short periods should be used to show the wisdom of crowding the whole day's work of the child into one unbroken lump makes, it must be confessed, rather odd reading. And such an arrangement so flatly defies every principle of school hygiene that it is matter of amazement that any physician can be found to defend it.

But an inquiry of this kind, however important, hardly touches that which was lately raised in the Prince School. The monstrous outrage there permitted is the keeping of *babies five years old* at school through four and a quarter hours, and the confinement of children *nine years old* and *ten* for five hours! And it is pretended that a plan like this is made harmless by a recess of ten minutes and by another of twenty!

No one disputes the inexpediency of sending little children across the wide back bay district four times a day in inclement weather. But surely appropriate measures can be devised to remedy this evil without hurrying into an opposite danger, at least ten times as mischievous.

The question whether a child not yet twelve, breakfasting before eight o'clock, does not imperatively need at half past twelve or one a substantial meal, instead of an apple or a bit of cake, is treated as of trivial consequence. And yet all the bismuth, pepsine, iron, and quinine prescribed by all the readers of the *JOURNAL*, from January to December, will not bring to the fathers of these children one one-hundredth part of that improved digestion, gain in bodily vigor, and clearness of mental power that a suitable meal taken at that hour, away from office and counting-room, will secure. By how much more is this true in the case of an immature, growing child! Excellent reading upon this point may be found in the reports of the Chauncy Hall School and the Institute of Technology.

The *JOURNAL*'s suggestion as to the value of opportunity for continuous play sounds like a grim jest to the father of some little girl of nine, who reaches home, weary with five hours of school, at half past two, and

during at least half the school months finds remaining after her meal *just one hour of sunlight*.

We forbear to comment upon the device by which this controversy was decided in the school committee. Bad as the matter of the decision was, it was rendered far worse by the manner of accomplishing it. If for an intelligent settlement of questions like this a very high degree of professional and technical knowledge is indispensable,—and that we unhesitatingly claim; if, in other words, these are matters of right and wrong, a more contemptible way of adjusting them can hardly be suggested than submitting them to a popular vote.

INGLEBY.

DEATH FROM AN ANÆSTHETIC IN VIENNA.

MR. EDITOR,—It is thought that the accompanying communication may possibly have sufficient interest for the readers of the JOURNAL to merit publication; not from rarity of cases of death from chloroform, but from the fact of its having occurred in the hands of so distinguished a surgeon; and, secondly, from the fact that it was due to a compromise anæsthetic, safer than chloroform, but not so safe as ether.

The following case occurred last November in the practice of Professor Billroth, in his operating-room at the Vienna General Hospital. The patient, a weakly boy of fifteen years, was suffering from dislocation of the left hip-joint. The anæsthetic in general use here in Vienna, consisting of a mixture of 90 parts alcohol, 90 parts ether, and 300 parts chloroform, was administered in the usual way. After a few minutes of unsuccessful effort at reducing the dislocation, attention was called to the condition of the patient. There was great pallor of the face and lips; the pulse was very small; and respiration had ceased. The head of the patient was lowered, and Marshall Hall's method of artificial respiration was practiced for ten minutes without success. Tracheotomy was next performed, and one assistant blew air through the tube into the lungs, while another compressed the patient's chest to drive it out. This method was practiced for some time without success, as the patient continued pale and pulseless.

At the autopsy, twenty-four hours later, the following condition was found:—

Body pale. Pupils dilated. Left leg extended and inverted; head of femur dislocated backward. Right thigh flexed and everted, with ankylosis of the hip-joint; fistulous opening below Poupert's ligament, from which pus issued. Dura mater pale; vessels empty. Vessels of inner meninges moderately full; brain substance pale and oedematous. Lungs healthy, and vessels containing a moderate amount of blood; parenchyma somewhat oedematous, but everywhere containing air. Pericardium contained five grams of clear serum. Heart of normal size and somewhat contracted; contained a small quantity of fluid blood. A large pson abscess was found near the right hip-joint, connecting with the fistulous opening in the right inguinal region. No odor of the anæsthetic was anywhere noticed.

Thus the autopsy eliminated any possible morbid condition as the cause of sudden death. At the same time the condition of the pupils, heart, and lungs point to a quick-coming paralysis of the different branches of the sympathetic nerve. This is probably what takes place in anæsthetic poisoning.

It should be noticed that the treatment in this case was that of asphyxia, and not of cardiac and respiratory paralysis. One cannot help thinking that tracheotomy was not indicated, but rather some quick-acting cardiac stimulant,—such, for example, as subcutaneous injections of digitalin. Neither was the patient allowed any other air except that devitalized commodity peculiar to a German lecture-room.

In justice to the above-mentioned anæsthetic mixture, it should be stated that in Professor Billroth's clinic this is the first death that has occurred for nine years from its use. Previous to that, two deaths occurred in quick succession from the use of pure chloroform. Very truly yours,

FREDERICK F. DOGGETT, M. D.

VIENNA, December 5, 1880.

FEIGNED EPILEPSY.

CASE OF JAMES CLEGG, THE "DUMMY CHUCKEL."

IN a paper read before the Association of Medical Superintendents of American Institutions for the Insane, at Philadelphia, 1880, Dr. Carlos F. MacDonald, Superintendent of the Binghamton Asylum for the insane, gives a most interesting as well as an amusing account of a very remarkable case of epileptic malingering. Dr. MacDonald premises with a brief historical sketch of feigned illness, the first case mentioned being that of Jacob's favorite wife Rachel, who pretended sickness for the purpose of concealing the stolen idols of Lahan. As regards frequency, epilepsy probably occupies the first rank, the reason for this being that the "fit" by its mode of onset offers great advantages. Fortunatus Fiddius states that feigned epilepsy was of frequent occurrence in the sixteenth century. Writers upon this disease, according to Dr. MacDonald, devote but little space to the subject of simulation, while some of them do not mention it; among the latter stands Echeveria, who wrote a classical treatise on epilepsy. Distinguished American authors refer only cursorily to feigned epilepsy. The same is true of various writers on medical jurisprudence. Dr. Ray, in his work on Medical Jurisprudence of Insanity, discusses Epilepsy and its Legal Consequences in a space of thirteen pages, but makes no mention of the simulation of this disorder. During the thirty-six years of the publication of the *American Journal of Insanity* not a single case of feigned epilepsy has been reported, nor, so far as Dr. MacDonald is aware, has any writer reported a case occurring in this country.

From these facts Dr. MacDonald concludes that simulated epilepsy must be comparatively rare in America, as it can hardly be supposed it would escape the attention of all the writers mentioned. A writer in the *British Journal of Mental Science* for October, 1865, says, "A 'fitty pauper' is well-known in certain parishes. Feigned epilepsy is a profession, a source of revenue, an appeal to sympathy." Other foreign authors, Frousséau, Ballour Browne, Esquirol, Marshall, etc., mention, or suppose, cases. But Dr. MacDonald says that literature reports no case in which the motive for feigning epilepsy was similar to that by which Clegg was actuated. He first saw Clegg in March, 1876. The man is about thirty-three years of age, English, unmarried, by occupation a thief. Is small in stature, slender, has small, dark, closely set eyes; straight, brown hair, which grows low upon the forehead. His

features are somewhat disfigured by scars and the absence of a tooth; countenance not altogether disagreeable, but, when *unmasked*, indicates considerable cunning and shrewdness; his voice is pleasant, and he frequently smiles when in *natural* conversation. Reads and writes fairly well.

Clegg's first crime, committed at the age of nine years, was the robbery of his father's cash-box. He continued to pilfer until sixteen years old, when his father died. The boy then ran away from home to an obscure portion of the city where he "kept house with a girl." He paid expenses by picking pockets. His mother found him, caused his arrest, and forced him to return to his home, where he promised to behave. "But," says he, "a square life I could not lead, so I determined to lead a crooked one." He again fled from home, and rejoined his female companion, and resumed pocket-picking. After a time he got into a den of thieves, of whom one McCarty was what is known among criminals as a "dummy chucker," that is, a person who feigns fits in public places, while his companions pick pockets among the crowd which gathers about him. McCarty took a fancy to Clegg, and from books and by example taught him the art of dummy chucking. The youth proved an apt scholar.

They took excursions together to various places, McCarty chucking dummies while Clegg picked pockets among the gaping crowd. McCarty's subsequent arrest and imprisonment afforded Clegg an opportunity to assume the *role* of dummy chucker, which he did successfully. He says that in London he has frequently been placed in a cab and driven to the office of a physician or to a hospital, where he has kindly been "brought to" without having once been detected, or, so far as he knew, even suspected of being an impostor. Finally, however, on one occasion, having chuckled a dummy whereby his confederate was enabled to steal a valuable watch, he was arrested as an accomplice. A criminal lawyer whom he engaged to defend him advised him to "chuck a dummy in the court." Clegg accordingly, as he says, "chucked a beautiful dummy," whereupon a medical officer was summoned, and, after a careful examination, pronounced him "a bad case of epilepsy," and he was accordingly "honorably discharged." Clegg says there was a jollification over him when he returned to the "paddingken," and after that he was regarded as the "head dummy chucker." Having thus distinguished himself in the estimation of his associates, he was sought after by the most skillful pickpockets; with these he operated, attending services at fashionable churches, chucking dummies in the aisles when the congregation was passing out, while his fellows picked pockets. He would also attend funerals of persons of note, and, apparently overcome at sight of the corpse, would fall down in a "fit." He says: "Many a time have I chuckled a dummy while looking at the corpse, and caused an excitement while the other boys plundered the poor flats." Becoming known to the authorities in London, Clegg, in 1865, departed for Scotland, in company with his friend McCarty. By this time he had acquired such proficiency in his "art" that his old master delegated that branch of the "business" exclusively to him. Reaching Glasgow, they attempted to execute a robbery, which is best described in Clegg's own language: "We learned that a certain shipbuilder in Greenock paid his men every Saturday, and that the money to pay them with was brought from a bank in Greenock every Saturday

morning. So we engaged another fellow to go with us and help get it. We were to meet the messenger coming from the bank with the money, and I was to chuck a dummy right before him on the sidewalk while the other fellows would bustle [jostle] him, and McCarty would snatch the bag and get away to Glasgow, where we would all meet. Well, you see, we had everything down as fine as could be, and felt sure we would succeed. So away we went down on the first train on Saturday morning, and hung around the place till we saw our marker with the bag. I went before him and chuckled a beautiful dummy while he was walking down one of the principal streets; McCarty snatched the bag, but did not get far away with it. He was collared about two blocks from where I lay in the dummy. Of course I had to come to and hurry away out of sight, when I heard the people talking about what had happened, so I escaped again and poor McCarty got six years at Perth." After this exploit, Clegg again returned to his native town. Here he was arrested, convicted, and sentenced to prison for a term of twelve months at New Bailey. While undergoing this, his first imprisonment, Clegg, in an altercation with a turnkey, stabbed him three times with a knife. The turnkey's wounds not proving immediately fatal, Clegg was indicted for attempt at murder. While awaiting trial he had several "fits," which induced his counsel to defend him on the ground of "temporary insanity due to epilepsy." Medical evidence was adduced at the trial to show that he was an epileptic, and, consequently, not wholly responsible for his acts at the time of the stabbing. The defense was so far successful as to secure for him a mitigated sentence to seven years of penal servitude. He was now transferred to Milbank prison, in accordance with the custom, to undergo nine months of solitary confinement prior to being put to labor upon the public works. Clegg says that every convict at Milbank is subjected, when received, to a rigid medical examination to determine if he is fit for "able-bodied service." "When the doctor examined me," said he, "he pronounced me an epileptic, by the expression of my eyes, and I was put away among the other fit cases who were treated better than the well convicts." Tiring of life at Milbank, Clegg "recovered" sufficiently to obtain a transfer to Chatham, an "able-bodied station," where he remained about eighteen months, but not liking the work there the "fits" reappeared with marked severity.

It appears that the medical officer at Chatham Prison was suspicious of him, and subjected him to several severe tests before making a transfer. Clegg says, "I had to undergo a good deal before I got sent away from Chatham, such as having a lance shoved under my finger nails and stuff (probably irritants) put into my eyes whenever I used to chuck a dummy. But I never flinched, and at last the doctor sent me away to Woking as a bad epileptic case." Clegg remained at Woking about two years, spending most of the time in the hospital as "the worst epileptic case there, according to the doctor's statement." Being confined so much with epileptics, while in prison, Clegg improved his opportunities for clinical observation, and familiarized himself with the various symptoms and conditions which they exhibit in the intervals of the paroxysms, as well as with the medical treatment they received, a knowledge which he afterwards frequently turned to advantage in carrying out his deceptions. From Woking he was transferred to Dartmoor, a

"convalescent station," which he describes as being "a very cold and dirty prison," and adds: "but that did not make much difference to me, for I was always in the hospital. I never let up chucking my dummies, because they were the means of saving me from a great deal of trouble and hard work." At the end of six months at Dartmoor, Clegg, with several other invalid convicts, was transferred to Parkhurst Prison, Isle of Wight, because, he said, the doctor was afraid he would hurt himself in a fit. "When we got to Southampton," said Clegg, "I chuckled a beautiful dummy to get the keeper to undo the chain we was fastened together with, but he would not do that, and the people that gathered around was for throwing him into the water, for they all pitied me, seeing me in convulsions. However, he managed to get us over to the prison, where I was put into the hospital." The doctor at Parkhurst was a very "severe" man. "He had been in the army, and was up to all the tricks." When making his rounds in the hospital one morning, Clegg, who had been waiting for an opportunity to "establish his case," chuckled a dummy "right before him," remaining in convulsions about an hour. The doctor pronounced him "a severe case of epilepsy," and ordered him a pint of porter, daily, "to keep up his strength."

After spending three or four months in the hospital at Parkhurst, Clegg again "improved" sufficiently to be sent out at "light work" — picking oakum — but still occasionally having a "fit." At Parkhurst were quite a number of epileptics, several of whom were simulators. Conviction of one of the latter created suspicion concerning the others, including Clegg, who, learning that he was suspected, resolved upon a desperate method of convincing the officials that *his* was a genuine case. One Sunday morning, when going from his cell, which was located in the third tier, to the chapel, he chuckled a dummy on the corridor, rolled off, and fell to the floor below, a distance of nearly thirty feet. In this adventure he sustained greater injury than he anticipated, although not expecting to escape *all* damage. By the fall he knocked out a front tooth, disfigured his nose, and lacerated his face and head. Unconsciousness this time was real, and lasted for twelve hours. That "fit" removed all doubt as to the genuineness of his case, and secured for him the confidence and sympathy of the officials. He was retained in the hospital about four months, was allowed extra diet, such as eggs and porter, and was "treated first-rate." The doctor also caused padded cells to be provided for all the epileptics in the prison.

(To be continued.)

REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 18, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.
New York.....	1,209,561	651	244	21.66	17.51	11.06	5.84	.92
Philadelphia.....	846,580	391	90	19.35	6.65	3.07	1.79	4.35
Brooklyn.....	566,689	283	116	27.56	17.67	20.85	1.41	—
Chicago.....	503,298	189	82	29.63	11.11	21.16	3.17	.53
St. Louis.....	—	108	46	12.04	16.67	3.70	1.85	.93
Baltimore.....	335,796	190	81	24.74	10.00	12.63	7.37	2.63
Boston.....	363,938	187	63	23.00	12.50	15.51	—	1.60
Cincinnati.....	280,000	123	32	10.57	19.51	4.06	1.62	3.25
New Orleans.....	210,000	107	21	19.63	4.67	7.48	2.80	.93
District of Columbia.....	180,000	82	26	19.51	13.41	9.76	2.44	1.23
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,649	76	38	31.58	18.42	14.47	11.84	2.63
Buffalo.....	153,159	53	14	26.42	9.44	18.87	3.77	1.89
Milwaukee.....	127,000	60	35	33.33	11.67	10.00	15.00	3.33
Providence.....	104,862	43	10	16.28	11.63	9.30	2.33	—
New Haven.....	67,000	26	7	11.54	11.54	7.69	—	—
Charleston.....	57,000	31	15	9.68	22.58	6.77	—	3.39
Nashville.....	43,543	15	7	6.67	13.33	6.67	—	—
Lowell.....	59,340	19	9	—	10.53	—	—	—
Worcester.....	58,610	22	7	18.18	9.09	4.54	4.54	—
Cambridge.....	52,860	22	6	18.18	13.63	9.09	4.54	—
Fall River.....	48,626	23	13	26.09	17.39	4.35	—	4.35
Lawrence.....	39,068	—	—	—	—	—	—	—
Lynn.....	38,376	10	5	30.00	10.00	20.00	—	—
Springfield.....	33,536	13	4	7.70	—	7.70	—	—
Salem.....	27,317	15	3	13.33	6.67	6.67	—	6.67
New Bedford.....	27,268	9	4	44.44	—	33.33	11.11	—
Somerville.....	24,964	8	5	37.50	—	37.50	—	—
Holyoke.....	21,361	5	2	20.00	—	—	—	20.00
Chelsea.....	21,780	10	4	60.00	—	40.00	—	—
Taunton.....	21,145	8	3	25.50	25.00	12.50	—	12.50
Gloucester.....	19,288	6	2	16.67	16.67	16.67	—	—
Haverhill.....	18,478	4	1	—	25.00	—	—	—
Newburyport.....	16,394	5	2	20.00	—	20.00	—	—
Fitchburg.....	13,470	3	0	—	—	—	—	—
Eighteen Massachusetts towns.....	135,127	42	12	28.57	9.52	14.29	—	4.76

Deaths reported 2842; 1013 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 627, consumption 425, lung diseases 377, diphtheria and croup 324, scarlet fever 102, typhoid fever 51, small-pox 42, diarrheal diseases 41, malarial fevers 23, erysipelas 14, cerebro-spinal meningitis 13, whooping-cough 11, measles seven, trichinosis two. From small-pox, Philadelphia 40, New York two. From diarrheal diseases, New York and Brooklyn seven, New Orleans six, Chicago and Boston four, Fall River three, St. Louis and Pittsburg two, Baltimore, Cincinnati, District of Columbia, Buffalo, Providence, and Pittsfield one. From malarial fevers, New York nine, Brooklyn four, New Orleans three, St. Louis, District of Columbia, and Milwaukee two, Chicago one. From erysipelas, Brooklyn, Chicago, and Boston three, Cincinnati, District of Columbia, Providence, Lynn, and Clinton one. From cerebro-spinal meningitis, New York three, Philadelphia, Brooklyn, St. Louis, Boston, Milwaukee, New Haven, Worcester, Chelsea, Quincy, and Palmer one. From whooping-cough, New York and Baltimore three, Philadelphia, Chicago, District of Columbia, Worcester, and Chelsea one. From measles, Boston three, New York, St. Louis, Cambridge, and Fall River one. From trichinosis, Milwaukee two.

One hundred and forty-three cases of diphtheria, 96 of scarlet fever, five of measles, one of cerebro-spinal meningitis, and one of typhoid fever were reported in Brooklyn; diphtheria 61, scarlet fever eight, in Boston; scarlet fever 60, diphtheria 29, in Milwaukee; diphtheria 18, scarlet fever six, typhoid fever two, whooping-cough one, erysipelas one, in Providence;

scarlet fever three, diphtheria two, typhoid fever one, in Cambridge; diphtheria 10, scarlet fever six, in New Bedford; diphtheria seven, scarlet fever one, in Somerville.

In 36 cities and towns of Massachusetts, with a population of 1,015,108 (population of the State 1,783,086), the total death-rate for the week was 21.32, against 20.43 and 24.18 for the previous two weeks.

For the week ending November 27th, in — German cities and towns, with an estimated population of 7,701,088, the death-rate was 22.5. Deaths reported 3378; 1589 under five; pulmonary consumption 435, acute diseases of the respiratory organs 301, diphtheria and croup 154, scarlet fever 89, typhoid fever 77, whooping cough 56, measles and röteln 54, purpural fever 19, small-pox (Königshütte) one. The death-rates ranged from 10.2 in Stuttgart to 33.5 in Breslau; Königsberg 23; Munich 25.1; Dresden 21.2; Berlin 22.6; Leipzig 15.2; Hamburg 23.4; Hanover 19.8; Bremen 12.9; Cologne 31.9; Frankfurt 17.6; Strasburg 26.7.

For the week ending December 11th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 20.1. Deaths reported 2882; acute diseases of the respiratory organs 295, scarlet fever 140, whooping-cough 70, measles 69, fever 33, diarrheal 33, small-pox (London 12, Liverpool one) 13, diphtheria 12. The death-rates ranged from 16 in Sheffield to 27 in Salford; Leeds 17; Birmingham and Bristol 19; London 20; Manchester 23; Liverpool 24. In Edinburgh 21; Glasgow 22; Dublin 27.

The meteorological record for the week in Boston was as follows: —

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	11 A. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
1880.																			
Dec. 12	29.908	29	37	15	67	52	79	66	W	SW	S	8	8	5	O	O	2	.30	.01 ⁸
" 13	29.698	40	48	32	90	68	82	80	S	SW	SW	8	4	10	O	O	O	2.10	.02
" 14	29.828	36	50	32	79	51	79	70	W	W	SE	10	7	10	C	O	O	.15	.02
" 15	29.600	39	46	35	81	46	63	63	W	SW	SW	16	20	18	F	O	O	1.30	.02
" 16	29.693	30	39	24	69	52	88	70	W	W	W	10	22	14	F	O	O	3.10	.31
" 17	29.794	21	29	17	69	52	56	59	W	W	W	20	18	15	C	O	C	—	—
" 18	29.741	19	26	14	66	50	68	61	W	NW	W	10	14	15	C	F	C	—	—
Week.	29.752	31	50	14					W	NW	W							7.35	.38

¹ O, cloudy; C, clear; F, fair; G, fog; H, hazy; R, rain; S, smoky; T, threatening.

² Light sleet. ³ Sleet.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM DECEMBER 18, 1880, TO DECEMBER 24, 1880.

BAILY, J. C., major and surgeon. Granted leave of absence for one month, with permission to leave the limits of the division, and apply for one month's extension. S. O. 188, Division of the Pacific and Department of California, December 13, 1880.

HEIZMANN, CHARLES L., captain and assistant surgeon. The extension of his leave of absence granted him October 30, 1880, from A. G. O., still further extended two months. S. O. 258, A. G. O., December 18, 1880.

KANE, J. J., first lieutenant and assistant surgeon. Relieved from duty at Fort Cummings, N. M., and assigned to duty at Fort Union, N. M. S. O. 153, District of New Mexico, December 13, 1880.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting will be held on Monday evening, January 3d, at eight o'clock, in the hall, 19 Boylston Place. Reader, Dr. Driver. Subject, Relaxation of the Pubic Ligaments.

A. T. CABOT, Secretary.

BOOKS AND PAMPHLETS RECEIVED. — On the Introduction of Food and Medicine into the Stomach when the Ordinary Channel is Obstructed. By Fred. Humbert, M. D.

Some of the Errors in the Diagnosis of Eye Diseases into which General Practitioners are most apt to Fall. By Samuel Theobald, M. D. (Reprint.)

The Diagnosis and Treatment of Obscure Pelvic Abscess in Women, with Remarks on the Differential Diagnosis between Pelvic Peritonitis and Pelvic Cellulitis. By Paul F. Mundé, M. D. (Reprint.)

Atlas of Skin Diseases. Part VIII. By Louis A. Duhring, M. D. Philadelphia: J. B. Lippincott & Co. 1880.

Report of the Board of Health of the State of Louisiana for the Year 1880.

Lectures on the Surgical Disorders of the Urinary Organs, delivered at the Liverpool Royal Infirmary. By Reginald Harrison, F. R. C. S. Second Edition. London: J. & A. Churchill. 1880.

The Microcosm and other Poems. By Abraham Coles, M. D. New York: D. Appleton & Co. 1881.

The Druggist's Hand-Book of Private Formulas. By John H. Nelson. Sixth Edition. Cleveland, Ohio, 1880.

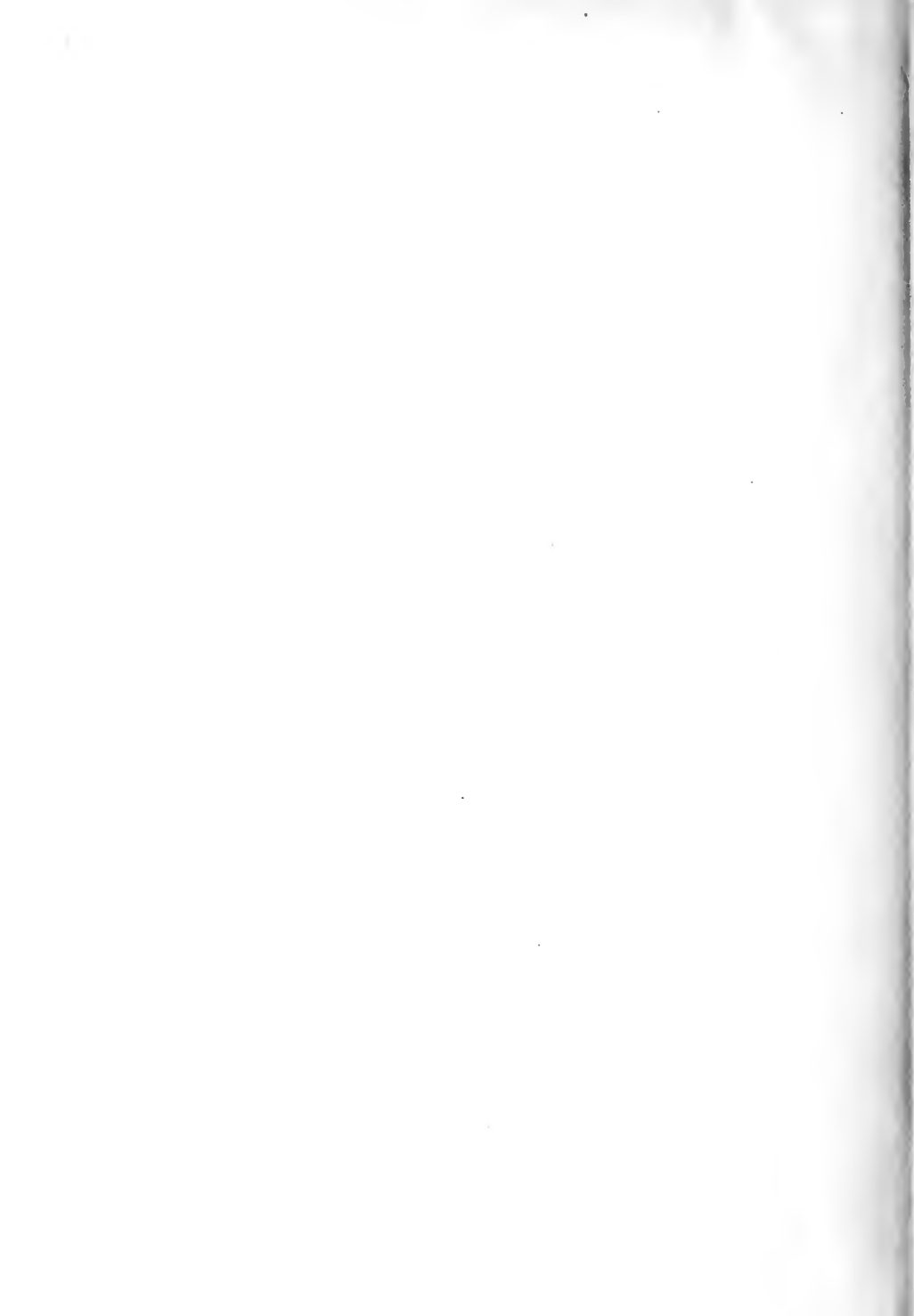
Yellow Fever: Its Ship Origin and Prevention. By Robert B. S. Harris, M. D. Philadelphia: D. G. Brinton.

Ninety-Eighth Annual Catalogue of the Medical School of Harvard University.

Ligation of the Common Carotid. Excision of the Inferior Dental Nerve. By Lyman B. How, M. D. (Reprint.)

Atresia of the Genital Passages of Women. By Edward W. Jenks, M. D. (Reprint.)

The Uses of Tar Water in Obstetrical and Gynaecological Practice. By Joseph Eve Allen, M. D. (Reprint.)







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